REMEDIAL SYSTEM OPTIMIZATION
PERMEABLE REACTIVE BARRIER

FINAL INTERIM REMEDIAL MEASURE WORK PLAN
Dzus Fastener Company, Inc., West Islip, New York

PREPARED FOR:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
DIVISION OF ENVIRONMENTAL REMEDIATION
625 Broadway, 12th Floor
Albany, New York 12233-7012

PREPARED BY:

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20 November 2025

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. *20 November 2025*

Hilary Williams, Project Manager — Date

20 November 2025

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November 2025
EA Project No. 16025.15

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LIST OF ACRONYMS AND ABBREVIATIONS

Apatite	Apatite II
AWQS	Ambient water quality standard
bgs	Below ground surface
Dzus	Dzus Fastener Company, Inc.
EA	EA Engineering and Geology, P.C.
EPA	U.S. Environmental Protection Agency
HPT	Hydraulic profiling tool
HRT	Hydraulic residence time
IRM	Interim remedial measure
ISB	In situ boring
ISS	In situ stabilization/solidification
K	Hydraulic conductivity
LMS	Lawler, Matusky & Skelly Engineers LLP
NAVD	North American Vertical Datum 1988
n_e	Effective porosity
No.	Number
NYSDEC	New York State Department of Environmental Conservation
µg/L	Microgram(s) per liter
mV	Millivolt(s)
ORP	Oxidation-reduction potential
OU	Operable unit
PDI	Pre-Design Investigation
PRB	Permeable reactive barrier
PRIMA	PRIMA Environmental
PVC	Polyvinyl chloride
RA	Remedial action
v	Seepage velocity

1. INTRODUCTION

1.1 OVERVIEW

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering and Geology, P.C. (EA) with site management activities at the Dzus Fastener Company, Inc. (Dzus) Site (Site Number [No.] 152033), West Islip, New York, hereby referred to as the "site." A dissolved cadmium groundwater plume originating from the Dzus site is a source for cadmium contamination identified in surface water and sediment associated with Willetts Creek and Lake Capri. A remedial action (RA) removing contaminated sediment from Willetts Creek and Lake Capri was completed in 2020. Post-RA sampling of the surface water and sediment in Willetts Creek detected cadmium concentrations in the recently restored creek bed indicating that a continuing source of cadmium was present. The elevated levels of cadmium in sediment triggered a remedial system optimization with the main objective of updating the conceptual site model by delineating the groundwater plume and developing a better understanding of how groundwater communicates with Willetts Creek.

While this remedial system optimization is underway, EA was directed by NYSDEC to proceed with a groundwater Interim Remedial Measure (IRM) intended to address the ongoing discharge of cadmium into Willetts Creek. This report focuses on the IRM and will present the objectives, assumptions, and design parameters necessary to develop an effective interim remedy.

1.2 PROJECT OBJECTIVE

This Work Plan report was prepared to support an IRM to address impacts of the dissolved cadmium groundwater plume on Willetts Creek. Groundwater is understood to communicate with Willetts Creek; therefore, the dissolved cadmium groundwater plume originating from the Dzus site is a source for cadmium contamination identified in surface water and sediment. It was determined that a permeable reactive barrier (PRB) adjacent to locations of highest cadmium detections in sediment would be the most cost effective approach to addressing cadmium mass discharge from groundwater into surface water and sediment. The PRB will be constructed to a proposed length of 300 feet and will use approximately 40 metric tons of Apatite II (Apatite). The barrier is intended to address the highest dissolved cadmium concentrations observed in groundwater during the recent investigations (concentrations ranging from approximately 100 micrograms per liter [µg/L] to 600 µg/L) as well as to armor Willetts Creek along the southern extent of the barrier. The Work Plan is informed by the ongoing Pre-Design Investigation (PDI) to delineate cadmium impacts in groundwater (EA 2024), bench-scale testing (column study) to evaluate effectiveness of the selected remedial technology, and published articles.

1.3 SITE LOCATION

The former Dzus facility is located at 425 Union Boulevard, West Islip, New York, and is identified as P.O. Lots 2-8 and 101, 9 and 10, Block A on the Map of Babylon developed by the Long Island Seashore Co., Inc., filed 5 April 1921, File No. 92 in the Office of the County Clerk, Suffolk County. Operable Unit (OU) 1, referred to as the on-site portion of the site, is a triangularly-shaped area approximately 1-acre in size. OU1 is in a mixed industrial, commercial, and residential area. The on-site portion is bounded by Long Island Railroad tracks to the north,

Union Boulevard to the south, Willetts Creek to the east, and was previously bounded by the former Dzus (renamed DFCI Solutions, Inc. in 2001) facility to the west (**Figure 1**). The buildings associated with the former facility were demolished in 2019. The Owner of the Site parcel at the time of issuance of the Site Management Plan is Robert Monahan, c/o Island Associates, 444 Route 111, Smithtown, New York, 11487. The off-site portions of the site consist of OU2, OU3, OU4, and OU5.

1.4 SITE HISTORY

Dzus produced fasteners and springs beginning in 1932. The facility changed its name from Dzus Fastener Company, Inc. to DFCI Solutions, Inc. in 2001, but operations did not change. In 2015, DFCI Solutions, Inc. ceased operations and moved all equipment out of the facility. The former facility buildings were demolished in 2019, and the property has recently undergone redevelopment.

Leaching pools at the facility were used for the disposal of hazardous waste that consisted of wastes from metal plating, tumbling, electroplating, chromic acid, anodizing, and special finishing operations that included oils, heavy metals, volatile organic compounds, and salts. Environmental releases of contamination from facility operations were originally identified in 1982, and a preliminary site assessment was completed in 1984. A Phase I Investigation was completed by NYSDEC in 1984, and a Phase II Investigation report was submitted by Dzus in August 1990. An IRM was completed by Dzus in Spring 1991, during which approximately 1,960 cubic yards of contaminated soil from the industrial leach field area was removed.

Under the State Superfund Program, NYSDEC initiated a remedial investigation/feasibility study in May 1992 to determine the nature and extent of contamination attributable to the Site and develop an appropriate remedy (Lawler, Matusky & Skelly Engineers LLP [LMS] 1994). During remedial investigation activities, several areas with cadmium contamination were identified. While the 1991 IRM removed contaminated soil, the remedial investigation found some remaining soil to be contaminated with cadmium, trivalent chromium, and cyanide. Groundwater also contained concentrations of cadmium, chromium, cyanide, and volatile organic compounds (primarily trichloroethene, tetrachloroethene, and 1,1,1-trichloroethane) above NYSDEC standards. Additionally, surface water and sediment samples collected downgradient of the source area contained cadmium at concentrations greater than their respective NYSDEC standards or guidance. A list of relevant site remedial history is provided below, while a more detailed summary of the work completed at the site to date is included in the Site Management Plan (EA 2023a).

- OU1 (Source Area)
    - An IRM conducted in 1991 removed a leach pool in the eastern portion of the site.
    - The remedy selected in the March 1995 Record of Decision for OU1 was in situ stabilization/solidification (ISS) for on-site soil that was contaminated with cadmium at concentrations greater than 10 parts per million. The ISS remedy was completed in December 1996.

- A topsoil/asphalt cover was implemented in 1997 at the eastern portion of the site to protect the ISS treatment cells from erosion. This cap was removed in 2021 as part of site redevelopment and was temporarily replaced with a geomembrane material in October 2022 before an asphalt cover was placed in December 2023.

- OU2, OU3, and OU4 (Willetts Creek and Lake Capri)

  - The October 1997 Record of Decision for OU2 required the removal of contaminated sediments from Lake Capri and Willetts Creek as well as the use of erosion controls to protect the creek from further contamination caused by erosion.

  - Bank soil exceeding Unrestricted Use Soil Cleanup Objectives for cadmium and chromium were removed from Willetts Creek in 2019.

  - Sediments above Class A Sediment Guidance Values were removed in 2019 from Willetts Creek and Lake Capri, and Willetts Creek was restored to a stable riparian corridor following the remedial action.

  - A long-term groundwater monitoring program was put in place to evaluate the effectiveness of the remedy completed at OU1.

- OU6 (Dzus Fastener Company Inc. [DFCI] Facility)

  - The DFCI facility went through a Resource Conservation and Recovery Act closure that was completed in 2018 and included the decontamination of the building, excavation of contaminated soils, installation of a soil vapor extraction system, and remediation and closure of leaching pools. The building was demolished in 2019.

- OU7 (Off-Site Groundwater Contamination)

  - The off-site groundwater cadmium plume is being investigated further as the primary objective of the RSO. Results of the investigation completed to date indicate that the extent of groundwater contamination is beyond what was previously understood: a narrow plume communicating with Willetts Creek (EA 2024). The updated understanding of the groundwater plume has cadmium impacts extending further west by southwest (Figure 14 of the Groundwater PDI Report [EA 2024]). The proposed IRM, discussed herein, is intended to address a select zone of OU7 contamination; treating contaminated groundwater prior to discharging to Willetts Creek.

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2. PRE-DESIGN INVESTIGATION

The goal of the RSO work is to better understand geochemical conditions at the site and to delineate the cadmium plume throughout the aquifer. The goal of the PDI work was to collect site specific data to support the PRB/IRM design. The PDI was completed in sequential phases, with Phase 1 completed in May and June 2024, Phases 2 and 3 completed in February and March 2025 (**Figure 2**). PDI activities have included collection of in situ groundwater samples, soil samples, monitoring well samples, hydraulic conductivity testing, and geochemical analysis. An additional phase of the RSO is planned as a Supplemental Groundwater Investigation to further delineate the plume to the south along Willetts Creek (EA 2025a). All groundwater and soil sample locations from Phase 1 were surveyed on 15 July 2024, and the ground surface and feature elevations determined during this field effort were used for the PRB design described here. A summary of the PDI and results collected to date is provided below. A full discussion of the results is presented in the groundwater PDI (EA 2024) and the most recent sampling memo from the September 2024 sampling event (EA 2025b).

2.1 IN SITU GROUNDWATER SAMPLING/SOIL BORINGS

Dissolved cadmium was detected above the NYSDEC ambient water quality standard (AWQS) of 5 µg/L in 32 of 108 groundwater samples. Detected dissolved cadmium concentrations ranged from 1.6 µg/L (ISB-B6-GW-21-25) to 770 µg/L (ISB-B5-GW-11-15). Total cadmium concentrations generally were higher than co-located dissolved cadmium concentrations; 69 of 108 samples had total cadmium concentrations in exceedance of 5 µg/L. Detected total cadmium concentrations ranged from 1.5 µg/L (ISB-A1-GW-41-45) to 2,500 µg/L (ISB-A9-GW-11-15). Generally, the greatest cadmium concentrations are observed in shallow in situ groundwater samples (depth range of 11 to 15 feet below ground surface [bgs]) in the vicinity of Captree Plaza, both upgradient and downgradient of the building. One exception was the elevated concentration observed in sample ISB-C1-GW-11-15 (690 µg/L), which is located due west of Captree Plaza in the center of the Stop & Shop Plaza parking lot (EA 2024). In general, cadmium concentrations in groundwater samples collected from the in situ boring (ISB) points during the PDI are higher than previously reported groundwater monitoring well samples collected during routine site management sampling efforts.

Dissolved chromium was detected above the NYSDEC AWQS of 50 µg/L in one groundwater sample. Detected dissolved chromium concentrations ranged from 6.9 µg/L (ISB-B8-GW-11-15) to 510 µg/L (ISB-B1-GW-4-8). A total of 106 of the 108 groundwater samples were non-detect for dissolved chromium. Total chromium concentrations generally were higher than co-located dissolved chromium concentrations; 108 of 108 samples had total chromium concentrations in exceedance of 50 µg/L. Detected total chromium concentrations ranged from 54 µg/L (ISB-B6-GW-41-45) to 3,900 µg/L (ISB-B4-GW-31-35) (EA 2024). The spatial distribution of total chromium within the sample dataset does not appear to be confined to any specific depth or area around the site. In general, chromium concentrations in groundwater samples collected during the PDI are higher than previously reported groundwater monitoring well samples collected during routine site management sampling efforts.

Geochemical parameters were measured prior to collection of each in situ groundwater sample. Temperature in groundwater samples ranged from 12.66 to 22.80 degrees Celsius. pH in groundwater samples ranged from 5.03 to 7.66. Specific conductivity in groundwater samples ranged from 0.132 to 1.31 microsiemens per centimeter. Oxidation-reduction potential (ORP) in groundwater samples ranged from -129 millivolts (mV) to 194 mV. Turbidity in groundwater samples was generally high, ranging from 129 to greater than 1,000 nephelometric turbidity units. Dissolved oxygen in groundwater samples ranged from 0.00 to 10.98 milligrams per liter (EA 2024).

2.2 HYDRAULIC PROFILING TOOL

To further refine the understanding of groundwater movement in the aquifer, the Phase 1 PDI Report recommended a Geoprobe hydraulic profiling tool (HPT)-GWS be used to conduct additional profiling, particularly near Willetts Creek and the proposed location of the PRB. Seven HPT borings were advanced to an approximate depth of 45 feet bgs under the fulltime supervision of an EA geologist (**Figure 2)**.

2.2.1 Site Geology

The site is located within the Atlantic Coastal Plain Physiographic Province and is consistent with the geology of Long Island as characterized by a southward-thickening wedge of unconsolidated Cretaceous and Cenozoic sediments uncomformably overlying a gently dipping Pre-Cambrian bedrock surface. The primary geology of the site consists of the Upper Glacial aquifer which is a formation of glacial outwash identified by thick deposits of unconsolidated water-bearing sands and gravels that become finer at depth. The Upper Glacial Aquifer is approximately 250 to 260 feet thick with around 200 to 210 feet of saturated thickness of Pliocene and Pleistocene glacial deposits. Here, the shallow aquifer is considered the material extending approximately 20 feet below the water table (-10 feet of North American Vertical Datum 1988 [NAVD]), which encompasses the highest cadmium concentrations observed in the in situ borings (between 11 to 15 feet bgs or approximately 1 to 2 feet NAVD) (EA 2024). Boring logs indicate that the shallow aquifer is comprised of a well graded fine to coarse sand with some fine to coarse gravel, which is consistent with previous investigations as well as the hydraulic conductivity measurements conducted during this investigation. Additionally, the shallow aquifer material was noted to be relatively uniform across all soil borings, particularly behind Captree Plaza.

2.2.2 Site Hydrogeology and Hydrology

There are three primary water-bearing aquifers underlying Suffolk County. These aquifers, from shallow to deep, are the Upper Glacial, Magothy, and Lloyd. The aquifers are considered to be hydraulically connected, with the Glacial and Magothy contributing recharge for the underlying Lloyd aquifer. During the glacial retreat, the area was covered with outwash deposits that constitute most of the Upper Glacial aquifer of Long Island. Because these sand and gravel deposits contain virtually no interstitial clay and silt, the Upper Glacial aquifer is the most permeable. The direction of groundwater movement through Long Island’s aquifers is horizontal and is generally more rapid than the movement in the vertical direction. This arises because of an

anisotropic effect stemming from the general horizontal orientation of the largest dimensions of particles in the interbedded fine- and coarse-grained layers.

Groundwater in the Upper Glacial aquifer flows away from two major highs on the main water table divide on Long Island. The general directions of groundwater flow of the island are north toward the Long Island Sound and south towards Great South Bay. Based on site-specific groundwater data, local groundwater flow at the site moves south to southwest towards Great South Bay. Previous interpretation of groundwater elevation measurements at the site suggested that localized groundwater flow was directed to Willetts Creek south/southeast of OU1; however, with the widespread detection of site contaminants of concern and an updated groundwater elevation map, the predominant movement of groundwater is found to be south-southwest towards Great South Bay (**Figure 3**).

Willetts Creek is a north-south flowing, slow-moving creek, approximately 15 to 20 feet wide and less than 6 inches in depth in most parts (but upwards of 2 feet deep in slower velocity areas). The creek flows in a southerly direction approximately 4,500 feet to Lake Capri, a privately owned, 8-acre, man-made lake. The creek is fed by both upstream surface water runoff and groundwater base flow.

2.2.2.1 Hydraulic Gradient

Hydraulic gradients were calculated across the site using the groundwater elevations in the monitoring wells (June 2024) and ISB locations (May 2024) and were evaluated in both the upgradient portion (between ISB-A5 and ISB-C1 = 0.00513 foot/foot) and downgradient portions (between ISB-C2 and ISB-C1 = 0.00511 foot/foot) of the site. The hydraulic gradients were similar in the upgradient and downgradient portions of the plume, therefore, a uniform hydraulic gradient of 0.005 foot/foot was used for mass flux evaluations. The selected hydraulic gradient has a similar order of magnitude as the previous hydraulic gradient (0.0085 foot/foot) used for mass flux calculations performed in 2023 (EA 2023b).

2.2.2.2 Hydraulic Conductivity

Hydraulic conductivity of the Upper Glacial aquifer has been measured during previous investigations via various methods, resulting in estimates of hydraulic conductivity ranging from 120 to 400 feet/day. During the PDI, HPT borings measured hydraulic conductivity and observed an average hydraulic conductivity of approximately 67.36 feet/day at HPT-07 from 6.5 to 45.2 feet bgs. Hydraulic profiling tools provide an estimation of hydraulic conductivity without potential influence of the sand or gravel pack around a monitoring well; therefore, the hydraulic conductivity estimated as part of the HPT investigation is assumed to be more representative of in situ conditions near the location of the barrier and the hydraulic conductivity value of 67.36 ft/day will be used for barrier design and site assessments.

2.2.3 Site Geochemistry

Water quality parameters collected during the PDI continue to indicate that the aquifer on-site is relatively oxidizing as indicated by the following:

- An average ORP at in situ boring points = 4 mV
- An average ORP in monitoring wells = 129 mV
- Slightly acidic conditions in in situ boring points (average pH = 6.35) and in monitoring wells (average pH = 6.43)

Environmental conditions are unfavorable for cadmium precipitation and are expected to return to oxidizing conditions if the aquifer was artificially adjusted to become more reducing, particularly in the shallow aquifer, because of the high groundwater velocity. Chromium speciation was sampled at a subset of 5 monitoring wells during the September 2024 groundwater sampling event. Hexavalent chromium was detected in 4 of 5 monitoring wells, and concentrations ranged from 3.6 to 43 µg/L, of which no samples exceeded the New York State Class GA groundwater standard of 50 µg/L for hexavalent chromium.

3. DESIGN METHODOLOGY AND BENCH-SCALE TESTING

3.1 DESIGN GOALS

The purpose of this IRM is to mitigate the mass discharge of cadmium from groundwater to Willetts Creek as it results in recontamination of sediment and surface water. EA is proposing to accomplish this by installing a PRB adjacent to locations of highest dissolved cadmium detections in sediment from the September 2024 and December 2024 sampling event: SD-01, SD-06, SD-03, SD-04 (**Figure 4 and 5**) (EA 2025b). This also coincides with a hot spot of cadmium detected during the Phase 1 PDI where dissolved cadmium concentrations in groundwater range from 25 µg/L to over 500 µg/L (**Figure 5**). The PRB will reduce cadmium concentrations below NYSDEC AWQS Class GA screening criteria (5 µg/L) to mitigate high mass fluxes of cadmium into Willetts Creek. It is important to note that this PRB is not expected to address the groundwater plume outside of the proposed 300-ft barrier.

Design parameters were informed by the PDI summarized in Section 2 of this report and a bench-scale column study performed by PRIMA Environmental (PRIMA) of El Dorado Hills, California, described herein. The bench-scale column study used contaminated groundwater from a site monitoring well, MW-13A, located upgradient of Willetts Creek, and native soil from the proposed PRB location.

3.2 SELECTED TECHNOLOGY

Several remedial technologies were evaluated, such as reductive precipitation, sorption, and ion exchange. Apatite was chosen based on observed site conditions and the properties of cadmium. Apatite, a natural fishbone material, was selected as the media for installation in the PRB. Apatite can be utilized as either a larger grain (whole bone) or smaller grain (one crush) product that provides a range of surface areas and grain sizes for a potential barrier. Here, the crushed Apatite will be used to provide greater surface area than the whole bone product and to facilitate soil mixing to create the PRB. Apatite sequesters cadmium through three different processes, either through ion exchange within the material matrix, surface sorption to available sites on the material surface, and/or reductive precipitation of cadmium as a cadmium sulfide mineral (Greenockite [CdS]) caused by the side formation of sulfide in solution. Apatite II has been used previously to construct a barrier to treat mine waste which contained high concentrations of cadmium where effective treatment of cadmium was observed (Conca et al. 2006). It is expected that the majority of treatment will be from either ion exchange or surface sorption.

Additionally, cadmium is present in only one oxidation state (2+), which limits the use of any technologies that may alter the metal's redox state; for example, zero valent iron, which has been shown to reduce hexavalent chromium to the much less mobile trivalent chromium (Interstate Technology and Regulatory Cooperation Work Group 1999). More specifically, groundwater at Dzus has been observed to be oxidative (ORP > 100 mV), have a generally circumneutral pH (pH ~ 7), and be relatively fast flowing, which influences the selected technology and precludes the use of other more conventional treatments for high metal concentrations in groundwater. Metals are commonly treated through reductive precipitation with sulfides or iron oxides/oxyhydroxides; however, the geochemical conditions observed at Dzus do not support the

use of such a technology as it is anticipated that any reducing conditions formed will return to more natural oxidative conditions over time. It is expected that reductive cadmium precipitates are not stable in oxidative conditions and that cadmium would be expected to be released as site conditions return to more natural conditions.

3.3 BENCH-SCALE COLUMN STUDY

EA subcontracted PRIMA to perform a bench-scale column study to evaluate the removal of cadmium from site groundwater by Apatite as well as to determine the necessary contact time for site groundwater to be remediated by Apatite. Two bench-scale column studies were performed to compare removal rates of Apatite: one column with whole bone Apatite and one column with crushed Apatite, representing testing conditions with two varying particle sizes. It was hypothesized that the smaller particle size of the crushed apatite material would provide larger surface area for cadmium sorption and therefore larger concentration reductions.

Whole bone Apatite was shipped from UFA Ventures, Inc., in a 1-gallon plastic bag, to PRIMA for use in the column study. The whole bone Apatite particle sizes varied with an approximate maximum length of 2 inches. An additional shipment was made from UFA Ventures, Inc., in a 1-gallon plastic bag, to PRIMA of crushed Apatite for use in the second column. The material safety data sheet for the Apatite material is included as **Appendix A**.

Several tests were performed as part of the column study, including the initial characterization of field materials, an isotherm test, a preliminary column test to determine contact time, and the full column test. The final report provided by PRIMA is included as **Appendix B**.

3.3.1 Groundwater

Fifteen gallons of groundwater collected from MW-13A on 9 August 2024 were shipped in six 2.5-gallon carboys to PRIMA. Groundwater samples were collected as part of ongoing site monitoring activities performed 17-18 June 2024 and analyzed by Pace Analytical for dissolved metals via U.S. Environmental Protection Agency (EPA) Method 6010. The dissolved cadmium concentration in MW-13A was measured at 280 µg/L. Concurrently, PRIMA analyzed the 15 gallons of groundwater they received for dissolved metals via EPA Method 6010. Upon receipt, dissolved cadmium concentrations in the groundwater received by PRIMA was found to be 240 µg/L. It was decided that groundwater would be spiked with cadmium nitrate to an approximate concentration of 600 µg/L to be more consistent with the high dissolved concentrations observed during the PDI (770 µg/L at ISB-B5 from 11 to 15 feet bgs). An additional 20 gallons of groundwater was collected from MW-13A and sent to PRIMA on 11 November 2024 for use in a second column using crushed Apatite.

3.3.2 Soil

Soil was collected from approximately 8 to 12 feet bgs near the proposed PRB location behind Captree Plaza and near ISB-B5 (**Figure 2**). Approximately 70 pounds of soil was shipped in 1-gallon plastic bags to PRIMA. The hydraulic conductivity of native soil and amended soil was analyzed by Gulf Shore Construction Services, Inc. (Rancho Cordova, California) under contract to PRIMA for use in the PRB design. Hydraulic conductivity of native soil was measured at

0.00623 centimeters per second (17.66 feet per day). Soil amended with 3 percent mass by mass mixture of Apatite had hydraulic conductivity measured at 0.00407 centimeters per second (11.53 feet per day).

3.4 COLUMN STUDY METHODOLOGY AND RESULTS

3.4.1 Methods – Isotherm Test

An isotherm test was performed to determine the adsorptive capacity of Apatite in provided site groundwater. Twelve reactors containing whole bone Apatite and site groundwater in various ratios were prepared using 250-milliliter plastic bottles. These reactors were mixed end-over-end for three days, and effluent water from these reactors was analyzed for dissolved cadmium by PRIMA via EPA Method 6010. The outcome from the isotherm test is a sorption curve (Mass sorbed [in milligrams per gram] versus Dissolved Cadmium [µg/L]) that will be used to determine the amount of dissolved cadmium sorbed by a gram of Apatite. The isotherm study results are difficult to interpret as typically an increasing amount of sorbent will lead to a decrease in contaminant concentration, however, in this study as Apatite concentrations increased, dissolved cadmium concentrations increased as well. PRIMA observed the formation of foam and a change in color to a cloudy orange which was interpreted to represent biological activity that may have produced volatile fatty acids which complexed with dissolved cadmium and limited the efficacy of the Apatite material.

3.4.2 Methods – Preliminary Column Test

A preliminary column test was performed to determine the contact time needed to remove dissolved cadmium. Three columns were prepared from 2-inch diameter polyvinyl chloride (PVC) pipe with approximately 6 inches of whole bone Apatite as the bed height. Flow rates in each column were varied to allow for different hydraulic residence times (HRTs) of approximately 10 minutes, 30 minutes, and 60 minutes respectively. After approximately 10 pore volumes were passed through each column, the influent and effluent were sampled and analyzed for total and dissolved cadmium.

3.4.3 Methods – Column Test – Whole Bone

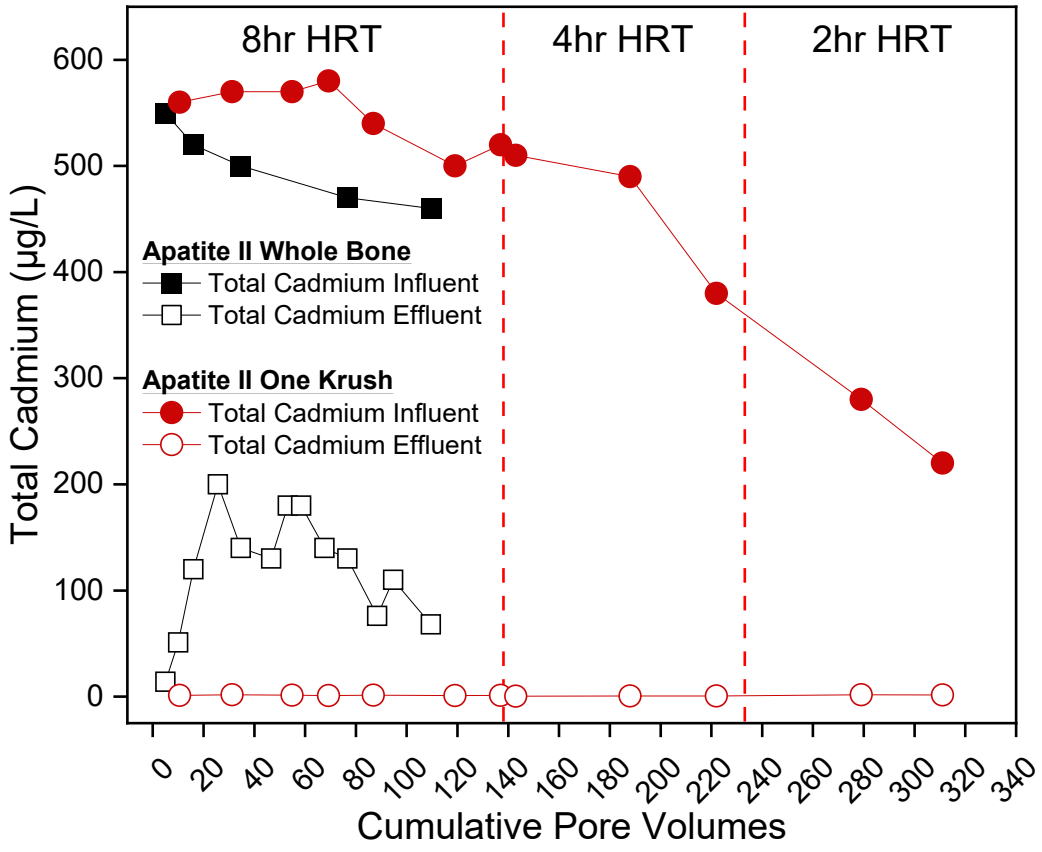
The full column study uses a single column that is 2 inches in diameter with a bed height of Apatite between 6 and 12 inches and an HRT of 30 to 60 minutes. The final bed height was 9 inches, and HRT was initially determined to be 4.2 hours, but was increased to 8 hours after limited removal was observed within the first 18 pore volumes. Wall effects (undesirable flow conditions) are not expected in this column setup as the Apatite material has irregular shapes and creates substantial void spaces when packed into the column. Spiked groundwater with a starting dissolved cadmium concentration of approximately 600 µg/L was pumped into the column through the bottom to create upwards flow and to avoid preferential pathways or unsaturated regions within the column. The influent and effluent were sampled periodically for total and dissolved cadmium, anions (including nitrate, sulfate, and phosphate), ORP, and pH. Anaerobic conditions were achieved within the barrier as demonstrated by the decrease in ORP values from 165 mV to -67 mV after 16 pore volumes. Samples were collected approximately every 10 pore volumes for a total of 13 samples and 110 pore volumes (**Exhibit 1**).

Total cadmium results in the column effluent ranged from 14 to 200 ug/L, which is well above the remedial goal of 5 ug/L or lower in groundwater downgradient of the proposed barrier. It was decided that instead of proceeding to the originally planned 150 pore volumes, PRIMA would end the whole bone column test early and evaluate a different Apatite product instead. The high cadmium concentrations in the column effluent indicated that the whole bone Apatite material did not perform as expected and is not a viable material with which to construct the PRB.

3.4.4 Methods – Column Test - Crushed

A second column was prepared to evaluate the cadmium removal of crushed Apatite material following the completion of the first column test using the whole bone Apatite. The same column dimensions (2-inches in diameter) were used as in the whole bone Apatite column test, and the bed height was slightly higher (10 inches). The HRT was held at an increased time of 8 hours, similar to the first column test, however the HRT was decreased during the test to approximately 4 hours and then approximately 2 hours to increase flow rate and to evaluate whether column breakthrough would be observed. Spiked groundwater was pumped through the bottom of the column to create upwards flow and to avoid preferential pathways or unsaturated regions within the column. The column was prepared by mixing the crushed Apatite with remaining site soil to achieve a 3 percent mass by mass mixture (which was recommended by the Apatite vendor) to load the column. The influent and effluent were sampled periodically for total and dissolved cadmium, anions (including nitrate, sulfate, and phosphate), ORP, and pH. Crushed Apatite demonstrated a much greater efficacy towards cadmium removal than the whole bone Apatite. As shown in **Exhibit 1**, cadmium concentrations were consistently low for the duration of the column study which indicates that the crushed Apatite material is a viable material to construct the PRB. A complete report from PRIMA is provided in **Appendix B**.

Exhibit 1. Total Cadmium Concentrations in Laboratory Column Studies



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4. BASIS OF DESIGN

4.1 DESIGN ASSUMPTIONS

Several design assumptions were made to develop a preliminary design for an Apatite barrier, which are described as follows:

- The crushed Apatite material was selected versus whole bone based on its' effectiveness at treating cadmium in groundwater and is expected to be successful at decreasing observed groundwater concentrations from approximately 600 µg/L to the NYSDEC AWQS Class GA standard of 5 µg/L or below (Section 3.4.4).

- Willetts Creek is the main receptor for cadmium contamination from groundwater and is a gaining stream when the local (adjacent) groundwater elevation is higher than the surface water elevation of the creek.

- The barrier is intended to address only impacted groundwater flowing through the barrier..

- The parameters to calculate site groundwater velocity were determined during the PDI, and the groundwater velocity to be used for the design will be 1.05 feet/day.

- Geochemical conditions within the aquifer are oxidative and assumed to remain oxidative.

- The PRB IRM should address the portion of the plume expected to be communicating with Willetts Creek, prioritizing areas where sediment samples show exceedances of cadmium. The barrier length can be increased over time in subsequent phases should the IRM prove effective and additional protection is needed along Willetts Creek.

4.2 TARGETED TREATMENT AREA/ZONE

During the recent PDI, the highest cadmium concentrations in groundwater were located between 11 and 15 feet bgs, as identified at ISB-B5 (EA 2024). Sediment sampling results from site management activities continue to demonstrate that the greatest cadmium concentrations in sediment occur near or downgradient of Captree Plaza and Stop & Shop Plaza. Additionally, as discussed during the PDI, it is assumed that shallow groundwater (approximately 5 feet below the bed of Willetts Creek) will communicate with the surface water body when groundwater elevations are higher than the surface water elevation of the creek.. The barrier will be installed to a 15 ft vertical depth span, which is intended to capture the vertical interval thought to interface with Willetts Creek as well as the water table, which is estimated to be from 2 to 5 feet bgs or shallower at the barrier location. The PRB will be constructed to address dissolved cadmium concentrations coinciding with the highest sediment samples, and to provide armoring to Willetts Creek. The anticipated treatment area is the wetland behind Captree Plaza and Stop & Shop Plaza and along Willetts Creek. The barrier will be placed close to Willetts Creek, but with a buffer to allow for the installation of new monitoring well pairs (**Figure 5** and **Appendix C)**.

4.3 SITE CHARACTERISTICS AND DESIGN CONSIDERATION

4.3.1 Residence Time Required for Treatment

The HRT required for groundwater treatment by the proposed Apatite PRB is a critical parameter that was determined by the results of the column study. The HRT informs the required thickness of the barrier necessary to treat groundwater at the site and factors into the footprint of the proposed barrier and the amount of Apatite required to complete the design. The minimum HRT necessary for Cd removal was estimated from the column study is 8 hours.

4.3.2 Groundwater Flow Velocity

The groundwater flow velocity (seepage velocity) is an important parameter to anticipate the expected groundwater flow through the proposed PRB as it is directly related to HRT required to achieve cadmium reduction. As shown below, the seepage velocity was calculated using parameters developed during the PDI:

$$v = -\frac{K}{n_e}\frac{\Delta H}{\Delta L}$$

Where: v = seepage velocity (feet/day), K = average hydraulic conductivity (feet/day), n_e = effective porosity (dimensionless), ΔH = change in hydraulic head, $H_2 - H_1$ (feet), and ΔL = distance between H_2 and H_1 (feet). During the PDI, hydraulic conductivity (K) was measured using HPT at location HPT-07, adjacent to ISB-B5, from 6.5 to 45.2 feet bgs. K averaged 67 feet/day across this depth interval. Given the site lithology and results of the PDI, the effective porosity (n_e) was estimated at 0.32. Hydraulic head measurements (H_2 and H_1) from ISB-A5 and ISB-C2, as well as ISB-C2 and ISB-C1, located approximately 100 and 145 feet apart (ΔL), respectively, were used to calculate an approximate hydraulic head of 0.005 foot/foot, which was subsequently used to calculate v. Given these inputs, the seepage velocity (v) was calculated to be 1.05 feet/day, which is similar to the flow velocity estimate (1 foot/day) presented in the Remedial Investigation/Feasibility Study (LMS 1994).

4.3.3 Proposed Location and Orientation

The PRB will be installed behind Captree Plaza and Stop & Shop Plaza along the wetland area to the northwest of Willetts Creek to mitigate high groundwater concentrations of cadmium at and around ISB-B5. The proposed orientation of the PRB is provided on **Figure 5** and is depicted as running mostly parallel to Willetts Creek. In addition, the barrier will cross a stormwater feature called out on **Figure 5**, which will be addressed during PRB installation.

As determined during the survey performed 15 July 2024, the elevation of ISB-B5 is 16.47 feet NAVD; therefore, to intercept the contamination between 11 and 15 feet bgs. Therefore, the PRB is proposed to extend across a total vertical span of 15 feet (**Appendix C**). The assumption for depth below ground surface assumes that the installation area is relatively uniform along the PRB transect and no substantial drops in elevation are encountered.

The barrier width was determined to achieve a HRT sufficient for contaminant treatment. From the results of the column study, an 8-hour residence time achieves complete contaminant treatment using the crushed Apatite, and the barrier must achieve that residence time at a minimum. Given the groundwater velocity calculated previously (1.05 foot/day), the barrier must be 0.35-foot at a minimum. To prolong the barrier's lifespan and to accommodate the proposed mixing method, a wider barrier of 5 feet will be constructed, which would achieve a HRT of approximately 114.3 hours, which is well above the treatment criteria used for the column study.

4.4 PERMEABLE REACTIVE BARRIER DESIGN

Soil mixing was chosen as the proposed implementation method for the PRB. Soil mixing can be performed with conventional excavators and/or large diameter augers to introduce treatment products. The geology at the site has been observed to be highly porous and is expected to readily accept an Apatite mixture with limited decreases in groundwater flow. The PRB design is based on an expected mass percentage of Apatite required to complete the barrier within a designated unit cell as a subset of the overall 300-foot barrier length. The anticipated Apatite material usage is approximately one metric ton every 7.5 linear feet. The total mass of Apatite necessary for the barrier is approximately 40 metric tons (~88,186 pounds).

The barrier will be installed in the wetland adjacent to Willetts Creek via mechanical means, and the PRB wall alignment will be marked out with stakes prior to commencement of work. The barrier is anticipated to cross a stormwater outlet that will be addressed during barrier construction. The work will consist of mixing native soil and Apatite to achieve a 3 percent solids mass by mass percentage. The chosen contractor will utilize an appropriately sized equipment with the necessary weight, breakout force, and depth/reach capabilities to adequately perform all earthwork and soil mixing to construct the PRB.

Before starting intrusive work, the contractor will complete mobilization and site preparation activities. These activities include but are not limited to submittal of work planning documents, installation of site security, health and safety controls, and support areas, clearing, and installation of erosion and sediment control measures. PRB installation will be completed by blending native soil with Apatite to the designated dosing rate across the vertical span of the PRB in mixing cells (note: size of mixing cells to be determined during construction). Amended soil will be tested for quality control and quality assurance as described in Section 5.1 to ensure homogeneity and adequate dosing of Apatite is achieved. Excess soil displaced by the addition of Apatite will be disposed of offsite. Following installation of the PRB, the contractor shall install monitoring wells as described in Section 4.5, dispose of all IDW, and restore the site to pre-construction conditions as described in Section 4.6.

4.5 MONITORING WELL INSTALLATION

To monitor the effectiveness of the PRB, overburden monitoring wells will be installed upgradient and downgradient along the total length of the barrier at 50-foot intervals for 20 monitoring wells total. Downgradient monitoring wells will be installed as shallow-deep pairs to capture any potential flow diversion and contaminant flow beneath the barrier. In addition, two monitoring wells will be installed outside the footprint of the barrier to monitor any flow

diversion around the barrier. The shallow upgradient, downgradient, and side gradient monitoring points will be installed to -8 ft NAVD (approximately 18 ft bgs) and constructed using 2-inch diameter PVC pipe with a 15-foot, 0.010 slot-well screen with #0 US silica gravel pack (or equivalent). The downgradient deep monitoring wells will be installed to -18 ft NAVD (approximately 28 ft bgs) constructed using 2-inch diameter PVC pipe with a 5-foot, 0.010 slot-well screen. The gravel pack will be constructed using #0 US silica gravel pack (or equivalent). The sand/gravel pack shall extend 2 ft above the well screen. A minimum of a 2-ft bentonite seal will be installed above the sand pack with the remaining borehole annulus tremie grouted with a bentonite/cement grout mixture to grade. Monitoring wells will be finished as stickups (2.5-3 ft above grade) with a locking steel well cover, locking j-plug, and 24-inch by 24-inch square well pad. Proposed locations of the monitoring wells are included on **Figure 5**.

All monitoring wells will be installed after the PRB to allow for barrier construction and to limit any potential damage to newly installed monitoring wells. Forty-eight hours, but no more than 7 days following installation, monitoring wells will be developed with surge and pump techniques. Development will be performed under the supervision of an EA field geologist. EA will collect water quality parameters during development using water quality meter, and development activities shall continue until turbidity is below 50 NTUs. Investigation and derived waste will be containerized and handled in accordance with the Field Activities Plan (FAP) (EA 2023c).

A baseline sampling event will be conducted 2 weeks following installation and will follow the schedule included in **Exhibit 2**. Following the 6 months of performance monitoring it is expected that the new PRB monitoring wells will be included in future quarterly groundwater sampling events.

Exhibit 2. Post Performance Monitoring Schedule

Well ID	Post Barrier Installation (Months 1, 3, 6)
New PRB Monitoring Wells 1 through 20	O, F, M
MW-13A	O, F, M
MW-13B	O, F, M
MW-23A	O, F, M
MW-23B	O, F, M
MW-25	O, F, M
MW-26	O, F, M
Willets Creek Gauging Station	O, S

Notes:
Field parameters monitored during injections will be restricted to pH measurement using disposable pH test strips.
O = Field observation and water level
S = Willetts Creek surface water level
F = Field parameters (dissolved oxygen, pH, ORP)
M = Metals (via EPA Method 6010D)

4.6 UPLAND AND WETLAND RESTORATION

It is important to note that the PRB location crosses the wetland and upland area adjacent to Willetts Creek as displayed in **Figure 5**. Following barrier construction, the wetland and upland areas will be restored in kind to pre-construction conditions in accordance with the PRB design drawings (**Appendix C**), the previous wetland restoration plan established as part of the previous Willetts Creek Remedial Design (EA 2018), and the Site Management Plan (SMP) (EA 2025c).

4.7 SITE ACCESS AND PERMITTING

Prior to constructing the IRM, access agreements must be obtained by NYSDEC from the Beach Street Middle School, Captree Plaza, and Stop & Shop Plaza properties. Access will be required for material/equipment delivery, staging, and stockpiling of materials, as well as construction activities to install the PRB.

The PRB installation will be completed as part of the New York State Superfund Program. As the project is being completed by NYSDEC, approvals that would come from NYSDEC will be granted through the approval of the Work Plan. An overview of the permits and other approvals required are summarized in **Exhibit 3**.

Exhibit 3. List of Permits/Approvals

Permit / Approval	Responsible Agency	Permit Reason / Process	Approval Status
Nationwide Permit 38 / 401 Water Quality Certification	USACE / NYSDEC	Authorization needed for specific activities related to cleanup of hazardous waste and toxic waste; temporary impacts to stream and freshwater wetlands per Section 404 of Clean Water Act; and Joint Application Form needs to be submitted to NYSDEC and USACE.	EA has received a Nationwide Permit from USACE per email confirmation on 2 October 2025.
Section 106 of NHPA	NYSHPO	Project completed by state agency that could potentially impact a cultural resource; consultation application needs to be submitted to NYSHPO.	EA determined no new NYSHPO is required per email confirmation from NYSPRHD on 13 January 2025.
SPDES	NYSDEC (DOW)	Constructing or using an outlet/point source that discharges into surface or groundwater. Prepare and file SPDES equivalent with NYSDEC.	A SPDES permit is not anticipated to be required for this project as determined in consultation with NYSDEC.
Site Review, NY Natural Heritage Program	NYSDEC	Determine if rare plants, animals, or significant natural communities are located near the site. Use online NYDSEC Environmental Resource Mapper.	EA determined that consultation with New York Natural Heritage Program is not required.
Endangered Species Act	U.S. Fish and Wildlife Service	Determination of threatened, endangered, proposed and candidate species that may occur within the project boundary or be affected by the project. Using the U.S. Fish and Wildlife Service IPaC system, submit an effects determination.	On 10 January 2025, EA determined that no threatened or endangered or candidate species occur within the project boundary.

4.8 ESTIMATED COST

A cost estimate was prepared for the PRB installation along with estimate assumptions and each are provided in **Appendix D**. The estimate includes anticipated labor, equipment, and materials needed to execute the work. The total estimated capital construction cost for the PRB installation, with a 15 percent contingency, is approximately $1,453,336.

5. DRAWINGS AND SPECIFICATIONS

Design drawings for the design of the IRM include the following:

- Title Sheet
- General Notes and Legend
- Existing Conditions Plan
- Site Design Plan
- Cross-Section Plan
- Details
- Restoration Planting Plan

Specifications are contained within the design drawing notes where necessary (**Appendix C**).

5.1 QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

A critical component to the construction of the PRB is the collection of data to confirm the barrier was constructed correctly according to the design documents. Quality assurance/quality control measures are intended to provide assurance that the barrier meets design criteria and are described in more detail below:

- The excavator/mixing tooling will be expected to use Global Positioning System control to confirm the correct depth of excavation and location of the barrier.

- Field staff will measure the barrier width using a tape measure or survey rod to confirm that the necessary width is achieved throughout barrier construction.

- Pre-construction and post-construction survey will be completed to ensure correct barrier alignment and to prepare as-built drawings.

- A defined batch size to determine quantity of Apatite to be mixed with known quantity of soil. A batch is defined as the volume of soil from 10 linear feet of trench (5 feet wide by 15 feet deep) and is anticipated to be approximately 28 cubic yards.

- QA/QC samples will be collected from each mixed batch of soil amended with Apatite and will be analyzed for total phosphate via SM 4500 PE to confirm that the 3% by mass Apatite dosing is achieved and the mixture is homogeneous. Apatite is a calcium phosphate based material, and concentrations of total phosphorus are expected to increase following amendment with Apatite. EA collected native soil samples from the PRB alignment in May 2025 to determine in situ phosphorus concentrations and help to serve as a baseline measurement during construction. Total phosphorus in native soil ranged from non-detect to 3.7 mg/kg. During the column study, PRIMA analyzed soil mixtures of 3 percent Apatite to determine a reference value for total phosphorus, and results ranged from 1,600 to 2,300 milligrams per kilogram (**Appendix B**). The change in phosphorus concentration from native soil to soil amended with 3 percent Apatite will be used to confirm barrier homogeneity.

  - Five samples will be collected from each of the first three Apatite-soil mix batches (15 samples total) and analyzed for phosphate via SM4500 PE.

  - The initial sampling results from the first 15 samples will be used to develop an average (χ) total phosphorus concentration value and standard deviation (σ).

  - A range of total phosphorus concentrations determined to be acceptable is anticipated to be $\chi-2\sigma < \text{RESULT} < \chi+2\sigma$ to account for variability in field conditions and accuracy in the analytical method.

  - For each batch, 5 samples will be collected and of those, a minimum of 3 samples must be within the acceptable range.

- Deficiencies observed in field measurements (i.e., insufficient total phosphorus concentrations) will be remedied by additional mixing time until a more homogenous barrier is achieved or by the addition of more Apatite to the barrier cell being tested. It should be noted that if additional Apatite is added to a barrier cell, the barrier length may need to be adjusted to accommodate the decrease in available Apatite product.

- Restoration quality assurance and quality control measures for the wetland areas will be conducted in accordance with the SMP (EA 2025c) and will include survivorship counts, reduction in areal coverage of invasive species, observations of vitality and growth, identification of deceased plants, percent ground cover, success of native pioneer species, existence of wetland hydrology for the created wetland area, and observed fish and wildlife counts.

6. REFERENCES

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———. 2024. Groundwater Pre-Design Investigation Report, Dzus Fastener Company, Inc. Site, West Islip, New York, Site No. 152033. October.

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Conca, James L., Wright, Judith. 2006. An Apatite II permeable reactive barrier to remediate groundwater containing Zn, Pb and Cd. Appl. Geochem. 21(8): 1288-1300.

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Lawler, Matusky & Skelly Engineers LLP (LMS). 1994. Remedial Investigation/Feasibility Study Report. Dzus Fastener Company, West Islip, Suffolk County. Site No. 150233. October.

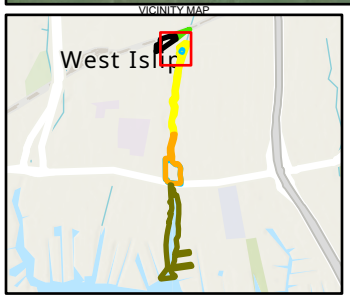
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Figures

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Legend

- Wetland Boundary
- Monitoring Well
- In-Situ Boring Location
- Soil Sample Location
- Proposed Monitoring Wells
- Proposed Supplemental PDI Samples

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Figure 1
Site Layout
Dzus Fastener Co., Inc.
West Islip, New York

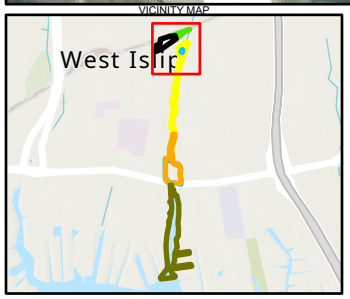
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Projection: NAD 1983 State Plane New York Long Island FIPS 3102 (US Feet)

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VICINITY MAP



Legend

- Monitoring Well
- Monitoring Well with Slug Test (Phase I)
- Newly Installed Monitoring Well (Phase III)
- In-Situ Borings (Phase I)
- In-Situ Borings (Phase II)
- HPT Borings (Phase III)
- Soil Sample Location (Phase I)
- Soil Sample Location (Phase II & III)
- In-Situ Borings (Phase II)
- Soil Sample Location (Phase I)
- Soil Sample Location (Phase II & III)
- Newly Installed Monitoring Well (Phase III)

0 150 Feet

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Figure 2
Groundwater PDI Sample Locations
Dzus Fastener Co., Inc.
West Islip, New York

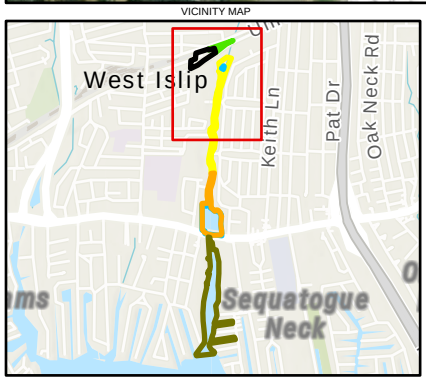
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VICINITY MAP



Legend

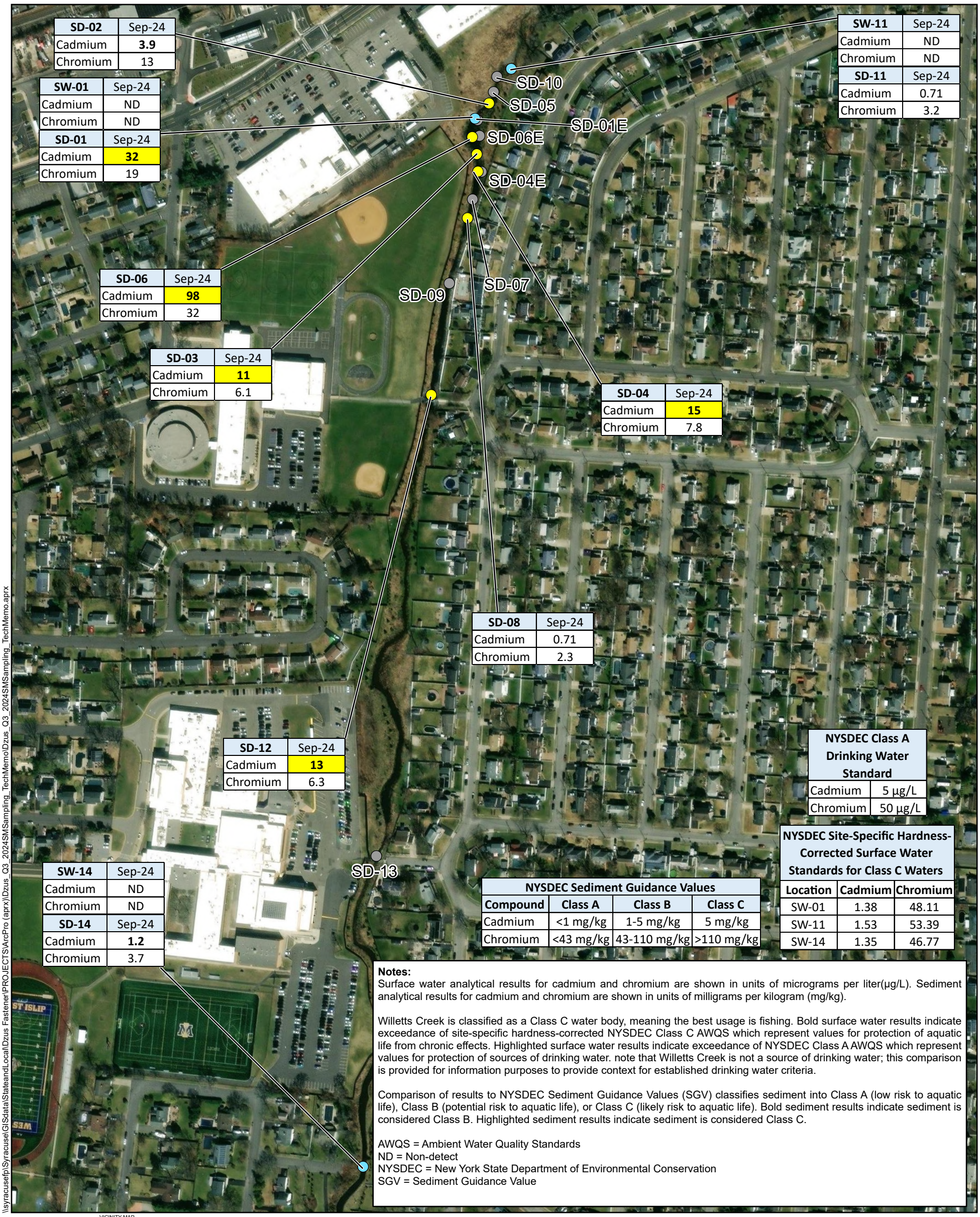
- Shallow Potentiometric Surface Contour
- Groundwater Flow Direction
- A Monitoring Well

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Figure 3
Shallow Potentiometric Surface Contours
June 2024
Dzus Fastener Company, Inc.
West Islip, New York

Map Date: 8/6/2024
Projection: NAD 83 State Plane
New York Long Island 3104 (US Feet)
Source: Esri

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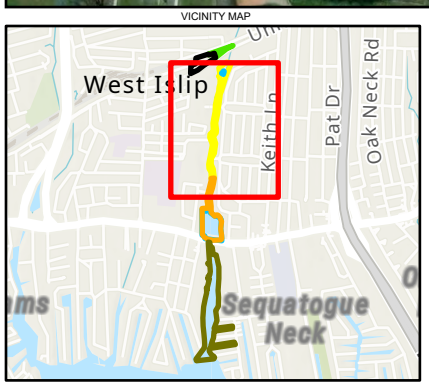
Notes:
Surface water analytical results for cadmium and chromium are shown in units of micrograms per liter(µg/L). Sediment analytical results for cadmium and chromium are shown in units of milligrams per kilogram (mg/kg).

Willetts Creek is classified as a Class C water body, meaning the best usage is fishing. Bold surface water results indicate exceedance of site-specific hardness-corrected NYSDEC Class C AWQS which represent values for protection of aquatic life from chronic effects. Highlighted surface water results indicate exceedance of NYSDEC Class A AWQS which represent values for protection of sources of drinking water. note that Willetts Creek is not a source of drinking water; this comparison is provided for information purposes to provide context for established drinking water criteria.

Comparison of results to NYSDEC Sediment Guidance Values (SGV) classifies sediment into Class A (low risk to aquatic life), Class B (potential risk to aquatic life), or Class C (likely risk to aquatic life). Bold sediment results indicate sediment is considered Class B. Highlighted sediment results indicate sediment is considered Class C.

AWQS = Ambient Water Quality Standards
ND = Non-detect
NYSDEC = New York State Department of Environmental Conservation
SGV = Sediment Guidance Value

VICINITY MAP



Legend
- Not Sampled
- Sediment Sample
- Surface Water/Sediment Sample

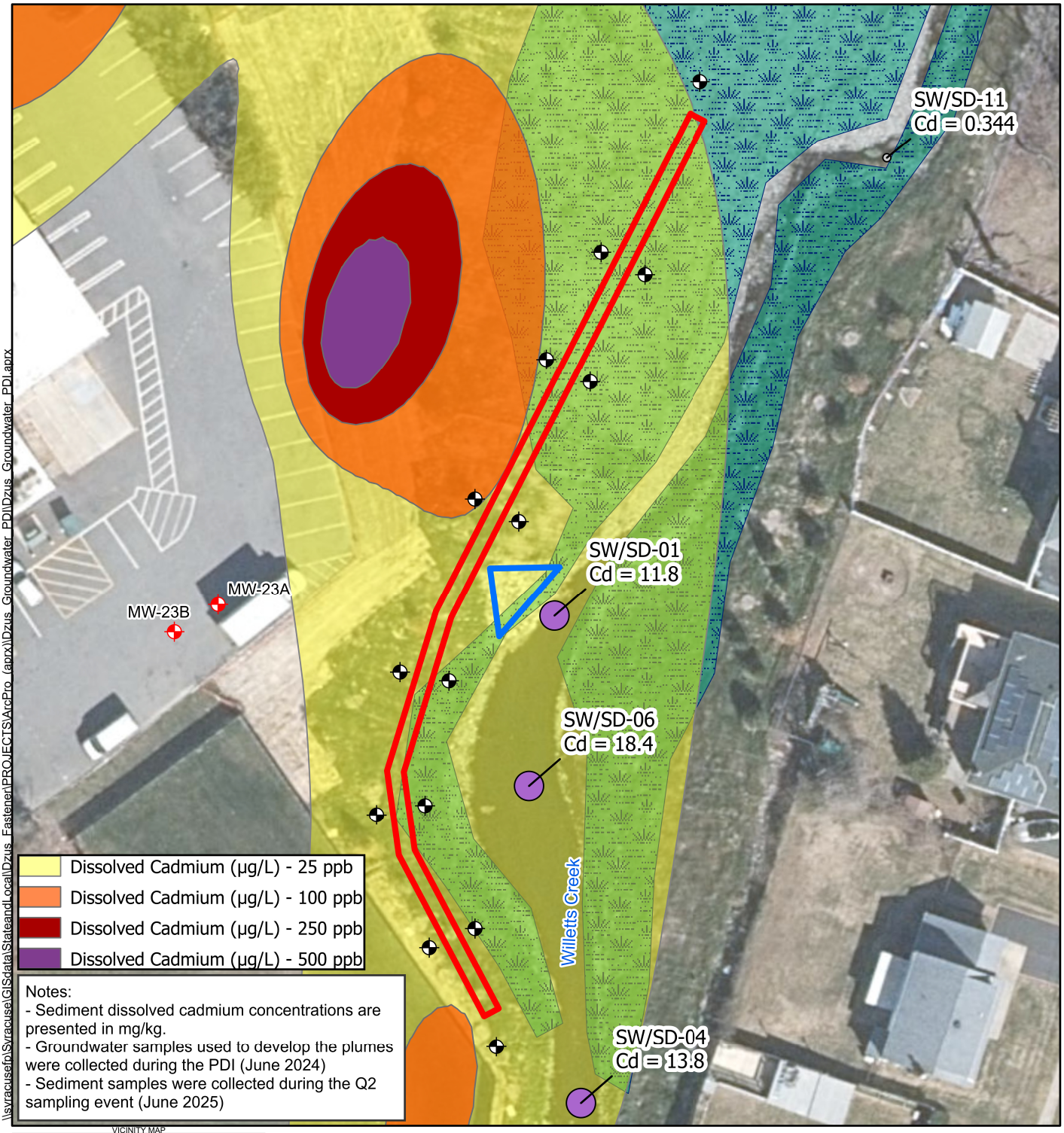
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Figure 4
Surface Water and Sediment Analytical Results
September 2024
Dzus Fastener Company, Inc.
West Islip, New York

Map Date: 11/6/2024
Projection: NAD 83 State Plane
New York Long Island 3104 (US Feet)
Source: Esri

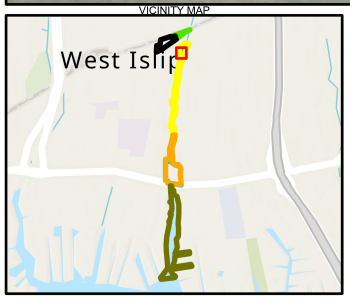
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VICINITY MAP



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Legend

- Wetland Boundary
- Proposed Monitoring Well
- Existing Monitoring Well
- PRB alignment
- Stormwater Outlet

Sediment Sample Cadmium (mg/kg)

- ≤1
- 1 - 5
- 5 - 10
- 10 - 50

Figure 5
Permeable Reactive Barrier Cadmium Plume
Dzus Fastener Co., Inc.
West Islip, New York

Map Date: 11/6/2025
Projection: NAD 1983 State Plane New York Long Island FIPS 3102 (US Feet)

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Appendix A
Apatite II Material Safety Data Sheet

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MATERIAL SAFETY DATA SHEET

PRODUCT APATITE II

COMPOSITION	Apatite II [$Ca_{10-x}Na_x(PO_4)_{6-x}(CO_3)_x(OH)_2$ where $x < 1$], produced from fish bones (U.S. Patent #6,217,775)
APPEARANCE & FORM	Granular, various sizes from powder to gravel
PACKAGING	Bulk
TOXICITY	Ingestion-Nil Eye and skin contact-Nil Inhalation- Classified as nuisance dust only
CORROSION PROPERTIES	Non-corrosive
FIRE RISK	Low. Combustible when subjected to extreme heat
EXPLOSION RISK	None
HANDLING PROCEDURES	When being handled the dust can be a nuisance. This can be improved by extraction or ventilation. No smoking.
PROTECTIVE CLOTHING	Overalls, dust mask, and eye protection if necessary
STORAGE CONDITIONS	Should be stored at ambient temperature in dry metal or concrete bins.

FIRST AID REQUIREMENTS

EYE CONTACT:	Flush eyes with water. Irritating but does not injure eye tissue.
INHALATION:	No hazard under normal conditions. Move victim to fresh air area. Call doctor if breathing is irregular. Low order of toxicity.
SKIN CONTACT:	Skin may become dry from the dust. Wash thoroughly after contact, with soap if available. Low order of toxicity.
INGESTION:	No hazard. If ingested, give large amounts of water. Minimal toxicity.

DISPOSAL OF SPILLAGE AND WASTE

Shut off source without hazard if possible. Sweep up spilled material and place in container to be recycled.

SUPPLEMENTAL INFORMATION

These materials are made from naturally occurring, benign fish bone products and may contain naturally occurring microorganisms. Proper precautions are advised to prevent infection of open wounds. Avoid inhaling excessive amounts of dust. Avoid eye contact.
Observe the proper hygiene practices necessary to prevent health hazards from any naturally occurring substance such as soil, bark, etc. Wash hands with soap and water after handling.

The information contained in this MSDS is provided without warranty of any kind, expressed or implied. The information contained here is made available solely for the consideration, investigation and verification by the original recipient. Users should consider this information only as a supplement to other information gathered by or available to them. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials for the safety and health of employees, customers and environment. This hazard information is not a substitute for risk assessment under actual conditions of use. Users have the responsibility to keep currently informed on chemical hazard information, to design and update their own programs, and to comply with all applicable national, federal, state, and local laws and regulations regarding safety, occupational health, right to know, and environmental protection.

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Appendix B
PRIMA Environmental
Column Study Report

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April 2, 2025

Hilary Williams
EA Science & Technology
333 West Washington St., Ste 300
Syracuse, NY 13202

RE: Final Report of Findings "Bench-scale Evaluation of Apatite II for Removal of Cadmium from Groundwater"
Client Project No: 1602515
Client ID: Dzus Fasteners
PRIMA ID: EA-Dzus

Dear Ms. Williams:

Enclosed is the final Report of Findings entitled "Bench-scale Evaluation of Apatite II for Removal of Cadmium from Groundwater" that describes bench testing conducted on soil and groundwater from the Dzus Fasteners site. I can be reached at 916-939-7300 or cschreier@primaenvironmental.com, if you have any questions. Thank you for the opportunity to be of service.

Sincerely,
PRIMA Environmental, Inc.

Cindy G. Schreier, Ph.D.
President and Chief Scientist

5070 Robert J. Mathews Parkway, Suite 300, El Dorado Hills, CA 95762
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Report of Findings

Bench-Scale Evaluation of Apatite II Removal of Cadmium from Groundwater

Dzus Fasteners Site
Client Project No. 1602515
PRIMA ID: EA-Dzus

April 2, 2025

Submitted to:
Hilary Williams
EA Science & Technology
333 West Washington St., Ste 300
Syracuse, NY 13202

Submitted by

5070 Robert J Mathews Parkway, Suite 300
El Dorado Hills, CA 95762

Cindy G. Schreier, Ph.D., President

April 2, 2025
Date

EXECUTIVE SUMMARY

Bench-scale column tests were conducted using site soil and groundwater from the Dzus Fasteners site to evaluate the ability of Apatite II to remove cadmium (Cd) from the groundwater. Apatite II is a phosphate-based mineral derived from fish bones that works by sorbing metals and forming insoluble metal-phosphate minerals. It is available from UFA Ventures, Inc. in uncrushed and crushed form, both of which were evaluated in this study. The uncrushed form was evaluated as-received, while the crushed form was mixed with site soil (3% Apatite II weight percent of soil).

Laboratory testing demonstrated that Apatite II could reduce Cd concentrations in groundwater, though the Apatite II One Krush was more effective than uncrushed material. Uncrushed Apatite II reduced concentrations by 68-85% of Cd, but 68-200 μg/L Cd was still present in the groundwater. Doubling hydraulic residence time (HRT) from 4 hours to 8 hours did not have much effect. A much longer HRT may improve the effectiveness of uncrushed Apatite II, but PRIMA recommends additional testing to confirm this. In contrast, site soil mixed with 3wt% Apatite II One Krush reduced Cd in groundwater by over 99%, with less than 2 μg/L Cd present throughout the 311 pore volume study, even when the HRT was 2.1 hours. The improved removal is presumably due to the greater surface area of the crushed material.

Both uncrushed Apatite II and Apatite II One Krush reduced nitrate and sulfate concentrations given an HRT of 4 to 8 hours, and decreased pH by 1 pH unit.

Based on the results of this study, PRIMA recommends that Apatite II One Krush be considered for use at this site.

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ACRONYMS and ABBREVIATIONS

Cd	cadmium
g	grams
kg	kilograms
L	liters
mg	milligrams
mL	milliliters
mV	millivolts
µg	micrograms
ORP	oxidation reduction potential

1.0 INTRODUCTION

Bench-scale column tests were conducted using site soil and groundwater from the Dzus Fasteners site to evaluate the ability of Apatite II, a phosphate-based mineral derived from fish bones, to remove cadmium from the groundwater. Two column tests were performed – one using uncrushed Apatite II and one using a mixture of site soil and 3% crushed Apatite II.

1.1 Background

Apatite II is a phosphate-based mineral derived from fish bones. It can remove a wide variety of metals from water by sorbing metals and forming insoluble metal-phosphate minerals. It is available from UFA Ventures, Inc. in uncrushed and crushed form (Apatite II One Krush), both of which were evaluated in this study. The uncrushed material consists of flat, often narrow particles ranging in size from about ¼ to 2 inches, while the Apatite II One Krush particles are less than about ¼ inches and include dust (see **Figure 1**).

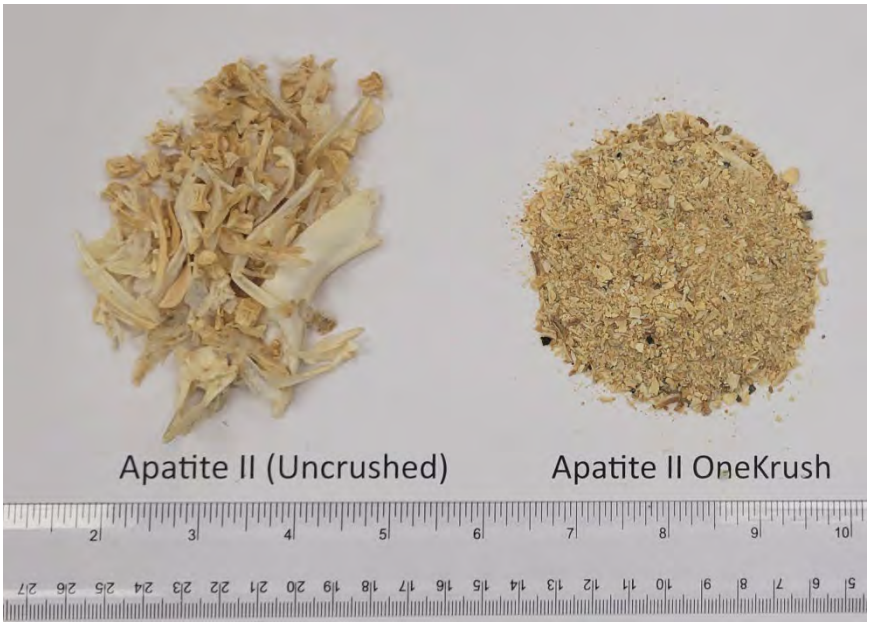


Figure 1. Apatite II and Apatite II One Krush. (Top of ruler is inches. Bottom of ruler is centimeters.)

1.2 Study Objectives

Batch and column tests were conducted to assess removal of cadmium (Cd) by each size fraction of Apatite II. Specific goals were:

- Characterize site soil and groundwater
- Develop a Cd sorption isotherm for uncrushed Apatite II *(batch test)*
- Determine whether uncrushed Apatite II could remove Cd and estimate the capacity of the uncrushed material *(column test)*
- Determine whether a mixture of Apatite II One Krush and site soil can remove Cd and estimate the capacity of the Apatite II One Krush *(column test).*

The tests conducted to achieve these goals are described in **Section 2.0** of this report. Results and Summary/Conclusions are presented in **Sections 3.0 and 4.0**, respectively.

2.0 MATERIALS and METHODS

2.1 Materials

Apatite II (uncrushed) and Apatite II One Krush were obtained It is available from UFA Ventures, Inc.

2.2 Preparation and Characterization of Soil and Groundwater

2.2.1 Soil

One soil sample (ISB-B5CS-080924) was received on August 16, 2024. Soil and soil plus 3wt% Apatite II One Krush were submitted for measurement of hydraulic conductivity using the laboratories and methods described in **Section 2.6**. The bulk density of the soil only sample was measured by the geotechnical laboratory on the submitted sample because the submitted sample appeared to be undisturbed. The bulk density of the soil only sample was used to prepare the hydraulic conductivity samples for both the soil only and soil+apatite samples. Site soil was used in the column test to evaluate Apatite II One Krush.

2.2.2 Groundwater

One groundwater sample (MW-13A-CS-08082024) consisting of 6, 2.5-gallon containers was received on August 9, 2024. Prior to use, it was transferred to a large container, mixed, then analyzed for total and dissolved cadmium, alkalinity, dissolved oxygen, nitrate, oxidation reduction potential (ORP), pH, and sulfate using the laboratories and methods described in **Section 2.6**. Because the concentration of Cd was lower than expected, the water was spiked with cadmium nitrate to a target concentration of 600 mg Cd/L, then reanalyzed for total and dissolved cadmium – see **Section 3.1** for results. This water was used for the isotherm test and the uncrushed Apatite II column.

Additional water was received on November 12, 2024 for use in the Apatite II One Krush/sand column test. Prior to use, it was spiked with cadmium nitrate to a target concentration of 600 mg Cd/L.

2.3 Isotherm Test – Uncrushed Apatite II

A batch test was performed in an effort to develop an isotherm for sorption of Cd onto uncrushed Apatite II. Thirteen reactors containing various amounts of uncrushed Apatite II and 150 mL of spiked site groundwater were prepared such that the initial concentration of Apatite II ranged from about 10 to 100 g/L. The reactors were 250 mL (nominal) plastic bottles. They were mixed end-over-end for 3 days, after which the water was analyzed for dissolved cadmium.

2.4 Cd Removal – Uncrushed Apatite II

Three preliminary column tests were performed to estimate the hydraulic residence time (HRT) needed to remove Cd prior to conducting the primary column test for evaluation of Cd removal.

2.4.1 Preliminary Tests

The columns were constructed of 2-inch diameter clear PVC pipe. The bed was 5.5 inches (77.2 – 77.7 g) of uncrushed Apatite II sitting on top of 5.5 inches (about 500 g) of clean silica sand. Flow was upflow and with a different flowrate for each column, such that the HRT was 10 minutes in one column, 30 minutes in the second, and 60 minutes in the third. After approximately 10 pore volumes had been put through, influent and effluent samples were collected and analyzed for total and dissolved cadmium. The results were used to determine the flowrate for the primary column test (**Section 2.4.2**). The 10-minute HRT column is shown in **Figure 2**.

2.4.2 Cd Removal

One column test was performed to evaluate long-term Cd removal. The column was similar to the preliminary columns, except that the bed was 9 inches (143 g) of uncrushed Apatite II sitting on top of 1 inch (59 g) of clean silica sand. The HRT was initially 4 hours, but was increased to 8 hours after 18 pore volumes because Cd was not completely removed (see **Section 3.4**). Influent and effluent samples were collected periodically and analyzed for total cadmium, nitrate, sulfate, ORP, and pH. Column parameters are summarized in **Table 1**.



Figure 2. Preliminary Column – Uncrushed Apatite II.

2.5 Cd Removal – Apatite II One Krush

One column test was performed to evaluate long-term Cd removal by Apatite II One Krush. The column was similar to the preliminary columns, except that the bed was 10 inches tall and contained site sand mixed with 3% by wet weight of sand of Apatite II One Krush. The HRT was initially 8-10 hours, but was reduced to 4.2 hours at 143 pore volumes, then to 2.1 hours at 279 pore volumes because Cd removal was excellent (see **Section 3.5**). Influent and effluent samples were collected periodically and analyzed for total cadmium, nitrate, sulfate, ORP, and pH. Column parameters are summarized in **Table 1**. At the end of the test, the column was dismantled, the bed homogenized, then submitted for analysis of total phosphorous.

2.6 Analytical Methods

The methods for each analysis and the laboratory that performed the analyses are summarized in **Table 2**. All subcontracted samples were collected in appropriately preserved containers and shipped on ice under chain of custody via overnight delivery to

the analytical laboratory. Samples for dissolved cadmium and anions were filtered by PRIMA through a 0.45-micron polyethersulfone (PES) filter.

Table 1. Summary of Column Test Parameters.

Parameter	Units	Column	
		Uncrushed Apatite II	Apatite OneKrush
Bed	Material	Uncrushed Apatite II	site sand plus 3wt% of Apatite OneKrush
	mass, g	143	935*
Column diameter	inches	2	2
Bed Height	inches	9	10
Bed Volume	mL	460	515
Pore Volume	mL	404	200
Flowrate	mL/min	1.6 for first 18 pv, 0.84 thereafter	~0.4 for 0-139 pv 0.79 for 139-235 pv 1.6 for 235-313 pv
HRT	hours/pore volume	4.2 for first 18 pv, 8 thereafter	~8 for 0-139 pv 4.2 for 139-235 pv 2 for 235-313 pv
Direction of Flow	--	up	up
Water put through	L	44	62
	# pore volumes	110	311
Run Time	days	34	77

pv = pore volume

* mix contained 28 g Apatite OneKrush

Table 2. Analytical Methods.

Analyte	Method	Laboratory*
Alkalinity	SM 2320B	Enthalpy
Anions	EPA 300.0	Enthalpy
Dissolved Oxygen/ORP/pH	Probe	PRIMA
Hydraulic conductivity	ASTM5084	Gulf Shore
Metals	EPA 6020	Enthalpy

* Enthalpy Analytical (Orange, CA), Gulf Shore Construction Services (Rancho Cordova, CA)

3.0 RESULTS and DISCUSSION

Tables in this section contain data from subcontracted analytical laboratories. Complete analytical reports are provided in ***Appendix B****.*

3.1 Untreated Soil and Groundwater

Results of the characterization of untreated soil and groundwater are shown in **Table 3**. Groundwater received on August 9, 2024 contained 250 µg/L total cadmium, of which 240 µg/L was dissolved cadmium. Groundwater was toxic, with dissolved oxygen at 8.2 mg/L and ORP at 310 mV. Hydraulic conductivity of the soil was 6.82E-03 cm/sec decreased to 4.07E-03 when mixed with 3wt% of Apatite II One Krush.

Table 3. Cadmium and Other Parameters in Untreated Soil and Groundwater

Analyte	Units	Soil	Soil+3wt% Apatite II One Krush	Groundwater (August 9, 2024)
Cadium				
Total	µg/L	n.m.	n.m.	250
Dissolved	µg/L	n.m.	n.m.	240
Other Parameters				
Alkalinity, total	mg/L CaCO3	n.a.	n.a.	64
Hydraulic conductivity	cm/sec	6.82E-03	4.07E-03	n.a.
Dissolved oxygen	mg/L	n.a.	n.a.	8.2
Nitrate	mg/L-N	n.m.	n.m.	2.4
ORP	mV	n.m.	n.m.	310
pH	--	n.m.	n.m.	6.42
Sulfate	mg/L	n.m.	n.m.	25

n.a. = not applicable. n.m. = not measured

3.2 Isotherm Tests

The results of the isotherm tests are shown in **Table 4** and presented graphically in **Figure 3**. The data are difficult to interpret. Normally, increasing the amount of an adsorbent will decrease the amount of an analyte in water, but in this study, the concentration of dissolved cadmium was nearly constant when the amount of Apatite II was 10-50 g/L, then increased by up to a factor of 10 when the amount of Apatite was 75-100 g/L. These results are probably due to biological activity that formed volatile fatty acids or other chelating compounds. At the end of the 3-day equilibration period, foam was present in the samples and the groundwater changed from clear and colorless to cloudy orange. The amount of foam produced and the intensity of the color increased with increased amount of Apatite. These changes were most likely due to biological activity.

Table 4. Isotherm Test Conditions and Results.

Test	# Reps	GW Volume	Actual Apatite Added		Cd in Water	Cd on Apatite
		mL	g	g/L	µg/L	µg/g
B0	A	150	0	0	570	
	B	150	0	0	560	
B1	A	150	1.52	10.1	6.4	368
	B	150	1.54	10.3	8.2	362
B2	A	150	3.70	24.7	13	149
	B	150	3.75	25.0	11	148
B3	A	150	7.61	50.7	7.0	73
	B	150	7.51	50.1	8.2	74
B4	A	150	11.25	75.0	87	42
	B	150	11.27	75.1	84	43
B5	A	150	15.10	101	110	30
	B	150	15.38	103	140	28
	C*	150	15.27	102	46	34

* Replicate "C" was performed later to confirm the A and B results.

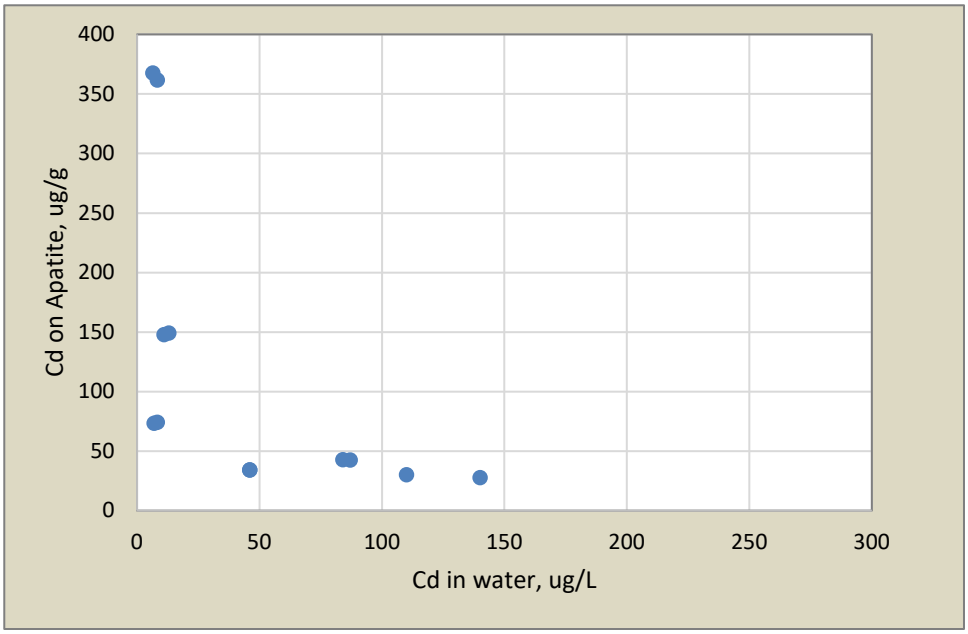


Figure 3. Plot of Aqueous Cadmium versus Sorbed Cadmium.

3.3 Preliminary Tests – Uncrushed Apatite II

The results of the preliminary tests are presented in **Table 5**. The 10-minute and 30-minute HRT tests behaved similarly; total Cd decreased from 550 µg/L in the influent to 100 µg/L in the effluent. Increasing the HRT to 60 minutes resulted in a total Cd effluent concentration of 17 µg/L.

Table 5. Preliminary Column Results.

Test	Mass Apatie	Pore volume	Flowrate	HRT	Dissolved Cd	Total Cd
	g	mL	mL/min	min	µg/L	µg/L
Influent	-	-	-	-	470	550
10	77.7	256	25	10	96	100
30	77.5	256	8.4	30	93	100
60	77.2	256	4.0	64	14	17

3.4 Cd Removal – Uncrushed Apatite II

The results of the Cd removal test using uncrushed Apatite II are presented in **Table 6**. Uncrushed Apatite II reduced concentrations of cadmium, but did not completely remove it from water. Influent total cadmium ranged from 460 to 550 μg/L. Total cadmium in effluent increased through the first 26 pore volumes, then remained relatively steady for the remainder of the 110 pore volume test. Total cadmium in effluent was 14 μg/L at 5 pore volumes, increased to 200 μg/L by 26 pore volumes, then varied between 68 and 180 μg/L for the remainder of the study. Increasing the HRT from 4 hours to 8 hours did not consistently improve the degree of removal, though a much longer HRT might be effective. (The pore spaces in the bed were relatively large, potentially enabling some water to pass through the column without contacting a piece of Apatite II. See **Figure 2**, which shows uncrushed Apatite in a preliminary column; the packing of the Cd Removal column was similar.) The mass of Cd removed in this test was approximately 19 mg, which is equivalent to 0.13 mg Cd/g uncrushed Apatite II. It is likely that uncrushed Apatite II can sequester more Cd, but that a longer HRT would be needed to further reduce the Cd concentration in groundwater.

Apatite II completely removed nitrate throughout the study and reduced pH by about 1 pH unit – from about 7.8 to 6.8. Sulfate was not significantly affected for the first 35 pore volumes, but began to be partially removed by 53 pore volumes. ORP was low and often negative, indicating that reducing conditions were present in the column.

3.5 Cd Removal –Apatite II One Krush/Sand

3.5.1 Water Results

The results of the Cd removal test using Apatite II One Krush are presented in **Table 7**. Total Cd concentrations were below 2 μg/L throughout the column test, even when the HRT decreased from 8.1 hours to 2.1 hours. This is equivalent to over 99% removal. The mass of total Cd removed was 27 mg, indicating that Apatite II One Krush mixed with site soil can sequester at least 0.97 mg Cd/g Apatite.

Reducing conditions were established within the column. Nitrate concentrations decreased from about 4.3 mg/L-N in the influent to 0.06 mg/L-N when the HRT was 8.1 hours, but to only 2.5 mg/L-N when the HRT was 2.1 hours. Sulfate decreased from

about 15 mg/L to under 4 mg/L with an 8-hour HRT, but was not removed when the HRT was 4.2 hours or less. Dissolved oxygen decreased by up to 3-7 mg/L, pH decreased by about 1 pH unit (from about 8 to 7), and ORP was negative.

Cd and ORP in the influent container slowly decreased over the course of the column test. Cd decreased from 620 mg/L at the start of the test to 210 mg/L by the end of the test, while ORP decreased from 317 mV to -131 mV. The reason for these changes is unknow. Settling of solids is unlikely since total and dissolved Cd were similar, and biological activity seems unlikely since dissolved oxygen, nitrate, sulfate did not change.

3.5.2 Post-Treatment Bed Characterization and Observations

Once the Apatite II One Krush test was complete, the column was dismantled and the soil analyzed in triplicate for total phosphorous, then observed to determine if it was visually possible to identify Apatite II One Krush. The total phosphorous results are shown in **Table 8**. Total phosphorous ranged from 1,600 to 2,300 mg/kg. PRIMA's staff was not able to identify particles of Apatite II One Krush in the bed material upon visual inspection, even using a magnifying glass – the Apatite II One Krush was too similar to the background soil (see **Figures 1** and **4**).

Table 6. Cd Removal – Uncrushed Apatite II.

Cummulative Pore Volumes	HRT	Total Cadmium, µg/L		Cadmium Removed*			Nitrate, mg/L-N		Sulfate, mg/L		ORP, mV		pH	
	hrs	Influent	Effluent	%	mg	mg/g Apatite	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
0														
5	4.2	550	14	97	1.1	0.008	2.5	< 0.1	25	39	238	165	7.55	6.92
10	4.2	-	51	91	2.1	0.015	-	< 0.1	-	28	-	98	-	6.87
16	4.2	520	120	77	3.1	0.022	-	< 0.1 H	-	27		-67		6.86
26	4.2	-	200	62	4.5	0.031	-	< 0.1	-	30	-	-67	-	6.66
35	4.2	500	140	72	6.0	0.042	2.4 H	< 0.1	24	26	257	38	7.82	6.86
47	4.2	-	130	74	8.0	0.056	-	< 0.1	-	19	-	-17	-	6.82
53	4.2	-	180	64	9.0	0.063	-	0.09 J	-	9.5	-	-179	-	6.78
58	4.2	-	180	64	9.8	0.068	-	-	-	-	-	-33	-	7.02
68	8.0	-	140	72	11	0.079	-	-	-	-	-	-25	-	6.66
77	8.0	470	130	72	13	0.090	-	-		-	256	-124	7.81	6.8
88	8.0	-	76	84	15	0.11	-	-	-	-	-	1	-	6.85
95	8.0	-	110	77	16	0.11	-	< 0.1	-	13	-	-17	-	6.84
110	8.0	460	68	85	19	0.13	2.2	< 0.1	24	15	225	-58	7.83	697

* When calculating the amount of cadmium removed, if influent was not analyzed for a given time point, the influent concentration was assumed to be equal to the previous influent concentration. "mg" and "mg/g Apatite" are cummulative.

" - " = not measured

H = analyzed out of hold time

Table 7. Cd Removal – 3wt% Apatite II One Krush.

Cummulative Pore Volumes	HRT	Dissolved Cadmium, µg/L		Total Cadmium, µg/L		Total Cadmium Removed*		
	hrs	Influent	Effluent	Influent	Effluent	%	mg	mg/g Apatite
0	8.1							
11	8.1	620	0.44 J	560	1.2	99.8	1.2	0.04
31	8.1	620	0.36 J	570	1.7	99.7	3.5	0.13
55	8.1	570	< 0.55	570	1.3	99.8	6.2	0.22
69	10.4	540	0.20 J	580	1.0	99.8	7.9	0.28
87	10.4	550	0.52 J	540	1.4	99.7	9.8	0.35
119	9.3	490	0.26 J	500	1.0 J	99.8	13	0.46
137	9.3	500	0.71 J	520	1.2	99.8	15	0.53
143	4.2	500	< 0.39	510	0.44 J	99.9	15	0.55
188	4.2	460	< 0.39	490	0.50 J	99.9	20	0.71
222	4.2	400	<0.39	380	0.55 J	99.9	22	0.80
279	2.1	290	1.0	280	1.7	99.4	26	0.92
311	2.1	210	1.3	220	1.5	99.3	27	0.97

* Calculations based on on Total Cadmium results. "mg" and "mg/g Apatite" are cummulative.

J = etimated value

n.m. = not measured

Table 7-continued. Cd Removal – 3wt% Apatite II One Krush.

Cummulative Pore Volumes	HRT	Nitrate, mg/L-N		Sulfate, mg/L		Dissolved oxygen, mg/L		ORP, mV		pH	
	hrs	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
0	8.1										
11	8.1	n.m.	n.m.	n.m.	n.m.	8.04	1.18	317	-6	6.6	6.5
31	8.1	n.m.	n.m.	n.m.	n.m.	7.83	n.m.	308	-31	7.1	6.7
55	8.1	4.3	0.06 J	15	2.2	8.88	2.78	265	99	7.6	6.8
69	10.4	4.2	< 0.06	14	3.8	8.5	1.7	229	29	7.7	6.9
87	10.4	n.m.	n.m.	n.m.	n.m.	8.4	4.4	194	-16	7.8	6.9
119	9.3	n.m.	n.m.	n.m.	n.m.	8.2	3.5	92	-74	7.9	6.9
137	9.3	n.m.	n.m.	n.m.	n.m.	8.37	4.9	63	-86	7.9	7.1
143	4.2	4.2	1.5	14	16	8.39	3.33	-97	-95	7.9	7.1
188	4.2	4.2	0.78	14	15	8.36	4.19	-51	-127	7.9	7.2
222	4.2	4.3	1.1	15	16	8.25	5.24	-74	-123	7.9	7.2
279	2.1	4.3	2.5	15	16	8.23	5.85	-114	-111	8.0	7.3
311	2.1	n.m.	n.m.	n.m.	n.m.	7.88	4.11	-131	-127	8.0	7.1

* Calculations based on on Total Cadmium results. "mg" and "mg/g Apatite" are cummulative.

J = etimated value

n.m. = not measured

Table 8. Post-Treatment Characterization of Soil/Apatite II One Krush Mix.

Analyte	Units	Replicate			
		A	B	C	*Average*
Total Phosphorus	mg/kg	1,700	1,600	2,300	*1,867*



Figure 4. Soil/3%Apatite II One Krush Post-Treatment.

4.0 SUMMARY and CONCLUSIONS

Laboratory testing demonstrated that Apatite II could reduce Cd concentrations in groundwater, though the Apatite II One Krush was more effective than uncrushed material. Uncrushed Apatite II reduced concentrations by 68-85% of Cd, but 68-200 μg/L Cd was still present in the groundwater. Doubling HRT from 4 hours to 8 hours did not have much effect. A much longer HRT may improve the effectiveness of uncrushed Apatite II, but PRIMA recommends additional testing to confirm this. In contrast, site soil mixed with 3wt% Apatite II One Krush reduced Cd in groundwater by over 99%, with less than 2 μg/L Cd present throughout the 311 pore volume study, even when the HRT was 2.1 hours. The improved removal is presumably due to the greater surface area of the crushed material.

Both uncrushed Apatite II and Apatite II One Krush reduced nitrate and sulfate concentrations given an HRT of 4 to 8 hours, and decreased pH by 1 pH unit.

Based on the results of this study, PRIMA recommends that Apatite II One Krush be considered for use at this site.

APPENDIX A
(Chains of Custody)

5070 Robert J Mathews Parkway, Suite 300
El Dorado Hills, CA 95762
916-939-7300
www.primaenvironmental.com

Sample Receipt Summary

Date/Time: Aug 9, 2024 0919

Client/Company: EA

Project: DZ45

	Yes	No	N/A
Custody seals intact?	☐	☐	☒
Chain of custody Present?	☒	☐	☐

If no, list number of samples and Sample ID

Ice present?	☒	☐	☐

If no, what is temperature? ____

Samples in good condition?	☒	☐	☐

If no, explain:

Do sample IDs on containers match IDs on COC?	☐	☐	☒

If no, explain:

No sample ID on containers

Other Comments:

PRIMA ENVIRONMENTAL INC. Questions Answered.

5070 Robert J. Mathews Parkway, Suite 300 • El Dorado Hills, CA 95762
(916) 939-7300 • www.primaenvironmental.com

Project Manager: Hilary Williams
Company: EA
Phone:
Email: hwilliams@eaest.com

Project Name: Dzus Fasteners
Project Number: 1602515
TAT:
Sampler Signature: Adam Carey

SAMPLE ID	Date	Time	Matrix	# Containers	Analysis or Proposal Description/Date: Dzus Fastener Bench - Scale	Comments
						3 blue Igloo coolers
MW-13A-CS-08082024	8/8/24	10:05	W	6	X	

Special Instructions:

Relinquished by:		Received by:
Company	EA	Company
Printed Name	Adam Carey	Printed Name
Signature	Adam C. Carey	Signature
Date	8/8/24	
Time	17:45	
Relinquished by:		**Received by:**
Company		Company PRIMA
Printed Name		Printed Name Cindy Schreier
Signature		Signature
Date	8/9/24	
Time	0919	

Matrix key: S - soil/sediment; W - water; OT - other

6 containers received - no Sx ID on containers

5070 Robert J Mathews Parkway, Suite 300
El Dorado Hills, CA 95762
916-939-7300
www.primaenvironmental.com

Sample Receipt Summary

Date/Time: 11/12/2024 1 cooler @ 09:33 3 cooler @ 0942

Client/Company: EA

Project: DZ45

	Yes	No	N/A
Custody seals intact?	☒	☐	☐
Chain of custody Present?	☒	☐	☐
If no, list number of samples and Sample ID			
Ice present?	☒	☐	☐
If no, what is temperature? ____			
Samples in good condition?	☒	☐	☐
If no, explain:			
Do sample IDs on containers match IDs on COC?	☒	☐	☐
If no, explain:			

Other Comments:

PRIMA ENVIRONMENTAL INC
Questions Answered.

5070 Robert J. Mathews Parkway, Suite 300 • El Dorado Hills, CA 95762
(916) 939-7300 • www.primaenvironmental.com

Project Manager: Hilary Williams
Company: EA Engineering
Phone: 315-565-6568
Email: hwilliams@eaest.com

Project Name: DZUS Fastener
Project Number: 1602515
TAT:
Sampler Signature:

SAMPLE ID	Date	Time	Matrix	# Containers	Analysis or Proposal Description/Date: Column Study	Comments
152033-MW-13A-111124	11-11-2024	1058	W	8	X	8 Carboys for Colum study

Special Instructions	Relinquished by:		Received by:
	Company: EA Engineering	Date: 11-11-2024	Company:
	Printed Name: Thomas Robinson	Time: 1345	Printed Name:
	Signature:		Signature:
	Relinquished by:		**Received by:**
	Company:	Date: 11/11/2024	Company: PRIMA
	Printed Name:	Time: 0942	Printed Name: Brittney Bingaman
	Signature:		Signature: Brittney Bingaman

Matrix key: S - soil/sediment; W - water; OT - other

APPENDIX B
(Subcontracted Analytical Reports)

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 514940
Report Level : II
Report Date : 08/30/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #:	514940
Location:	EA-DZUS
Date Received:	08/28/24

Sample ID	Lab ID	Collected	Matrix
EA-DZUS UNT GW	514940-001	08/27/24 10:30	Water
EA-DZUS UNT GW (F)	514940-002	08/27/24 10:30	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 514940
Location: EA-DZUS
Date Received: 08/28/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 08/28/24. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Alkalinity (SM2320B):
No analytical problems were encountered.

5.2 -0.6 4.6

IR01 ice

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

514940

C&T LOGIN # _____

Page 1 of 1

Chain of Custody # : _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH 48hr TAT ☐

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative						Analytical Request															
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium-dissolved	Cadmium-total											
	EA-DZUS Unt GW	08/27/24	10:30	x				2			x		x		x	x			x											
	EA-DZUS Unt GW (F)	08/27/24	10:30	x				1			x							x												

Notes:
Sample "EA-DZUS Unt GW (F)" has been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

M. Sidorgen PRIMA 8/27/24 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

1700 Add2 E.A. 8-28-24 10:15
FedEx DATE/TIME

DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 8-28-24 WO# 514940 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 8-28-24 By (initials) TLK Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR01 CF: -0.6

Cooler Temp (°C) #1: 5.2 / 4.6 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			X
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 8-28-24 **By (print)** ABD **(sign)** _____

Date Labeled 8-28-24 **By (print)** _____ **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 27AUG24
ACTWGT: 25.00 LB
CAD: 4692371/INET4535
DIMS: 18x14x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA DZUS, TRG PP
DEPT:

583J6/A12D/9AE3

FedEx Express

J24302407130 1uv

WED - 28 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 7782 2269 7212
0201

92 APVA

92868
CA-US SNA

After printing this label:
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ENTHALPY ANALYTICAL

Analysis Results for 514940

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 514940
Location: EA-DZUS
Date Received: 08/28/24

Sample ID: EA-DZUS UNT GW **Lab ID: 514940-001** **Collected: 08/27/24 10:30**
Matrix: Water

514940-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**2.4**		mg/L	0.10	0.06	1	348867	08/28/24 15:02	08/28/24 18:35	PAS
Sulfate	**25**		mg/L	1.0	0.34	1	348867	08/28/24 15:02	08/28/24 18:35	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**250**		ug/L	10	1.1	10	348942	08/29/24	08/30/24	KAM
Method: SM2320B Prep Method: METHOD										
Alkalinity, Bicarbonate, as CaCO3	**64**		mg/L	5.0		1	348894	08/28/24	08/28/24	WWC
Alkalinity, Carbonate, as CaCO3	ND		mg/L	5.0		1	348894	08/28/24	08/28/24	WWC
Alkalinity, Hydroxide, as CaCO3	ND		mg/L	5.0		1	348894	08/28/24	08/28/24	WWC
Alkalinity, Total as CaCO3	**64**		mg/L	5.0		1	348894	08/28/24	08/28/24	WWC

Sample ID: EA-DZUS UNT GW (F) **Lab ID: 514940-002** **Collected: 08/27/24 10:30**
Matrix: Filtrate

514940-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**240**		ug/L	1.0	0.11	1	348893	08/28/24	08/28/24	DXC

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1181874	**Batch:** 348867
Matrix: Drinking Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1181874 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	08/28/24 15:02	08/28/24 16:41
Sulfate	ND		mg/L	1.0	0.34	08/28/24 15:02	08/28/24 16:41

Type: Lab Control Sample	**Lab ID:** QC1181875	**Batch:** 348867
Matrix: Drinking Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1181875 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.621	4.518	mg/L	102%		90-110
Sulfate	25.17	25.00	mg/L	101%		90-110

Type: Matrix Spike	**Lab ID:** QC1181878	**Batch:** 348867
Matrix (Source ID): Water (514940-001)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1181878 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	11.53	2.382	9.036	mg/L	101%		80-120	1
Sulfate	73.88	24.72	50.00	mg/L	98%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1181879	**Batch:** 348867
Matrix (Source ID): Water (514940-001)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1181879 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	11.76	2.382	9.036	mg/L	104%		80-120	2	20	1
Sulfate	75.19	24.72	50.00	mg/L	101%		80-120	2	20	1

Type: Blank	**Lab ID:** QC1182112	**Batch:** 348942
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1182112 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	08/29/24	08/30/24

Type: Lab Control Sample	**Lab ID:** QC1182113	**Batch:** 348942
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1182113 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	101.6	100.0	ug/L	102%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1182114	Batch:	348942
Matrix (Source ID):	Water (514792-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1182114 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	100.5	ND	100.0	ug/L	101%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1182115	Batch:	348942
Matrix (Source ID):	Water (514792-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1182115 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	99.47	ND	100.0	ug/L	99%		75-125	1	21	1

Type:	Matrix Spike	Lab ID:	QC1182116	Batch:	348942
Matrix (Source ID):	Water (514792-002)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1182116 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	97.21	ND	100.0	ug/L	97%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1182117	Batch:	348942
Matrix (Source ID):	Water (514792-002)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1182117 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.50	ND	100.0	ug/L	98%		75-125	1	21	1

Type:	Blank	Lab ID:	QC1181941	Batch:	348893
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	METHOD

QC1181941 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	08/28/24	08/28/24

Type:	Lab Control Sample	Lab ID:	QC1181942	Batch:	348893
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	METHOD

QC1181942 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	98.04	100.0	ug/L	98%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1181943**	**Batch:**	**348893**
Matrix (Source ID):	**Filtrate (514940-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**METHOD**

QC1181943 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	318.5	237.7	100.0	ug/L	81%		75-125	10

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1181944**	**Batch:**	**348893**
Matrix (Source ID):	**Filtrate (514940-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**METHOD**

QC1181944 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	321.8	237.7	100.0	ug/L	84%		75-125	1	21	10

Type:	**Blank**	**Lab ID:**	**QC1181946**	**Batch:**	**348894**
Matrix:	**Water**	**Method:**	**SM2320B**	**Prep Method:**	**METHOD**

QC1181946 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Alkalinity, Bicarbonate, as CaCO3	ND		mg/L	2.0		08/28/24	08/28/24
Alkalinity, Carbonate, as CaCO3	ND		mg/L	5.0		08/28/24	08/28/24
Alkalinity, Hydroxide, as CaCO3	ND		mg/L	5.0		08/28/24	08/28/24
Alkalinity, Total as CaCO3	ND		mg/L	2.0		08/28/24	08/28/24

Type:	**Lab Control Sample**	**Lab ID:**	**QC1181947**	**Batch:**	**348894**
Matrix:	**Water**	**Method:**	**SM2320B**	**Prep Method:**	**METHOD**

QC1181947 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Alkalinity, Total as CaCO3	1,029	1000	mg/L	103%		90-110

Type:	**Sample Duplicate**	**Lab ID:**	**QC1181948**	**Batch:**	**348894**
Matrix (Source ID):	**Water (514940-001)**	**Method:**	**SM2320B**	**Prep Method:**	**METHOD**

QC1181948 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Alkalinity, Bicarbonate, as CaCO3	64.68	63.69	mg/L		2	20	1
Alkalinity, Carbonate, as CaCO3	ND	ND	mg/L			20	1
Alkalinity, Hydroxide, as CaCO3	ND	ND	mg/L			20	1
Alkalinity, Total as CaCO3	64.68	63.69	mg/L		2	20	1

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 516796
Report Level : II
Report Date : 09/26/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 516796
Location: EA-DZUS
Date Received: 09/25/24

Sample ID	Lab ID	Collected	Matrix
EA-DZUS GW SPIKE	516796-001	09/23/24 15:45	Water
EA-DZUS GW SPIKE (F)	516796-002	09/23/24 15:45	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc. 5070 Robert J. Mathews Pkwy Suite 300 El Dorado Hills, CA 95762 Cindy Schreier	Lab Job Number: 516796 Location: EA-DZUS Date Received: 09/25/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 09/25/24. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

5167960

CHAIN OF CUSTODY

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

Page __1__ of __1__
Chain of Custody # : _____

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ___24hr TAT_ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request														
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium											
	EA-DZUS GW Spike	09/23/24	15:45	x			1			x							x											
	EA-DZUS GW Spike (F)	09/23/24	15:45	x			1			x							x											

Notes:
Sample "EA-DZUS GW Spike (F)" has been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
CSch 9/24/24 ~ DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
1745 FedEx DATE/TIME
JETH CO 9/25/24 1020 DATE/TIME
DATE/TIME

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 24SEP24
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 13x10x16 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: EA-DZUS/TRG-PETER PAN

DEPT:

683J24EF9/9AE3

FedEx Express

J24302407130YUV

WED - 25 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 7788 0214 7870
0201

92 APVA

92868
CA-US SNA

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SAMPLE RECEIPT CHECKLIST

ENTHALPY

Section 1: General Info

Date Received: 9/25/24 WO# 516796 Client: PRIMA ENVIRONMENTAL

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 9/25/24 By (initials) JKC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR01 CF: -0.6

Cooler Temp (°C) #1: 3.2 / 2.6 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 9/25/24 **By (print)** BERKELEY **(sign)** _____

Date Labeled 9/25/24 **By (print)** JETH CO **(sign)** _____

Analysis Results for 516796

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 516796
Location: EA-DZUS
Date Received: 09/25/24

Sample ID: EA-DZUS GW SPIKE **Lab ID: 516796-001** **Collected: 09/23/24 15:45**
Matrix: Water

516796-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020										
Prep Method: EPA 3015A										
Cadmium	**550**		ug/L	50	4.8	50	351137	09/25/24	09/25/24	DXC

Sample ID: EA-DZUS GW SPIKE (F) **Lab ID: 516796-002** **Collected: 09/23/24 15:45**
Matrix: Filtrate

516796-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020										
Prep Method: METHOD										
Cadmium	**580**		ug/L	50	4.8	50	351163	09/25/24	09/25/24	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1189503** **Batch: 351137**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1189503 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	09/25/24	09/25/24

Type: Lab Control Sample **Lab ID: QC1189504** **Batch: 351137**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1189504 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	101.7	100.0	ug/L	102%		80-120

Type: Lab Control Sample Duplicate **Lab ID: QC1189505** **Batch: 351137**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1189505 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	101.8	100.0	ug/L	102%		80-120	0	20

Type: Blank **Lab ID: QC1189567** **Batch: 351163**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: METHOD**

QC1189567 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	09/25/24	09/25/24

Type: Lab Control Sample **Lab ID: QC1189568** **Batch: 351163**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: METHOD**

QC1189568 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	104.3	100.0	ug/L	104%		80-120

Type: Matrix Spike **Lab ID: QC1189569** **Batch: 351163**
Matrix (Source ID): Filtrate (516575-003) **Method: EPA 6020** **Prep Method: METHOD**

QC1189569 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	103.1	ND	100.0	ug/L	103%		75-125	1

Type: Matrix Spike Duplicate **Lab ID: QC1189570** **Batch: 351163**
Matrix (Source ID): Filtrate (516575-003) **Method: EPA 6020** **Prep Method: METHOD**

QC1189570 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	104.8	ND	100.0	ug/L	105%		75-125	2	21	1

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1189571**	**Batch:**	**351163**
Matrix:	**Filtrate**	**Method:**	**EPA 6020**	**Prep Method:**	**METHOD**

QC1189571 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	09/25/24	09/25/24

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 517148
Report Level : II
Report Date : 10/03/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews
Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 517148
Location: EA-DZUS
Date Received: 10/01/24

Sample ID	Lab ID	Collected	Matrix
EA-B0-A	517148-001	09/30/24 15:30	Water
EA-B0-B	517148-002	09/30/24 15:30	Water
EA-B1-A	517148-003	09/30/24 15:30	Water
EA-B2-B	517148-004	09/30/24 15:30	Water
EA-B3-A	517148-005	09/30/24 15:30	Water
EA-B3-B	517148-006	09/30/24 15:30	Water
EA-B4-A	517148-007	09/30/24 15:30	Water
EA-B4-B	517148-008	09/30/24 15:30	Water
EA-B5-A	517148-009	09/30/24 15:30	Water
EA-B5-B	517148-010	09/30/24 15:30	Water
EA-B1-B	517148-011	09/30/24 15:30	Water
EA-B2-A	517148-012	09/30/24 15:30	Water

Case Narrative

Prima Environmental, Inc. 5070 Robert J. Mathews Pkwy Suite 300 El Dorado Hills, CA 95762 Cindy Schreier	Lab Job Number: 517148 Location: EA-DZUS Date Received: 10/01/24

This data package contains sample and QC results for twelve water samples, requested for the above referenced project on 10/01/24. The samples were received cold and intact.

Metals (EPA 6020):

No analytical problems were encountered.

517148

CHAIN OF CUSTODY

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

Page __1__ of __1__
Chain of Custody # : _____

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH __48hr TAT_ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium											
	EA-B0-A	09/30/24	15:30	x			1			x							x											
	EA-B0-B	09/30/24	15:30	x			1			x							x											
	EA-B1-A	09/30/24	15:30	x			1			x							x											
	EA-B2-B	09/30/24	15:30	x			1			x							x											
	EA-B3-A	09/30/24	15:30	x			1			x							x											
	EA-B3-B	09/30/24	15:30	x			1			x							x											
	EA-B4-A	09/30/24	15:30	x			1			x							x											
	EA-B4-B	09/30/24	15:30	x			1			x							x											
	EA-B5-A	09/30/24	15:30	x			1			x							x											
	EA-B5-B	09/30/24	15:30	x			1			x							x											

Notes:
Samples have been field filtered has been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☑ On Ice ☐ Ambient
2.6 IR4
2.7 T0.1

RELINQUISHED BY:
9/30/24 ~ DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
1745 FedEx DATE/TIME
JETH CO 10/01/24 1000 DATE/TIME
DATE/TIME

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 01OCT24
ACTWGT: 25.00 LB
CAD: 4692377/INET4535
DIMS: 12x12x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: EA-DZUS, TRG-CARSON
DEPT:

580J2/B264/C6C4

FedEx Express

J243024071501uv

TRK# 7789 3180 7485

0201

92 APVA

WED - 02 OCT 10:30A
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SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/01/24 WO# 517148 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☐ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/01/24 By (initials) JKC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 2.8 / 2.7 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?		✓	
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?		✓	
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

4.5: TWO EXTRA CONTAINERS WERE RECEIVED LABELED "EA-B1-B" AND "EA-B2-A" BUT ARE NOT MARKED ON THE COC

4.7: SEE 4.5

Date Logged 9/30/24 **By (print)** BERKELEY **(sign)** _____

Date Labeled 10/01/24 **By (print)** JETH CO **(sign)** _____

Outlook

Fw: [External] - RE: Discrepancies - Prima LR #517148

From John Goyette <john.goyette@enthalpy.com>
Date Tue 10/1/2024 12:12 PM
To Jeth Co <JethCo@enthalpy.com>; Sample Receiving Group Orange <srloginorange@enthalpy.com>
Cc Berkeley SR <031_login@montrose-env.com>

Please see below. Thank you!

John Goyette
Service Center Manager
Enthalpy Analytical
2323 Fifth St, Berkeley, CA | US Pacific Time
Office: +1-510-204-2233 | Mobile +1-510-381-7850
john.goyette@enthalpy.com | enthalpy.com
Terms & Conditions

From: Cindy Schreier <cschreier@primaenvironmental.com>
Sent: Tuesday, October 1, 2024 11:23 AM
To: John Goyette <john.goyette@enthalpy.com>
Cc: data@primaenvironmental.com <data@primaenvironmental.com>; cschreier@primaenvironmental.com <cschreier@primaenvironmental.com>
Subject: [External] - RE: Discrepancies - Prima LR #517148

Please analyze the extra samples for Cd. They should have been on the COC. Same date/times.

Cindy

Cindy G. Schreier, Ph.D. (she/her) President and Chief Scientist, 5070 Robert J. Mathews Pkwy, Suite 300
El Dorado Hills, CA 95762; T: 916-939-7300; www.primaenvironmental.com

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From: John Goyette <john.goyette@enthalpy.com>
Sent: Tuesday, October 1, 2024 11:26 AM
To: Cindy Schreier <cschreier@primaenvironmental.com>
Cc: data@primaenvironmental.com
Subject: Fw: Discrepancies - Prima LR #517148

This is for EZ-DZUS. Please advise!

John Goyette
Service Center Manager

Enthalpy Analytical
2323 Fifth St, Berkeley, CA | US Pacific Time
Office: +1-510-204-2233 | Mobile +1-510-381-7850
john.goyette@enthalpy.com | enthalpy.com
Terms & Conditions

From: Jeth Co <JethCo@enthalpy.com>
Sent: Tuesday, October 1, 2024 10:38 AM
To: John Goyette <john.goyette@enthalpy.com>
Cc: Sample Receiving Group Orange <srloginorange@enthalpy.com>; Berkeley SR <031_login@montrose-env.com>
Subject: Discrepancies - Prima LR #517148

Hi John,

The samples for Prima have arrived today. We received two extra containers for the listed LR labeled, "EA-B1-B" and "EA-B2-A" but are not logged in LIMs nor are they written in the COC. I have logged them into LIMs as sample -011 and -012 and placed them under hold until further notice.

Please let us know how you would like to proceed or if you have any questions,
Thank you,

Jeth Co
Lab Technician
Enthalpy Analytical
Orange, CA | US Pacific Time
Office: +1-714-771-6900 x 10310

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ENTHALPY ANALYTICAL

Analysis Results for 517148

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 517148
Location: EA-DZUS
Date Received: 10/01/24

Sample ID: EA-B0-A **Lab ID: 517148-001** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**570**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B0-B **Lab ID: 517148-002** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**560**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B1-A **Lab ID: 517148-003** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**6.4**		ug/L	5.0	0.48	5	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B2-B **Lab ID: 517148-004** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**11**		ug/L	5.0	0.48	5	351623	10/01/24	10/02/24	DXC

Sample ID: EA-B3-A **Lab ID: 517148-005** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**7.0**		ug/L	5.0	0.48	5	351623	10/01/24	10/01/24	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 517148

Sample ID: EA-B3-B **Lab ID: 517148-006** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**8.2**		ug/L	5.0	0.48	5	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B4-A **Lab ID: 517148-007** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-007 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**87**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B4-B **Lab ID: 517148-008** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-008 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**84**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B5-A **Lab ID: 517148-009** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-009 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**110**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B5-B **Lab ID: 517148-010** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-010 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**140**		ug/L	50	4.8	50	351623	10/01/24	10/01/24	DXC

Sample ID: EA-B1-B **Lab ID: 517148-011** **Collected: 09/30/24 15:30**
Matrix: Filtrate

517148-011 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**8.2**		ug/L	5.0	0.48	5	351623	10/01/24	10/01/24	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 517148

Sample ID: EA-B2-A	Lab ID: 517148-012	Collected: 09/30/24 15:30
	Matrix: Filtrate	

517148-012 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**13**		ug/L	5.0	0.48	5	351623	10/01/24	10/02/24	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID: QC1191205**	**Batch: 351623**
Matrix: Filtrate	**Method: EPA 6020**	**Prep Method: METHOD**

QC1191205 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	10/01/24	10/01/24

Type: Lab Control Sample	**Lab ID: QC1191207**	**Batch: 351623**
Matrix: Filtrate	**Method: EPA 6020**	**Prep Method: METHOD**

QC1191207 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	109.5	100.0	ug/L	109%		80-120

Type: Lab Control Sample Duplicate	**Lab ID: QC1191208**	**Batch: 351623**
Matrix: Filtrate	**Method: EPA 6020**	**Prep Method: METHOD**

QC1191208 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	104.6	100.0	ug/L	105%		80-120	5	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 517690
Report Level : II
Report Date : 10/09/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 517690
Location: EA-DZUS
Date Received: 10/08/24

Sample ID	Lab ID	Collected	Matrix
EA-B5-C	517690-001	10/07/24 15:58	Water
EA-DI APATITE	517690-002	10/07/24 15:58	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 517690
Location: EA-DZUS
Date Received: 10/08/24

- This data package contains sample and QC results for two water samples, requested for the above referenced project on 10/08/24. The samples were received cold and intact.
- This report was revised and reissued to include a reanalysis at less of a dilution.

Metals (EPA 6020):

No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

517690

C&T LOGIN # _____

Chain of Custody # : _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH __24hr TAT_ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative						Analytical Request																
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinity	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium												
	EA-B5-C	10/07/24	15:58	x				1			x							x												
	EA-DI Apatite	10/07/24	15:58	x				1			x							x												

Notes:
Samples have been field filtered has been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
CSchr 10/7/24 ~ DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
1545 FedEx DATE/TIME
Tris Kelly Tris Kelly 10/8/24 1000 DATE/TIME
DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/8/24 WO# 517690 Client: Prima Env.

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☐ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: Walk-in

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/8/24 By (initials) TLK Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR01 CF: -0.6

Cooler Temp (°C) #1: 4.7 / 4.1 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			X
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 10/8/24 **By (print)** MAY **(sign)** ____

Date Labeled 10/8/24 **By (print)** GCK **(sign)** Adding for GCK

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 07OCT24
ACTWGT: 8.00 LB
CAD: 4692371/INET4535
DIMS: 12x12x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: EA-DZUS

DEPT:

580J2/B264/C6C4

FedEx Express

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Analysis Results for 517690

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 517690
Location: EA-DZUS
Date Received: 10/08/24

Sample ID: EA-B5-C **Lab ID: 517690-001** **Collected: 10/07/24 15:58**
Matrix: Filtrate

517690-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**46**		ug/L	1.0	0.095	1	352399	10/09/24	10/09/24	DXC

Sample ID: EA-DI APATITE **Lab ID: 517690-002** **Collected: 10/07/24 15:58**
Matrix: Filtrate

517690-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	ND		ug/L	1.0	0.095	1	352272	10/08/24	10/08/24	DXC

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1193424	**Batch:** 352272
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193424 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	10/08/24	10/08/24

Type: Lab Control Sample	**Lab ID:** QC1193426	**Batch:** 352272
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193426 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	104.2	100.0	ug/L	104%		80-120

Type: Lab Control Sample Duplicate	**Lab ID:** QC1193427	**Batch:** 352272
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193427 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	103.6	100.0	ug/L	104%		80-120	1	20

Type: Blank	**Lab ID:** QC1193844	**Batch:** 352399
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193844 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	10/09/24	10/09/24

Type: Lab Control Sample	**Lab ID:** QC1193845	**Batch:** 352399
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193845 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	102.3	100.0	ug/L	102%		80-120

Type: Lab Control Sample Duplicate	**Lab ID:** QC1193846	**Batch:** 352399
Matrix: Filtrate	**Method:** EPA 6020	**Prep Method:** METHOD

QC1193846 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	102.7	100.0	ug/L	103%		80-120	0	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 518257
Report Level : II
Report Date : 10/18/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518257
Location: EA-DZUS
Date Received: 10/16/24

Sample ID	Lab ID	Collected	Matrix
EA-PRELIM IN	518257-001	10/11/24 19:35	Water
EA-PRELIM IN (F)	518257-002	10/11/24 19:35	Water
EA-PRELIM 10MIN	518257-003	10/11/24 13:53	Water
EA-PRELIM 10MIN (F)	518257-004	10/11/24 13:53	Water
EA-PRELIM 30MIN	518257-005	10/11/24 19:20	Water
EA-PRELIM 30MIN (F)	518257-006	10/11/24 19:20	Water
EA-PRELIM 60MIN	518257-007	10/14/24 19:45	Water
EA-PRELIM 60MIN (F)	518257-008	10/14/24 19:45	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 518257
Location: EA-DZUS
Date Received: 10/16/24

This data package contains sample and QC results for eight water samples, requested for the above referenced project on 10/16/24. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

5.4-0.5 4.9
JR01:12

CHAIN OF CUSTODY

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

Page 1 of 1
Chain of Custody # : 518257

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH 48hr TAT ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium											
	EA-Prelim In	10/11/24	19:35	x			1			x							x											
	EA-Prelim In (F)	10/11/24	19:35	x			1			x							x											
	EA-Prelim 10min	10/11/24	13:53	x			1			x							x											
	EA-Prelim 10min (F)	10/11/24	13:53	x			1			x							x											
	EA-Prelim 30min	10/11/24	19:20	x			1			x							x											
	EA-Prelim 30min (F)	10/11/24	19:20	x			1			x							x											
	EA-Prelim 60min	10/14/24	19:45	x			1			x							x											
	EA-Prelim 60min (F)	10/14/24	19:45	x			1			x							x											

Notes:
Samples with "(F)" designation have been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
ESchr 10/15/24 ~1700 DATE/TIME
DATE/TIME
DATE/TIME

RECEIVED BY:
FedEx DATE/TIME
Tris Kelly 10/16/24 1000 DATE/TIME
DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/16/24 WO# 518257 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☐ No

Custody seals intact on arrival? ☐ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/16/24 By (initials) TLK Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR01 CF: -0.5

Cooler Temp (°C) #1: 5.4 / 4.9 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?		x	
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☑ **PM notified**

Samples 1-6 have bottle labels "EA-DZ-Prelim". DZ does not appear on the COC.

Date Logged 10/16/24 **By (print)** Tris Kelly **(sign)** [signature]

Date Labeled 10/16/24 **By (print)** Tris Kelly **(sign)** [signature]

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 15OCT24
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 12x12x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EA-DZUS
DEPT:

58CJ4/7DE3/C6C4

FedEx Express

J244024091001uv

WED - 16 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 7792 8163 9730
0201

92 APVA

92868
CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 518257

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518257
Location: EA-DZUS
Date Received: 10/16/24

Sample ID: EA-PRELIM IN **Lab ID: 518257-001** **Collected: 10/11/24 19:35**
Matrix: Water

518257-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**550**		ug/L	10	0.95	10	353019	10/16/24	10/16/24	KAM

Sample ID: EA-PRELIM IN (F) **Lab ID: 518257-002** **Collected: 10/11/24 19:35**
Matrix: Filtrate

518257-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**470**		ug/L	10	2.6	10	353005	10/16/24	10/16/24	DXC

Sample ID: EA-PRELIM 10MIN **Lab ID: 518257-003** **Collected: 10/11/24 13:53**
Matrix: Water

518257-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**100**		ug/L	1.0	0.095	1	353019	10/16/24	10/16/24	KAM

Sample ID: EA-PRELIM 10MIN (F) **Lab ID: 518257-004** **Collected: 10/11/24 13:53**
Matrix: Filtrate

518257-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**96**		ug/L	1.0	0.26	1	353005	10/16/24	10/16/24	DXC

Sample ID: EA-PRELIM 30MIN **Lab ID: 518257-005** **Collected: 10/11/24 19:20**
Matrix: Water

518257-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**100**		ug/L	1.0	0.095	1	353019	10/16/24	10/16/24	KAM

Results for any subcontracted analyses are not included in this section.

Analysis Results for 518257

Sample ID: EA-PRELIM 30MIN (F) **Lab ID: 518257-006** **Collected: 10/11/24 19:20**
Matrix: Filtrate

518257-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**93**		ug/L	1.0	0.26	1	353005	10/16/24	10/16/24	DXC

Sample ID: EA-PRELIM 60MIN **Lab ID: 518257-007** **Collected: 10/14/24 19:45**
Matrix: Water

518257-007 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**17**		ug/L	1.0	0.095	1	353019	10/16/24	10/16/24	KAM

Sample ID: EA-PRELIM 60MIN (F) **Lab ID: 518257-008** **Collected: 10/14/24 19:45**
Matrix: Filtrate

518257-008 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: METHOD										
Cadmium	**14**		ug/L	1.0	0.26	1	353005	10/16/24	10/16/24	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1195904** **Batch: 353019**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1195904 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	10/16/24	10/16/24

Type: Lab Control Sample **Lab ID: QC1195905** **Batch: 353019**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1195905 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	99.73	100.0	ug/L	100%		80-120

Type: Matrix Spike **Lab ID: QC1195908** **Batch: 353019**
Matrix (Source ID): Water (518239-003) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1195908 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	101.4	ND	100.0	ug/L	101%		75-125	10

Type: Matrix Spike Duplicate **Lab ID: QC1195909** **Batch: 353019**
Matrix (Source ID): Water (518239-003) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1195909 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.04	ND	100.0	ug/L	98%		75-125	3	21	10

Type: Blank **Lab ID: QC1195856** **Batch: 353005**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: METHOD**

QC1195856 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	10/16/24	10/16/24

Type: Lab Control Sample **Lab ID: QC1195857** **Batch: 353005**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: METHOD**

QC1195857 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	91.30	100.0	ug/L	91%		80-120

Type: Lab Control Sample Duplicate **Lab ID: QC1195858** **Batch: 353005**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: METHOD**

QC1195858 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	90.13	100.0	ug/L	90%		80-120	1	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 518815
Report Level : II
Report Date : 10/31/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518815
Location: EA-DZUS
Date Received: 10/24/24

Sample ID	Lab ID	Collected	Matrix
EA-INFL-1	518815-001	10/23/24 17:05	Water
EA-EFF-1	518815-002	10/23/24 12:50	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 518815
Location: EA-DZUS
Date Received: 10/24/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 10/24/24. The samples were received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):

- Responses exceeding the instrument's linear range were observed for nitrogen, nitrate in the MS/MSD for batch 353732; affected data was qualified with "E".
- No other analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 518815

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium													
	EA-Infl-1	10/22/24	17:05	x				1			x		x			x		x													
	EA-Eff-1	10/23/24	12:50	x				1			x		x			x		x													

24hr TAT for Cd

standard TAT for anions

Notes:
Samples with "(F)" designation have been field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☑ On Ice ☐ Ambient
3.2 IR11
3.3 to.1

RELINQUISHED BY:	RECEIVED BY:
10/23/24 ~1745 DATE/TIME	FedEx DATE/TIME
DATE/TIME	ENTHALPY 0945 10/24/24 DATE/TIME
DATE/TIME	DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/24/24 WO# 518515 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/24/24 By (initials) JRC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 3.2 / 3.3 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC? JRC 10/24	✓	✓	
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

4.6 TIME MISSING FROM ONE CONTAINER FOR SAMPLE ID "EA-EFF-1"

4.7 COC CONTAINER COUNT SHOWS 1 FOR EACH SAMPLE, BUT WE RECEIVED TWO FOR EACH SAMPLE.

Date Logged 10/25/24 **By (print)** Berkeley **(sign)** _____

Date Labeled 10/24/24 **By (print)** Orange **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 24OCT24
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 12x12x14 IN
BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EA-DZUS, HA-PK
DEPT:

58CJ6/2D2B/C6C4

FedEx Express

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PRIORITY OVERNIGHT

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92868

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CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 518815

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518815
Location: EA-DZUS
Date Received: 10/24/24

Sample ID: EA-INFL-1 **Lab ID: 518815-001** **Collected: 10/23/24 17:05**
Matrix: Water

518815-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**2.5**		mg/L	0.10	0.06	1	353732	10/24/24 16:00	10/24/24 20:12	PAS
Sulfate	**25**		mg/L	1.0	0.34	1	353732	10/24/24 16:00	10/24/24 20:12	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**550**		ug/L	10	2.6	10	353743	10/24/24	10/24/24	SBW

Sample ID: EA-EFF-1 **Lab ID: 518815-002** **Collected: 10/23/24 12:50**
Matrix: Water

518815-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	1	353732	10/24/24 16:00	10/24/24 20:34	PAS
Sulfate	**39**		mg/L	1.0	0.34	1	353732	10/24/24 16:00	10/24/24 20:34	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**14**		ug/L	10	2.6	10	353743	10/24/24	10/24/24	SBW

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1198247**	**Batch:**	**353732**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198247 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	10/24/24 16:00	10/24/24 17:09
Sulfate	ND		mg/L	1.0	0.34	10/24/24 16:00	10/24/24 17:09

Type:	**Lab Control Sample**	**Lab ID:**	**QC1198248**	**Batch:**	**353732**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198248 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.708	4.518	mg/L	104%		90-110
Sulfate	26.71	25.00	mg/L	107%		90-110

Type:	**Matrix Spike**	**Lab ID:**	**QC1198249**	**Batch:**	**353732**
Matrix (Source ID):	**Water (518875-003)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198249 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	21.85	13.98	9.036	mg/L	87%	E	80-120	1
Sulfate	86.22	40.56	50.00	mg/L	91%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1198250**	**Batch:**	**353732**
Matrix (Source ID):	**Water (518875-003)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198250 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	21.85	13.98	9.036	mg/L	87%	E	80-120		20	1
Sulfate	86.41	40.56	50.00	mg/L	92%		80-120	0	20	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1198251**	**Batch:**	**353732**
Matrix (Source ID):	**Water (518846-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198251 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	8.909	ND	9.036	mg/L	99%		80-120	1
Sulfate	49.70	2.226	50.00	mg/L	95%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1198252**	**Batch:**	**353732**
Matrix (Source ID):	**Water (518846-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198252 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.922	ND	9.036	mg/L	99%		80-120	0	20	1
Sulfate	49.86	2.226	50.00	mg/L	95%		80-120	0	20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1198267	**Batch:** 353743
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1198267 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	10/24/24	10/24/24

Type: Lab Control Sample	**Lab ID:** QC1198268	**Batch:** 353743
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1198268 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	94.53	100.0	ug/L	95%		80-120

Type: Matrix Spike	**Lab ID:** QC1198269	**Batch:** 353743
Matrix (Source ID): Water (518846-001)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1198269 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	97.36	ND	100.0	ug/L	97%		75-125	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1198270	**Batch:** 353743
Matrix (Source ID): Water (518846-001)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1198270 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	95.95	ND	100.0	ug/L	96%		75-125	1	21	1

E Response exceeds instrument's linear range

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 518955
Report Level : II
Report Date : 11/01/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518955
Location: EA-DZUS
Date Received: 10/25/24

Sample ID	Lab ID	Collected	Matrix
EA-EFF-2	518955-001	10/24/24 10:35	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 518955
Location: EA-DZUS
Date Received: 10/25/24

This data package contains sample and QC results for one water sample, requested for the above referenced project on 10/25/24. The sample was received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Page 1 of 1
Chain of Custody # : _____

518955
C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium (Total)											
	EA-Eff-2	10/24/24	10:35	x				2			x		x			x		x											

Notes:
Sample for Anions
Not field filtered

3.2/80
IDB01

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
M. Blickenstaff PRIMA 10/24/24 1500 DATE/TIME	FedEx DATE/TIME
DATE/TIME	1000 10/25/24 DATE/TIME
DATE/TIME	DATE/TIME

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 24OCT24
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 10x10x12 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUS
DEPT:

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SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/25/24 WO# 518955 Client: Prima

ENTHALPY

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/25/24 By (initials) GCK Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____/____ Thermometer/IR Gun: IR01 CF: -0.5

Cooler Temp (°C) #1: 3.5 / 3.0 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			✓
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 10/25/24 **By (print)** KHH **(sign)** _____

Date Labeled 10/25/24 **By (print)** Orange **(sign)** _____

ENTHALPY ANALYTICAL

Analysis Results for 518955

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 518955
Location: EA-DZUS
Date Received: 10/25/24

Sample ID: EA-EFF-2 **Lab ID: 518955-001** **Collected: 10/24/24 10:35**
Matrix: Water

518955-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	1	353823	10/25/24 16:00	10/25/24 19:15	PAS
Sulfate	**28**		mg/L	1.0	0.34	1	353823	10/25/24 16:00	10/25/24 19:15	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**51**		ug/L	10	2.6	10	353838	10/25/24	10/25/24	KAM

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1198565**	**Batch:**	**353823**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198565 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	10/25/24 16:00	10/25/24 17:20
Sulfate	ND		mg/L	1.0	0.34	10/25/24 16:00	10/25/24 17:20

Type:	**Lab Control Sample**	**Lab ID:**	**QC1198566**	**Batch:**	**353823**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198566 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.809	4.518	mg/L	106%		90-110
Sulfate	27.24	25.00	mg/L	109%		90-110

Type:	**Matrix Spike**	**Lab ID:**	**QC1198567**	**Batch:**	**353823**
Matrix (Source ID):	**Water (518955-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198567 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.639	ND	9.036	mg/L	107%		80-120	1
Sulfate	77.97	28.39	50.00	mg/L	99%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1198568**	**Batch:**	**353823**
Matrix (Source ID):	**Water (518955-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198568 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.599	ND	9.036	mg/L	106%		80-120	0	20	1
Sulfate	77.76	28.39	50.00	mg/L	99%		80-120	0	20	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1198569**	**Batch:**	**353823**
Matrix (Source ID):	**Water (518995-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198569 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.386	ND	9.036	mg/L	104%		80-120	1
Sulfate	52.37	2.390	50.00	mg/L	100%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1198570**	**Batch:**	**353823**
Matrix (Source ID):	**Water (518995-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1198570 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.464	ND	9.036	mg/L	105%		80-120	1	20	1
Sulfate	52.73	2.390	50.00	mg/L	101%		80-120	1	20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1198582	Batch: 353838
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1198582 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	10/25/24	10/25/24

Type: Lab Control Sample	Lab ID: QC1198583	Batch: 353838
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1198583 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	100.3	100.0	ug/L	100%		80-120

Type: Matrix Spike	Lab ID: QC1198584	Batch: 353838
Matrix (Source ID): Water (518904-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1198584 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	98.56	ND	100.0	ug/L	99%		75-125	5

Type: Matrix Spike Duplicate	Lab ID: QC1198585	Batch: 353838
Matrix (Source ID): Water (518904-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1198585 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	97.64	ND	100.0	ug/L	98%		75-125	1	21	5

Type: Matrix Spike	Lab ID: QC1198586	Batch: 353838
Matrix (Source ID): Water (518958-006)	Method: EPA 6020	Prep Method: EPA 3015A

QC1198586 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	95.70	ND	100.0	ug/L	96%		75-125	1

Type: Matrix Spike Duplicate	Lab ID: QC1198587	Batch: 353838
Matrix (Source ID): Water (518958-006)	Method: EPA 6020	Prep Method: EPA 3015A

QC1198587 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	96.11	ND	100.0	ug/L	96%		75-125	0	21	1

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 519137
Report Level : II
Report Date : 11/05/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519137
Location: EA-DZUS
Date Received: 10/29/24

Sample ID	Lab ID	Collected	Matrix
EA-INFL-2	519137-001	10/25/24 19:50	Water
EA-EFF-3	519137-002	10/25/24 11:40	Water
EA-EFF-4	519137-003	10/28/24 09:39	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 519137
Location: EA-DZUS
Date Received: 10/29/24

This data package contains sample and QC results for three water samples, requested for the above referenced project on 10/29/24. The samples were received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):

- One sample was received outside of hold time for nitrate; affected data was qualified with "H".
- No other analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 519137

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ___24hr TAT_ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium (Total)													
	EA-Infl-2	10/25/24	19:50	x				1			x							x													
	EA-Eff-3	10/25/24	11:40	x				2			x		x			x		x													
	EA-Eff-4	10/28/24	9:39	x				2			x		x			x		x													

Notes:
24hr TAT for Cadmium.
Standard TAT for Anions, not field filtered.

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
M. Slickvigen PRIMA 10/25/24 1730 DATE/TIME	FedEx DATE/TIME
DATE/TIME	10/29/24 9:16 DATE/TIME
DATE/TIME	DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 10/29/24 WO# 519137 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☒ Yes ☐ No

Custody seals intact on arrival? ☐ N/A ☒ Yes ☐ No ☒ On cooler / box ☐ On samples

Shipping Info: Fed Ex

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 10/29/24 By (initials) NCM Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None

☒ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR01 CF: -0.5

Cooler Temp (°C) #1: 4.4 / 3.9 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?			
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining? GCK 10/29/24	~~✓~~	✓	
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

#10) Out of holding time for 300.0 Nitrate. For Sample 002

Date Logged 10/29/24 **By (print)** GCK **(sign)** GCK

Date Labeled 10/29/24 **By (print)** GCK **(sign)** GCK

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 28OCT24
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 16x11x16 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: TRG-CARSON/EA-DZUS
DEPT:

58CJ6/2D2B/C6C4

FedEx Express

J244024091001uv

TUE - 29 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 7795 7993 8330
0201

92868

92 APVA

CA-US SNA

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

10/31/24 - 05

ENTHALPY ANALYTICAL

Analysis Results for 519137

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519137
Location: EA-DZUS
Date Received: 10/29/24

Sample ID: EA-INFL-2 **Lab ID: 519137-001** **Collected: 10/25/24 19:50**
Matrix: Water

519137-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**520**		ug/L	10	0.95	10	354097	10/29/24	10/29/24	DXC

Sample ID: EA-EFF-3 **Lab ID: 519137-002** **Collected: 10/25/24 11:40**
Matrix: Water

519137-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND	H	mg/L	0.10	0.04	1	354122	10/29/24 21:00	10/30/24 12:32	PAS
Sulfate	**27**		mg/L	1.0	0.21	1	354122	10/29/24 21:00	10/30/24 12:32	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**120**		ug/L	10	0.95	10	354097	10/29/24	10/29/24	DXC

Sample ID: EA-EFF-4 **Lab ID: 519137-003** **Collected: 10/28/24 09:39**
Matrix: Water

519137-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND		mg/L	0.10	0.04	1	354122	10/29/24 21:00	10/29/24 23:33	PAS
Sulfate	**30**		mg/L	1.0	0.21	1	354122	10/29/24 21:00	10/29/24 23:33	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**200**		ug/L	10	0.95	10	354097	10/29/24	10/29/24	DXC

H Holding time was exceeded
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1199545**	**Batch:**	**354122**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199545 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.04	10/29/24 21:00	10/29/24 21:30
Sulfate	ND		mg/L	1.0	0.21	10/29/24 21:00	10/29/24 21:30

Type:	**Lab Control Sample**	**Lab ID:**	**QC1199546**	**Batch:**	**354122**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199546 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.640	4.518	mg/L	103%		90-110
Sulfate	26.18	25.00	mg/L	105%		90-110

Type:	**Matrix Spike**	**Lab ID:**	**QC1199554**	**Batch:**	**354122**
Matrix (Source ID):	**Water (519137-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199554 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	8.475	ND	9.036	mg/L	94%		80-120	1
Sulfate	78.01	27.15	50.00	mg/L	102%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1199555**	**Batch:**	**354122**
Matrix (Source ID):	**Water (519137-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199555 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.602	ND	9.036	mg/L	95%		80-120	1	20	1
Sulfate	77.31	27.15	50.00	mg/L	100%		80-120	1	20	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1199556**	**Batch:**	**354122**
Matrix (Source ID):	**Water (519085-004)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199556 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	12.36	3.040	9.036	mg/L	103%		80-120	1
Sulfate	53.19	2.442	50.00	mg/L	102%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1199557**	**Batch:**	**354122**
Matrix (Source ID):	**Water (519085-004)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1199557 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	12.58	3.040	9.036	mg/L	106%		80-120	2	20	1
Sulfate	54.14	2.442	50.00	mg/L	103%		80-120	2	20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID: QC1199446**	**Batch: 354097**
Matrix: Water	**Method: EPA 6020**	**Prep Method: EPA 3015A**

QC1199446 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	10/29/24	10/29/24

Type: Lab Control Sample	**Lab ID: QC1199465**	**Batch: 354097**
Matrix: Water	**Method: EPA 6020**	**Prep Method: EPA 3015A**

QC1199465 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	101.9	100.0	ug/L	102%		80-120

Type: Lab Control Sample Duplicate	**Lab ID: QC1199466**	**Batch: 354097**
Matrix: Water	**Method: EPA 6020**	**Prep Method: EPA 3015A**

QC1199466 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	100.1	100.0	ug/L	100%		80-120	2	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 519442
Report Level : II
Report Date : 11/08/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519442
Location: EA-DZUS
Date Received: 11/01/24

Sample ID	Lab ID	Collected	Matrix
EA-INFL-3	519442-001	10/31/24 09:00	Water
EA-EFF-5	519442-002	10/31/24 09:01	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 519442
Location: EA-DZUS
Date Received: 11/01/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 11/01/24. The samples were received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):

- Nitrate was analyzed outside of hold time due to instrument malfunction; affected data was qualified with "H".
- No other analytical problems were encountered.

519442

CHAIN OF CUSTODY

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

Page 1 of 1
Chain of Custody # : _____

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium (Total)												
	EA-Infl-3	10/31/24	9:00	x				2			x		x			x		x												
	EA-Eff-5	10/31/24	9:01	x				2			x		x			x		x												

Notes:

Anions not field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

M Schreiger PRIMA 10/31/24 @ 1430 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

Fed Ex DATE/TIME

11/1/24 0954 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info
Date Received: 11/1/24 WO# 514442 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No
Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples
Shipping Info: _____

Section 3a: Condition / Packaging NCM ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**
Date Opened 11/1/24 By (initials) ~~JRQ AES~~ AES 11/1/24 Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None
☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)
☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)
If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1
Cooler Temp (°C) #1 5.8 / 5.9 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**
☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.
☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**
☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			✓
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 11/1/24 **By (print)** AES **(sign)** _____
Date Labeled 11/1/24 **By (print)** Ed Orange **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 31OCT24
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 12x10x10 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900 REF: EA-DZUS/LANDAU-8TH
INV:
PO: DEPT:

5.8/5.9
IR11
+0.1

58CJ6/2D2B/C6C4

FedEx Express

J244026091001tw

FRI - 01 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7796 5993 8514

92868
CA-US SNA

92 APVA

@ 0454

ENTHALPY ANALYTICAL

Analysis Results for 519442

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519442
Location: EA-DZUS
Date Received: 11/01/24

Sample ID: EA-INFL-3 **Lab ID: 519442-001** **Collected: 10/31/24 09:00**
Matrix: Water

519442-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**2.4**	H	mg/L	0.10	0.06	1	354529	11/03/24 15:45	11/03/24 22:09	PAS
Sulfate	**24**		mg/L	1.0	0.34	1	354529	11/03/24 15:45	11/03/24 22:09	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**500**		ug/L	10	2.6	10	354456	11/01/24	11/04/24	DXC

Sample ID: EA-EFF-5 **Lab ID: 519442-002** **Collected: 10/31/24 09:01**
Matrix: Water

519442-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND	H	mg/L	0.10	0.06	1	354529	11/03/24 15:45	11/03/24 22:55	PAS
Sulfate	**26**		mg/L	1.0	0.34	1	354529	11/03/24 15:45	11/03/24 22:55	PAS
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**140**		ug/L	10	2.6	10	354456	11/01/24	11/04/24	DXC

H Holding time was exceeded
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1200909**	**Batch:**	**354529**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200909 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	11/03/24 15:45	11/03/24 17:12
Sulfate	ND		mg/L	1.0	0.34	11/03/24 15:45	11/03/24 17:12

Type:	**Lab Control Sample**	**Lab ID:**	**QC1200910**	**Batch:**	**354529**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200910 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.459	4.518	mg/L	99%		90-110
Sulfate	24.97	25.00	mg/L	100%		90-110

Type:	**Matrix Spike**	**Lab ID:**	**QC1200911**	**Batch:**	**354529**
Matrix (Source ID):	**Water (519383-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200911 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	8.901	ND	9.036	mg/L	99%		80-120	1
Sulfate	51.77	3.526	50.00	mg/L	96%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1200912**	**Batch:**	**354529**
Matrix (Source ID):	**Water (519383-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200912 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.966	ND	9.036	mg/L	99%		80-120	1	20	1
Sulfate	52.19	3.526	50.00	mg/L	97%		80-120	1	20	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1200913**	**Batch:**	**354529**
Matrix (Source ID):	**Water (519464-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200913 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	11.39	2.539	9.036	mg/L	98%		80-120	1
Sulfate	277.4	250.1	50.00	mg/L	55%	E,NM	80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1200914**	**Batch:**	**354529**
Matrix (Source ID):	**Water (519464-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1200914 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	11.44	2.539	9.036	mg/L	98%		80-120	0	20	1
Sulfate	277.7	250.1	50.00	mg/L	55%	E,NM	80-120		20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1200606	**Batch:** 354456
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200606 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	11/01/24	11/05/24

Type: Lab Control Sample	**Lab ID:** QC1200607	**Batch:** 354456
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200607 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	100.8	100.0	ug/L	101%		80-120

Type: Matrix Spike	**Lab ID:** QC1200608	**Batch:** 354456
Matrix (Source ID): Water (519383-002)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200608 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	100.4	0.1910	100.0	ug/L	100%		75-125	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1200609	**Batch:** 354456
Matrix (Source ID): Water (519383-002)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200609 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	101.2	0.1910	100.0	ug/L	101%		75-125	1	21	1

Type: Matrix Spike	**Lab ID:** QC1200610	**Batch:** 354456
Matrix (Source ID): Water (519422-001)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200610 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	102.5	ND	100.0	ug/L	102%		75-125	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1200611	**Batch:** 354456
Matrix (Source ID): Water (519422-001)	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1200611 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	103.8	ND	100.0	ug/L	104%		75-125	1	21	1

E	Response exceeds instrument's linear range
ND	Not Detected
NM	Not Meaningful

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 519981
Report Level : II
Report Date : 11/16/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519981
Location: EA-DZUS
Date Received: 11/08/24

Sample ID	Lab ID	Collected	Matrix
EA-EFF-7	519981-001	11/06/24 14:34	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 519981
Location: EA-DZUS
Date Received: 11/08/24

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/08/24. The sample was received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 519981

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request														
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (nitrate, sulfate)	Metals (Cr, Fe, Mn)	Cadmium (Total)										
	EA-Eff-7	11/06/24	14:34	x				2			x		x			x		x										

Notes:

Anions not field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

5.2/5.3

RELINQUISHED BY:

Brittney Bingaman PRIMA 11/07/2024 ~14:30 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

FedEx DATE/TIME

11/8/24 1000 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 11/8/24 WO# 519981 Client: PRIMA ENV.

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 11/8/24 By (initials) GCK Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 5.2 / 5.3 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 11/8/24 **By (print)** J. Petersen **(sign)**

Date Labeled 11/8/24 **By (print)** G. Kim **(sign)**

Analysis Results for 519981

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 519981
Location: EA-DZUS
Date Received: 11/08/24

Sample ID: EA-EFF-7 **Lab ID: 519981-001** **Collected: 11/06/24 14:34**
Matrix: Water

519981-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**0.09**	J	mg/L	0.10	0.06	1	355010	11/08/24 11:40	11/08/24 13:09	AJL
Sulfate	**9.5**		mg/L	1.0	0.34	1	355010	11/08/24 11:40	11/08/24 13:09	AJL
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**180**		ug/L	10	0.95	10	355072	11/08/24	11/08/24	KAM

J Estimated value

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1202482** **Batch: 355010**
Matrix: Water **Method: EPA 300.0** **Prep Method: METHOD**

QC1202482 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	11/08/24 11:40	11/08/24 13:54
Sulfate	ND		mg/L	1.0	0.34	11/08/24 11:40	11/08/24 13:54

Type: Lab Control Sample **Lab ID: QC1202483** **Batch: 355010**
Matrix: Water **Method: EPA 300.0** **Prep Method: METHOD**

QC1202483 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.594	4.518	mg/L	102%		90-110
Sulfate	25.21	25.00	mg/L	101%		90-110

Type: Matrix Spike **Lab ID: QC1202484** **Batch: 355010**
Matrix (Source ID): Water (519975-001) **Method: EPA 300.0** **Prep Method: METHOD**

QC1202484 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.091	ND	9.036	mg/L	101%		80-120	1
Sulfate	389.5	397.8	50.00	mg/L	-16%	E,NM	80-120	1

Type: Matrix Spike Duplicate **Lab ID: QC1202485** **Batch: 355010**
Matrix (Source ID): Water (519975-001) **Method: EPA 300.0** **Prep Method: METHOD**

QC1202485 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.107	ND	9.036	mg/L	101%		80-120	0	20	1
Sulfate	389.8	397.8	50.00	mg/L	-16%	E,NM	80-120		20	1

Type: Matrix Spike **Lab ID: QC1202487** **Batch: 355010**
Matrix (Source ID): Water (519972-001) **Method: EPA 300.0** **Prep Method: METHOD**

QC1202487 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.241	ND	9.036	mg/L	102%		80-120	1
Sulfate	307.2	287.1	50.00	mg/L	40%	E,NM	80-120	1

Type: Matrix Spike Duplicate **Lab ID: QC1202488** **Batch: 355010**
Matrix (Source ID): Water (519972-001) **Method: EPA 300.0** **Prep Method: METHOD**

QC1202488 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.261	ND	9.036	mg/L	102%		80-120	0	20	1
Sulfate	307.2	287.1	50.00	mg/L	40%	E,NM	80-120		20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1202667	Batch: 355072
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1202667 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	11/08/24	11/08/24

Type: Lab Control Sample	Lab ID: QC1202668	Batch: 355072
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1202668 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	96.44	100.0	ug/L	96%		80-120

Type: Matrix Spike	Lab ID: QC1202669	Batch: 355072
Matrix (Source ID): Water (519850-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1202669 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	98.17	ND	100.0	ug/L	98%		75-125	1

Type: Matrix Spike Duplicate	Lab ID: QC1202670	Batch: 355072
Matrix (Source ID): Water (519850-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1202670 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	97.41	ND	100.0	ug/L	97%		75-125	1	21	1

E Response exceeds instrument's linear range
ND Not Detected
NM Not Meaningful

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 520870
Report Level : II
Report Date : 12/02/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 520870
Location: EA-DZUS
Date Received: 11/21/24

Sample ID	Lab ID	Collected	Matrix
EA-EFF 8	520870-001	11/08/24 09:51	Water
DA-DZUS EFF 9	520870-002	11/11/24 10:01	Water
EA-DZUS EFF 10	520870-003	11/14/24 10:18	Water
EA-EFF 11	520870-004	11/18/24 08:28	Water
EA-DZUS EFF 12	520870-005	11/20/24 11:04	Water
EA-DZUS INFL 4	520870-006	11/14/24 14:30	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 520870
Location: EA-DZUS
Date Received: 11/21/24

This data package contains sample and QC results for six water samples, requested for the above referenced project on 11/21/24. The samples were received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Page __1__ of __1__
Chain of Custody # : _____

C&T LOGIN # 57087

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinity	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)											
1	EA-Eff 8	11/08/24	9:51	x				1			x							x											
2	EA- DZUS Eff 9	11/11/24	10:01	x				1			x							x											
3	EA-DZUS Eff 10	11/14/24	10:18	x				1			x							x											
4	EA-Eff 11	11/18/24	8:28	x				1			x							x											
5	EA-DZUS Eff 12	11/20/24	11:04	x				2			x		x			x		x											
6	EA-DZUS Infl 4	11/14/24	14:30	x				1			x							x											

Notes:

Anions not field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:		RECEIVED BY:	
M. Schreiber PRIMA	11/20/24 DATE/TIME	16:30 FedEx	DATE/TIME
	DATE/TIME		1010 11/21/24 DATE/TIME
	DATE/TIME		DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 11/21/24 WO# 520870 Client: Prima Environmental, Inc.

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 11/21/24 By (initials) JKC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR01 CF: -0.5

Cooler Temp (°C) #1: 3.2 / 2.7 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?	x		

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 11/21/24 **By (print)** G. Kim **(sign)** _____

Date Labeled 11/21/24 **By (print)** Orange **(sign)** _____

ENTHALPY ANALYTICAL

Analysis Results for 520870

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 520870
Location: EA-DZUS
Date Received: 11/21/24

Sample ID: EA-EFF 8 **Lab ID: 520870-001** **Collected: 11/08/24 09:51**
Matrix: Water

520870-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**180**		ug/L	10	2.6	10	356149	11/21/24	11/21/24	KAM

Sample ID: DA-DZUS EFF 9 **Lab ID: 520870-002** **Collected: 11/11/24 10:01**
Matrix: Water

520870-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**140**		ug/L	10	2.6	10	356149	11/21/24	11/21/24	KAM

Sample ID: EA-DZUS EFF 10 **Lab ID: 520870-003** **Collected: 11/14/24 10:18**
Matrix: Water

520870-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**130**		ug/L	10	2.6	10	356149	11/21/24	11/21/24	KAM

Sample ID: EA-EFF 11 **Lab ID: 520870-004** **Collected: 11/18/24 08:28**
Matrix: Water

520870-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**76**		ug/L	10	2.6	10	356149	11/21/24	11/22/24	KAM

Sample ID: EA-DZUS EFF 12 **Lab ID: 520870-005** **Collected: 11/20/24 11:04**
Matrix: Water

520870-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	1	356117	11/21/24 17:53	11/22/24 05:23	AJL
Sulfate	**13**		mg/L	1.0	0.34	1	356117	11/21/24 17:53	11/22/24 05:23	AJL
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**110**		ug/L	10	2.6	10	356149	11/21/24	11/22/24	KAM

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 520870

Sample ID: EA-DZUS INFL 4	Lab ID: 520870-006	Collected: 11/14/24 14:30
	Matrix: Water	

520870-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**470**		ug/L	10	2.6	10	356149	11/21/24	11/22/24	KAM

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1206225	**Batch:** 356117
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1206225 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	11/21/24 17:53	11/21/24 18:19
Sulfate	ND		mg/L	1.0	0.34	11/21/24 17:53	11/21/24 18:19

Type: Lab Control Sample	**Lab ID:** QC1206226	**Batch:** 356117
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1206226 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.447	4.518	mg/L	98%		90-110
Sulfate	24.48	25.00	mg/L	98%		90-110

Type: Matrix Spike	**Lab ID:** QC1206229	**Batch:** 356117
Matrix (Source ID): Water (520830-001)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1206229 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.337	0.6456	9.036	mg/L	96%		80-120	1
Sulfate	57.84	10.33	50.00	mg/L	95%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1206230	**Batch:** 356117
Matrix (Source ID): Water (520830-001)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1206230 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.290	0.6456	9.036	mg/L	96%		80-120	1	20	1
Sulfate	57.68	10.33	50.00	mg/L	95%		80-120	0	20	1

Type: Blank	**Lab ID:** QC1206308	**Batch:** 356149
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1206308 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	11/21/24	11/21/24

Type: Lab Control Sample	**Lab ID:** QC1206309	**Batch:** 356149
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1206309 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	91.99	100.0	ug/L	92%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1206310**	**Batch:**	**356149**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1206310 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	90.06	100.0	ug/L	90%		80-120	2	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 521203
Report Level : II
Report Date : 12/05/2024

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 521203
Location: EA-DZUS
Date Received: 11/26/24

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 13	521203-001	11/25/24 10:11	Water
EA-DZUS INFL 5	521203-002	11/25/24 12:45	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 521203
Location: EA-DZUS
Date Received: 11/26/24

This data package contains sample and QC results for two water samples, requested for the above referenced project on 11/26/24. The samples were received cold and intact.

Metals (EPA 6020):
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

3.5/3.0 LRQ

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Page 1 of 1
Chain of Custody # : 52203

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ___ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative						Analytical Request																	
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinity	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)													
	EA-DZUS Eff 13	11/25/24	10:11	x				2			x		x			x		x													
	EA- DZUS Infl 5	11/25/24	12:45	x				2			x		x			x		x													

Notes:

Anions not field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Marissa Stidager PRIMA 11/25/24 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

1600 FedEX DATE/TIME

11/26/24 09:44 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 11/26/24 WO# 521203 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 11/26/24 By (initials) JKC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR01 CF: -0.5

Cooler Temp (°C) #1: 3.5 / 3.0 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 11/26/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 11/26/24 **By (print)** Tris Kelly **(sign)** Tris Kelly

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 25NOV24
ACTWGT: 25.00 LB
CAD: 4692371/INET4535
DIMS: 16x11x11 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: HA-PK/EA-DZUS
DEPT:

58CJ8/39D3/C6C4

FedEx Express

J244024091001uv

TUE - 26 NOV 10:30A
PRIORITY OVERNIGHT

TRK# 7702 2729 7820
0201

92868

92 APVA

CA-US **SNA**

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ENTHALPY ANALYTICAL

Analysis Results for 521203

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 521203
Location: EA-DZUS
Date Received: 11/26/24

Sample ID: EA-DZUS EFF 13 **Lab ID: 521203-001** **Collected: 11/25/24 10:11**
Matrix: Water

521203-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	1	356437	11/26/24 14:45	11/26/24 20:26	AJL
Sulfate	**15**		mg/L	1.0	0.34	1	356437	11/26/24 14:45	11/26/24 20:26	AJL
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**68**		ug/L	10	2.6	10	356494	11/26/24	11/26/24	DXC

Sample ID: EA-DZUS INFL 5 **Lab ID: 521203-002** **Collected: 11/25/24 12:45**
Matrix: Water

521203-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**2.2**		mg/L	0.10	0.06	1	356437	11/26/24 14:45	11/26/24 21:12	AJL
Sulfate	**24**		mg/L	1.0	0.34	1	356437	11/26/24 14:45	11/26/24 21:12	AJL
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**460**		ug/L	10	2.6	10	356494	11/26/24	11/26/24	DXC

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1207528**	**Batch:**	**356437**
Matrix:	**Sea Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207528 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	11/26/24 08:30	11/26/24 10:32
Sulfate	ND		mg/L	1.0	0.34	11/26/24 08:30	11/26/24 10:32

Type:	**Lab Control Sample**	**Lab ID:**	**QC1207529**	**Batch:**	**356437**
Matrix:	**Sea Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207529 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.532	4.518	mg/L	100%		90-110
Sulfate	24.78	25.00	mg/L	99%		90-110

Type:	**Matrix Spike**	**Lab ID:**	**QC1207530**	**Batch:**	**356437**
Matrix (Source ID):	**Water (521044-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207530 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.854	0.8382	9.036	mg/L	100%		80-120	1
Sulfate	188.5	148.4	50.00	mg/L	80%	E,NM	80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1207531**	**Batch:**	**356437**
Matrix (Source ID):	**Water (521044-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207531 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.923	0.8382	9.036	mg/L	101%		80-120	1	20	1
Sulfate	189.0	148.4	50.00	mg/L	81%	E,NM	80-120		20	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1207532**	**Batch:**	**356437**
Matrix (Source ID):	**Water (521137-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207532 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	10.70	1.768	9.036	mg/L	99%		80-120	1
Sulfate	58.25	9.166	50.00	mg/L	98%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1207533**	**Batch:**	**356437**
Matrix (Source ID):	**Water (521137-002)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1207533 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	10.94	1.768	9.036	mg/L	101%		80-120	2	20	1
Sulfate	59.46	9.166	50.00	mg/L	101%		80-120	2	20	1

ENTHALPY ANALYTICAL

Batch QC

Type:	**Blank**	**Lab ID:**	**QC1207699**	**Batch:**	**356494**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207699 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	11/26/24	11/26/24

Type:	**Lab Control Sample**	**Lab ID:**	**QC1207700**	**Batch:**	**356494**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207700 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	94.07	100.0	ug/L	94%		80-120

Type:	**Matrix Spike**	**Lab ID:**	**QC1207701**	**Batch:**	**356494**
Matrix (Source ID):	**Water (521211-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207701 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	95.22	ND	100.0	ug/L	95%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1207702**	**Batch:**	**356494**
Matrix (Source ID):	**Water (521211-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207702 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.58	ND	100.0	ug/L	99%		75-125	3	21	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1207703**	**Batch:**	**356494**
Matrix (Source ID):	**Water (521229-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207703 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	96.58	ND	100.0	ug/L	97%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1207704**	**Batch:**	**356494**
Matrix (Source ID):	**Water (521229-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1207704 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.92	ND	100.0	ug/L	99%		75-125	2	21	1

E	Response exceeds instrument's linear range
ND	Not Detected
NM	Not Meaningful

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 523006
Report Level : II
Report Date : 01/02/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523006
Location: EA-DZUS
Date Received: 12/24/24

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 1-122324	523006-001	12/23/24 07:40	Water
EA-DZUS EFF 1-122324 (F)	523006-002	12/23/24 07:40	Water
EA-DZUS INFL 1-122324	523006-003	12/23/24 14:40	Water
EA-DZUS INFL 1-122324 (F)	523006-004	12/23/24 14:40	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 523006
Location: EA-DZUS
Date Received: 12/24/24

This data package contains sample and QC results for four water samples, requested for the above referenced project on 12/24/24. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : 523006

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH ____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)										
	EA-DZUS Eff 1-122324	12/23/34	7:40	x				1			x							x												
	EA- DZUS Eff 1-122324 (F)	12/23/24	7:40	x				1			x								x											
	EA-DZUS Infl 1-122324	12/23/24	14:40	x				1			x							x												
	EA-DZUS Infl 1-122324 (F)	12/23/24	14:40	x				1			x								x											

Notes:
5 day TAT

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
Marisa Stickinger PRIMA 12/23/24 DATE/TIME	FedEx 16:15 DATE/TIME
DATE/TIME	Derek P. 12/24/24 09:49 DATE/TIME
DATE/TIME	DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 12/24/24 WO# 523006 Client: EA - DZUS

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: FedEx

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 12/24/24 By (initials) DEP Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR12 CF: +0.2

Cooler Temp (°C) #1: 2.1 / 3.3 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			✓
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 12/24/24 **By (print)** JETH CO **(sign)**

Date Labeled 12/24/24 **By (print)** JETH CO **(sign)**

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 23DEC24
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 10x9x11 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900 REF: EA-DZUS
INV:
PO: DEPT:

58CJ5/49B9/C6C4

FedEx Express

J244024091001uv

TUE - 24 DEC 12:00P
PRIORITY OVERNIGHT

TRK# 0201 **7710 0057 4096**

92868

92 APVA

CA-US SNA

09:39 3.1/3.3 1R12
+0.2

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Analysis Results for 523006

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523006
Location: EA-DZUS
Date Received: 12/24/24

Sample ID: EA-DZUS EFF 1-122324 **Lab ID: 523006-001** **Collected: 12/23/24 07:40**
Matrix: Water

523006-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.2**		ug/L	1.0	0.26	1	358827	12/24/24	12/24/24	DXC

Sample ID: EA-DZUS EFF 1-122324 (F) **Lab ID: 523006-002** **Collected: 12/23/24 07:40**
Matrix: Filtrate

523006-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**0.44**	J	ug/L	1.0	0.39	1	358829	12/24/24	12/24/24	DXC

Sample ID: EA-DZUS INFL 1-122324 **Lab ID: 523006-003** **Collected: 12/23/24 14:40**
Matrix: Water

523006-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**560**		ug/L	10	2.6	10	358827	12/24/24	12/24/24	DXC

Sample ID: EA-DZUS INFL 1-122324 (F) **Lab ID: 523006-004** **Collected: 12/23/24 14:40**
Matrix: Filtrate

523006-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**620**		ug/L	10	3.9	10	358829	12/24/24	12/24/24	DXC

J Estimated value

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID:** QC1215303 **Batch:** 358827
Matrix: Water **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1215303 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.26	12/24/24	12/24/24

Type: Lab Control Sample **Lab ID:** QC1215304 **Batch:** 358827
Matrix: Water **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1215304 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	99.31	100.0	ug/L	99%		80-120

Type: Matrix Spike **Lab ID:** QC1215305 **Batch:** 358827
Matrix (Source ID): Water (520988-001) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1215305 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	93.39	ND	100.0	ug/L	93%		75-125	1

Type: Matrix Spike Duplicate **Lab ID:** QC1215306 **Batch:** 358827
Matrix (Source ID): Water (520988-001) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1215306 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	91.91	ND	100.0	ug/L	92%		75-125	2	21	1

Type: Blank **Lab ID:** QC1215308 **Batch:** 358829
Matrix: Filtrate **Method:** EPA 6020 **Prep Method:** 200.8 DirectAnalysis

QC1215308 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.39	12/24/24	12/24/24

Type: Lab Control Sample **Lab ID:** QC1215309 **Batch:** 358829
Matrix: Filtrate **Method:** EPA 6020 **Prep Method:** 200.8 DirectAnalysis

QC1215309 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	99.72	100.0	ug/L	100%		80-120

Type: Lab Control Sample Duplicate **Lab ID:** QC1215310 **Batch:** 358829
Matrix: Filtrate **Method:** EPA 6020 **Prep Method:** 200.8 DirectAnalysis

QC1215310 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	102.4	100.0	ug/L	102%		80-120	3	20

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 523225
Report Level : II
Report Date : 01/08/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523225
Location: EA-DZUS
Date Received: 12/31/24

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 2-123024	523225-001	12/30/24 07:48	Water
EA-DZUS EFF 2-123024 (F)	523225-002	12/30/24 07:48	Water
EA-DZUS INFL 2-123024	523225-003	12/30/24 14:45	Water
EA-DZUS INFL 2-123024 (F)	523225-004	12/30/24 14:45	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 523225
Location: EA-DZUS
Date Received: 12/31/24

This data package contains sample and QC results for four water samples, requested for the above referenced project on 12/31/24. The samples were received cold and intact.

Metals (EPA 6010B) Water:
No analytical problems were encountered.

Metals (EPA 6010B) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 52-3225

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH ____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinity	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)											
	EA-DZUS Eff 2-123024	12/30/34	7:48	x				1			x							x												
	EA- DZUS Eff 2-123024 (F)	12/30/24	7:48	x				1			x								x											
	EA-DZUS Infl 2-123024	12/30/24	14:45	x				1			x							x												
	EA-DZUS Infl 2-123024 (F)	12/30/24	14:45	x				1			x								x											

Notes:
5 day TAT

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Marisa Stevenson PRIMA 12/30/24 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

@15:15 FedEx DATE/TIME

1010 12/31/24 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 12/31/24 WO# 523225 Client: Prima Environmental, Inc.

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 12/31/24 By (initials) GCK Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: _____ CF: _____

Cooler Temp (°C) #1: 5.6 / 5.7 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 12/31/24 **By (print)** G. Kim **(sign)** _____

Date Labeled 12/31/24 **By (print)** G. Kim **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 30DEC24
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 13x10x7 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUS
DEPT:

58CJ5/49B9/C6C4

FedEx Express

J244024091001uv

TUE - 31 DEC 12:00P
PRIORITY OVERNIGHT

TRK# 7711 1648 1145
0201

92 APVA

92868
CA-US SNA

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Analysis Results for 523225

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523225
Location: EA-DZUS
Date Received: 12/31/24

Sample ID: EA-DZUS EFF 2-123024 **Lab ID: 523225-001** **Collected: 12/30/24 07:48**
Matrix: Water

523225-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: EPA 3015A										
Cadmium	**1.7**	J	ug/L	5.0	0.96	1	359244	12/31/24	12/31/24	CAP

Sample ID: EA-DZUS EFF 2-123024 (F) **Lab ID: 523225-002** **Collected: 12/30/24 07:48**
Matrix: Filtrate

523225-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: 200.7 DirectAnalysis										
Cadmium	**0.36**	J	ug/L	5.0	0.31	1	359242	12/31/24	12/31/24	CAP

Sample ID: EA-DZUS INFL 2-123024 **Lab ID: 523225-003** **Collected: 12/30/24 14:45**
Matrix: Water

523225-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: EPA 3015A										
Cadmium	**570**		ug/L	5.0	0.96	1	359244	12/31/24	12/31/24	CAP

Sample ID: EA-DZUS INFL 2-123024 (F) **Lab ID: 523225-004** **Collected: 12/30/24 14:45**
Matrix: Filtrate

523225-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: 200.7 DirectAnalysis										
Cadmium	**620**		ug/L	5.0	0.31	1	359242	12/31/24	12/31/24	CAP

J Estimated value

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1216738** **Batch: 359244**
Matrix: Water **Method: EPA 6010B** **Prep Method: EPA 3015A**

QC1216738 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	5.0	0.96	12/31/24	12/31/24

Type: Lab Control Sample **Lab ID: QC1216739** **Batch: 359244**
Matrix: Water **Method: EPA 6010B** **Prep Method: EPA 3015A**

QC1216739 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	367.7	400.0	ug/L	92%		80-120

Type: Matrix Spike **Lab ID: QC1216740** **Batch: 359244**
Matrix (Source ID): Water (523220-001) **Method: EPA 6010B** **Prep Method: EPA 3015A**

QC1216740 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	366.6	ND	400.0	ug/L	92%		75-125	1

Type: Matrix Spike Duplicate **Lab ID: QC1216741** **Batch: 359244**
Matrix (Source ID): Water (523220-001) **Method: EPA 6010B** **Prep Method: EPA 3015A**

QC1216741 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	372.1	ND	400.0	ug/L	93%		75-125	2	20	1

Type: Blank **Lab ID: QC1216734** **Batch: 359242**
Matrix: Filtrate **Method: EPA 6010B** **Prep Method: 200.7 DirectAnalysis**

QC1216734 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	5.0	0.31	12/31/24	12/31/24

Type: Lab Control Sample **Lab ID: QC1216735** **Batch: 359242**
Matrix: Filtrate **Method: EPA 6010B** **Prep Method: 200.7 DirectAnalysis**

QC1216735 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	416.2	400.0	ug/L	104%		80-120

Type: Matrix Spike **Lab ID: QC1216736** **Batch: 359242**
Matrix (Source ID): Filtrate (523225-004) **Method: EPA 6010B** **Prep Method: 200.7 DirectAnalysis**

QC1216736 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	1,011	620.1	400.0	ug/L	98%		75-125	1

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1216737**	**Batch:**	**359242**
Matrix (Source ID):	**Filtrate (523225-004)**	**Method:**	**EPA 6010B**	**Prep Method:**	**200.7 DirectAnalysis**

QC1216737 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	1,008	620.1	400.0	ug/L	97%		75-125	0	20	1

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 523560
Report Level : II
Report Date : 01/15/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523560
Location: EA-DZUS
Date Received: 01/08/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 3-010725	523560-001	01/07/25 07:42	Water
EA-DZUS EFF 3-010725 (F)	523560-002	01/07/25 07:42	Water
EA-DZUS INFL 3-010725	523560-003	01/07/25 10:00	Water
EA-DZUS INFL 3-010725 (F)	523560-004	01/07/25 10:00	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 523560
Location: EA-DZUS
Date Received: 01/08/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 01/08/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

523560

Chain of Custody # : 523560

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved) CCS											
	EA-DZUS Eff 3-010725	01/07/25	7:42	x				1			x							x												
	EA- DZUS Eff 3-010725 (F)	01/07/25	7:42	x				2			x		x			x		x	x											
	EA-DZUS Infl 3-010725	01/07/25	10:00	x				1			x							x												
	EA-DZUS Infl 3-010725 (F)	01/07/25	10:00	x				2			x		x			x		x	x											

Notes:
5 day TAT

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
PRIMA 1/7/25 ~1745 DATE/TIME	FedEx DATE/TIME
DATE/TIME	Tris Kelly 1/8/25 1024 DATE/TIME
DATE/TIME	DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 1/8/25 WO# 523560 Client: Prima Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 1/8/25 By (initials) TLK Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 5.1 / 5.2 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 1/8/25 **By (print)** Tris Kelly **(sign)** Tris Kelly

Date Labeled 1/8/25 **By (print)** Tris Kelly **(sign)** Tris Kelly

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 07JAN25
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 12x12x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EBA-SOUTH
DEPT:

58CJ1/5046/C6C4

FedEx Express

J244024091001uv

TRK# 7712 7632 6434
0201

WED - 08 JAN 12:00P
PRIORITY OVERNIGHT

92 APVA

92868
CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 523560

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523560
Location: EA-DZUS
Date Received: 01/08/25

Sample ID: EA-DZUS EFF 3-010725 **Lab ID: 523560-001** **Collected: 01/07/25 07:42**
Matrix: Water

523560-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.3**		ug/L	1.0	0.095	1	359802	01/08/25	01/08/25	KAM

Sample ID: EA-DZUS EFF 3-010725 (F) **Lab ID: 523560-002** **Collected: 01/07/25 07:42**

523560-002 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**0.06**	J	mg/L	0.10	0.04	Water	1	359757	01/08/25 14:32	01/08/25 21:38	AJL
Sulfate	**2.2**		mg/L	1.0	0.21	Water	1	359757	01/08/25 14:32	01/08/25 21:38	AJL
Method: EPA 6020 Prep Method: METHOD											
Cadmium	ND		ug/L	1.0	0.55	Filtrate	1	359777	01/08/25	01/08/25	DXC

Sample ID: EA-DZUS INFL 3-010725 **Lab ID: 523560-003** **Collected: 01/07/25 10:00**
Matrix: Water

523560-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**570**		ug/L	10	0.95	10	359802	01/08/25	01/08/25	KAM

Sample ID: EA-DZUS INFL 3-010725 (F) **Lab ID: 523560-004** **Collected: 01/07/25 10:00**

523560-004 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**4.3**		mg/L	0.10	0.04	Water	1	359757	01/08/25 14:32	01/08/25 22:19	AJL
Sulfate	**15**		mg/L	1.0	0.21	Water	1	359757	01/08/25 14:32	01/08/25 22:19	AJL
Method: EPA 6020 Prep Method: METHOD											
Cadmium	**570**		ug/L	10	5.5	Filtrate	10	359777	01/08/25	01/08/25	DXC

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1218312	**Batch:** 359757
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1218312 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.04	01/08/25 14:32	01/08/25 17:12
Sulfate	ND		mg/L	1.0	0.21	01/08/25 14:32	01/08/25 17:12

Type: Lab Control Sample	**Lab ID:** QC1218313	**Batch:** 359757
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1218313 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.596	4.518	mg/L	102%		90-110
Sulfate	25.51	25.00	mg/L	102%		90-110

Type: Matrix Spike	**Lab ID:** QC1218340	**Batch:** 359757
Matrix (Source ID): Water (523459-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1218340 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	13.05	4.067	9.036	mg/L	99%		80-120	1
Sulfate	77.39	27.53	50.00	mg/L	100%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1218341	**Batch:** 359757
Matrix (Source ID): Water (523459-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1218341 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	13.23	4.067	9.036	mg/L	101%		80-120	1	20	1
Sulfate	78.43	27.53	50.00	mg/L	102%		80-120	1	20	1

Type: Blank	**Lab ID:** QC1218442	**Batch:** 359802
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1218442 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	01/08/25	01/08/25

Type: Lab Control Sample	**Lab ID:** QC1218443	**Batch:** 359802
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1218443 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	94.74	100.0	ug/L	95%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1218444	Batch:	359802
Matrix (Source ID):	Water (523606-002)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1218444 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	92.11	0.3650	100.0	ug/L	92%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1218445	Batch:	359802
Matrix (Source ID):	Water (523606-002)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1218445 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	92.33	0.3650	100.0	ug/L	92%		75-125	0	21	1

Type:	Blank	Lab ID:	QC1218364	Batch:	359777
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	METHOD

QC1218364 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.55	01/08/25	01/08/25

Type:	Lab Control Sample	Lab ID:	QC1218365	Batch:	359777
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	METHOD

QC1218365 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	97.95	100.0	ug/L	98%		80-120

Type:	Matrix Spike	Lab ID:	QC1218366	Batch:	359777
Matrix (Source ID):	Filtrate (523454-001)	Method:	EPA 6020	Prep Method:	METHOD

QC1218366 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	98.08	ND	100.0	ug/L	98%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1218367	Batch:	359777
Matrix (Source ID):	Filtrate (523454-001)	Method:	EPA 6020	Prep Method:	METHOD

QC1218367 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.90	ND	100.0	ug/L	99%		75-125	1	21	1

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

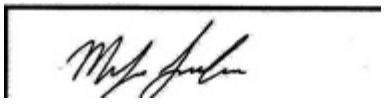
Lab Job Number : 523980
Report Level : II
Report Date : 01/22/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523980
Location: EA-DZUS
Date Received: 01/15/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 4-011325	523980-001	01/13/25 16:00	Water
EA-DZUS EFF 4-011325 (F)	523980-002	01/13/25 16:00	Water
EA-DZUS INFL 4-011425	523980-003	01/14/25 08:05	Water
EA-DZUS INFL 4-011425 (F)	523980-004	01/14/25 08:05	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 523980
Location: EA-DZUS
Date Received: 01/15/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 01/15/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : 523980

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☐ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinity	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)										
	EA-DZUS Eff 4-011325	01/13/25	16:00	x				1			x							x											
	EA- DZUS Eff 4-011325 (F)	01/13/25	16:00	x				2			x		x			x			x										
	EA-DZUS Infl 4-011425	01/14/25	8:05	x				1			x							x											
	EA-DZUS Infl 4-011425 (F)	01/14/25	8:05	x				2			x		x			x			x										

Notes:
5 day TAT

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☑ Cold
☑ On Ice ☐ Ambient
35 IR12
37 +0.2

RELINQUISHED BY:

Marisa Silveira PRIMA 1/14/25 14:30 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

FedEX DATE/TIME

ENTHALPY 01/15/25 10:23 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 01/15/25 WO# 523980 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: FEDEX

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 01/15/25 By (initials) JKC Type of ice used : ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR12 CF: +0.2

Cooler Temp (°C) #1: 3.5 / 3.7 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?		✓	
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments ☐ **PM notified**

4-10 ANIONS RECEIVED WITH ~5 HOURS OF HOLD TIME REMAINING

Date Logged 01/15/25 **By (print)** JETH CO **(sign)** [signature]

Date Labeled 01/15/25 **By (print)** JETH CO **(sign)** [signature]

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 14JAN25
ACTWGT: 8.00 LB
CAD: 4692371/INET4535
DIMS: 12x8x12 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUS
DEPT:

580J3/EC17/C6C4

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J251024121701uv

WED - 15 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 7714 2768 9125
0201

92 APVA

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3.5 1R12 @ 10:23
3.7 T02

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ENTHALPY ANALYTICAL

Analysis Results for 523980

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 523980
Location: EA-DZUS
Date Received: 01/15/25

Sample ID: EA-DZUS EFF 4-011325 **Lab ID: 523980-001** **Collected: 01/13/25 16:00**
Matrix: Water

523980-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.0**		ug/L	1.0	0.095	1	360424	01/15/25	01/15/25	DXC

Sample ID: EA-DZUS EFF 4-011325 (F) **Lab ID: 523980-002** **Collected: 01/13/25 16:00**

523980-002 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	Water	1	360383	01/15/25 13:00	01/15/25 15:03	JAA
Sulfate	**3.8**		mg/L	1.0	0.34	Water	1	360383	01/15/25 13:00	01/15/25 15:03	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**0.20**	J	ug/L	1.0	0.044	Filtrate	1	360415	01/15/25	01/15/25	DXC

Sample ID: EA-DZUS INFL 4-011425 **Lab ID: 523980-003** **Collected: 01/14/25 08:05**
Matrix: Water

523980-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**580**		ug/L	10	0.95	10	360424	01/15/25	01/15/25	DXC

Sample ID: EA-DZUS INFL 4-011425 (F) **Lab ID: 523980-004** **Collected: 01/14/25 08:05**

523980-004 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**4.2**		mg/L	0.10	0.06	Water	1	360383	01/15/25 13:00	01/15/25 16:26	JAA
Sulfate	**14**		mg/L	1.0	0.34	Water	1	360383	01/15/25 13:00	01/15/25 16:26	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**540**		ug/L	10	0.44	Filtrate	10	360415	01/15/25	01/15/25	DXC

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1220185	**Batch:** 360383
Matrix: Drinking Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1220185 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.06	01/15/25 13:00	01/15/25 14:21
Sulfate	ND		mg/L	1.0	0.34	01/15/25 13:00	01/15/25 14:21

Type: Lab Control Sample	**Lab ID:** QC1220186	**Batch:** 360383
Matrix: Drinking Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1220186 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.439	4.518	mg/L	98%		90-110
Sulfate	24.46	25.00	mg/L	98%		90-110

Type: Matrix Spike	**Lab ID:** QC1220187	**Batch:** 360383
Matrix (Source ID): Water (523980-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1220187 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	8.911	ND	9.036	mg/L	99%		80-120	1
Sulfate	52.54	3.762	50.00	mg/L	98%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1220188	**Batch:** 360383
Matrix (Source ID): Water (523980-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1220188 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.910	ND	9.036	mg/L	99%		80-120	0	20	1
Sulfate	52.67	3.762	50.00	mg/L	98%		80-120	0	20	1

Type: Blank	**Lab ID:** QC1220272	**Batch:** 360424
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1220272 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	01/15/25	01/15/25

Type: Lab Control Sample	**Lab ID:** QC1220273	**Batch:** 360424
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1220273 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	101.0	100.0	ug/L	101%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1220274	Batch:	360424
Matrix (Source ID):	Water (524017-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1220274 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	93.41	ND	100.0	ug/L	93%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1220275	Batch:	360424
Matrix (Source ID):	Water (524017-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1220275 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	99.49	ND	100.0	ug/L	99%		75-125	6	21	1

Type:	Matrix Spike	Lab ID:	QC1220247	Batch:	360415
Matrix (Source ID):	Filtrate (524017-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1220247 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	93.87	ND	100.0	ug/L	94%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1220248	Batch:	360415
Matrix (Source ID):	Filtrate (524017-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1220248 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	92.90	ND	100.0	ug/L	93%		75-125	1	21	1

Type:	Blank	Lab ID:	QC1220255	Batch:	360415
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1220255 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.044	01/15/25	01/15/25

Type:	Lab Control Sample	Lab ID:	QC1220256	Batch:	360415
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1220256 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	97.21	100.0	ug/L	97%		80-120

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 524484
Report Level : II
Report Date : 01/30/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 524484
Location: EA-DZUS
Date Received: 01/23/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 5-012125	524484-001	01/21/25 07:53	Water
EA-DZUS EFF 5-012125 (F)	524484-002	01/21/25 07:53	Water
EA-DZUS INFL 5-012125	524484-003	01/21/25 15:00	Water
EA-DZUS INF 5-012125 (F)	524484-004	01/21/25 15:00	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 524484
Location: EA-DZUS
Date Received: 01/23/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 01/23/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

524484

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix					Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)										
	EA-DZUS Eff 5-012125	01/21/25	7:53	x				1			x							x											
	EA- DZUS Eff 5-012125 (F)	01/21/25	7:53	x				1			x								x										
	EA-DZUS Infl 5-012125	01/21/25	15:00	x				1			x							x											
	EA-DZUS Infl 5-012125 (F)	01/21/25	15:00	x				1			x								x										

Notes:

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Mariah Dickinson PRIMA 1/22/25 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

18:30 Fed Ex NCH 1/23/25 10:15 DATE/TIME

DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 1/23/25 WO# 524484 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

Shipping Info: Fed Ex

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 1/23/25 By (initials) NCM Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR12 CF: +0.2

Cooler Temp (°C) #1: 5.1 / 5.3 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	X		
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 1/23/25 **By (print)** NCM **(sign)** _____

Date Labeled 1/23/25 **By (print)** NCM **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 22JAN25
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 14x11x11 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: TRIN-SM/EA-DZUS/EKI-YC

DEPT:

580J3/EC17/C6C4

FedEx Express

J25102412170tuv

THU - 23 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 7716 1358 2675
0201

92868
CA-US SNA

92 APVA

5.1/5.3 IR1 +0.2

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2. Place label in shipping pouch and affix it to your shipment.

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ENTHALPY ANALYTICAL

Analysis Results for 524484

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 524484
Location: EA-DZUS
Date Received: 01/23/25

Sample ID: EA-DZUS EFF 5-012125 **Lab ID: 524484-001** **Collected: 01/21/25 07:53**
Matrix: Water

524484-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.4**		ug/L	1.0	0.11	1	361130	01/23/25	01/23/25	DXC

Sample ID: EA-DZUS EFF 5-012125 (F) **Lab ID: 524484-002** **Collected: 01/21/25 07:53**
Matrix: Filtrate

524484-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**0.52**	J	ug/L	1.0	0.49	1	361121	01/23/25	01/23/25	DXC

Sample ID: EA-DZUS INFL 5-012125 **Lab ID: 524484-003** **Collected: 01/21/25 15:00**
Matrix: Water

524484-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**540**		ug/L	10	1.1	10	361130	01/23/25	01/23/25	DXC

Sample ID: EA-DZUS INF 5-012125 (F) **Lab ID: 524484-004** **Collected: 01/21/25 15:00**
Matrix: Filtrate

524484-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**550**		ug/L	10	4.9	10	361121	01/23/25	01/23/25	DXC

J Estimated value

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1222664	Batch: 361130
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1222664 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	01/23/25	01/23/25

Type: Lab Control Sample	Lab ID: QC1222665	Batch: 361130
Matrix: Water	Method: EPA 6020	Prep Method: EPA 3015A

QC1222665 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	99.58	100.0	ug/L	100%		80-120

Type: Matrix Spike	Lab ID: QC1222666	Batch: 361130
Matrix (Source ID): Water (524474-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1222666 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	100.4	ND	100.0	ug/L	100%		75-125	1

Type: Matrix Spike Duplicate	Lab ID: QC1222667	Batch: 361130
Matrix (Source ID): Water (524474-001)	Method: EPA 6020	Prep Method: EPA 3015A

QC1222667 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	96.56	ND	100.0	ug/L	97%		75-125	4	21	1

Type: Serial Dilution	Lab ID: QC1222711	Batch: 361130
Matrix (Source ID): Water (524484-003)	Method: EPA 6020	Prep Method: EPA 3015A

QC1222711 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	548.6	541.9	ug/L				50

Type: Blank	Lab ID: QC1222627	Batch: 361121
Matrix: Filtrate	Method: EPA 6020	Prep Method: 200.8 DirectAnalysis

QC1222627 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.49	01/23/25	01/23/25

Type: Lab Control Sample	Lab ID: QC1222628	Batch: 361121
Matrix: Filtrate	Method: EPA 6020	Prep Method: 200.8 DirectAnalysis

QC1222628 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	104.8	100.0	ug/L	105%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1222629**	**Batch:**	**361121**
Matrix (Source ID):	**Filtrate (524484-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1222629 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	100.6	0.5210	100.0	ug/L	100%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1222630**	**Batch:**	**361121**
Matrix (Source ID):	**Filtrate (524484-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1222630 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	99.03	0.5210	100.0	ug/L	99%		75-125	2	21	1

Type:	**Serial Dilution**	**Lab ID:**	**QC1222631**	**Batch:**	**361121**
Matrix (Source ID):	**Filtrate (524484-004)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1222631 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	561.3	551.6	ug/L				50

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 524790
Report Level : II
Report Date : 02/04/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 524790
Location: EA-DZUS
Date Received: 01/28/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 6-012725	524790-001	01/27/25 07:39	Water
EA-DZUS EFF 6-01275 (F)	524790-002	01/27/25 07:39	Water
EA-DZUS INFL 6-012725	524790-003	01/27/25 15:40	Water
EA-DZUS INFL 6-012725 (F)	524790-004	01/27/25 15:40	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 524790
Location: EA-DZUS
Date Received: 01/28/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 01/28/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 524790

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)											
	EA-DZUS Eff 6-012725	01/27/25	7:39	x			1			x							x												
	EA- DZUS Eff 6-01275 (F)	01/27/25	7:39	x			1			x								x											
	EA-DZUS Infl 6-012725	01/27/25	15:40	x			1			x							x												
	EA-DZUS Infl 6-012725 (F)	01/27/25	15:40	x			1			x								x											

Notes:

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

01/27/25
Marisa Eberwein PRIMA DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

17:00
MCM EA 1/28/25 10:20 DATE/TIME

DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info
Date Received: 1/28/25 WO# 524790 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No
Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples
Shipping Info: Fed Ex

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**
Date Opened 1/28/25 By (initials) MCH Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None
☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)
☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)
If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR#3 CF: +0.0
Cooler Temp (°C) #1: 3.3 / ____ #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**
☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.
☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**
☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	X		
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 1/28/25 **By (print)** MCH **(sign)** _____
Date Labeled 1/28/25 **By (print)** DEP **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 27JAN25
ACTWGT: 13.00 LB
CAD: 4692371/INET4535
DIMS: 13x9x9 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

3.3/

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: EA-DZUS/EFHLA

IQA3 10:C

DEPT:

580J3/EC17/C6C4

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92868

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CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 524790

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 524790
Location: EA-DZUS
Date Received: 01/28/25

Sample ID: EA-DZUS EFF 6-012725 **Lab ID: 524790-001** **Collected: 01/27/25 07:39**
Matrix: Water

524790-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**0.44**	J	ug/L	1.0	0.095	1	361505	01/28/25	01/28/25	DXC

Sample ID: EA-DZUS EFF 6-01275 (F) **Lab ID: 524790-002** **Collected: 01/27/25 07:39**
Matrix: Filtrate

524790-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	ND		ug/L	1.0	0.49	1	361508	01/28/25	01/28/25	DXC

Sample ID: EA-DZUS INFL 6-012725 **Lab ID: 524790-003** **Collected: 01/27/25 15:40**
Matrix: Water

524790-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**520**		ug/L	10	1.1	10	361505	01/28/25	01/28/25	DXC

Sample ID: EA-DZUS INFL 6-012725 (F) **Lab ID: 524790-004** **Collected: 01/27/25 15:40**
Matrix: Filtrate

524790-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**520**		ug/L	10	4.9	10	361508	01/28/25	01/28/25	DXC

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1223964	Batch:	361505
Matrix (Source ID):	Water (524803-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1223964 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	101.0	ND	100.0	ug/L	101%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1223965	Batch:	361505
Matrix (Source ID):	Water (524803-001)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1223965 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	99.31	ND	100.0	ug/L	99%		75-125	2	21	1

Type:	Blank	Lab ID:	QC1223966	Batch:	361505
Matrix:	Water	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1223966 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	01/28/25	01/28/25

Type:	Lab Control Sample	Lab ID:	QC1223967	Batch:	361505
Matrix:	Water	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1223967 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	100.4	100.0	ug/L	100%		80-120

Type:	Serial Dilution	Lab ID:	QC1224008	Batch:	361505
Matrix (Source ID):	Water (524790-003)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1224008 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	553.7	517.9	ug/L				50

Type:	Blank	Lab ID:	QC1223974	Batch:	361508
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1223974 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.49	01/28/25	01/28/25

Type:	Lab Control Sample	Lab ID:	QC1223975	Batch:	361508
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1223975 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	97.52	100.0	ug/L	98%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1223976**	**Batch:**	**361508**
Matrix:	**Filtrate**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1223976 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Cadmium	105.2	100.0	ug/L	105%		80-120	8	20

Type:	**Serial Dilution**	**Lab ID:**	**QC1224005**	**Batch:**	**361508**
Matrix (Source ID):	**Filtrate (524790-004)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1224005 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	558.8	523.7	ug/L				50

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 525318
Report Level : II
Report Date : 02/11/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 525318
Location: EA-DZUS
Date Received: 02/04/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 7-020325	525318-001	02/03/25 07:43	Water
EA-DZUS EFF 7-020325 (F)	525318-002	02/03/25 07:43	Water
EA-DZUS INFL 7-020325	525318-003	02/03/25 15:50	Water
EA-DZUS INFL 7-020325 (F)	525318-004	02/03/25 15:50	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 525318
Location: EA-DZUS
Date Received: 02/04/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 02/04/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

525318

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)										
	EA-DZUS Eff 7-020325	02/03/25	7:43	x			1			x							x											
	EA- DZUS Eff 7-020325 (F)	02/03/25	7:43	x			1			x								x										
	EA-DZUS Infl 7-020325	02/03/25	15:50	x			1			x							x											
	EA-DZUS Infl 7-020325 (F)	02/03/25	15:50	x			1			x								x										

Notes:

Samples labeld (F) are field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

Marissa Stickney PRIMA 2/03/25 17:00 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

FedEx NCM EA 2/4/25 10:01 DATE/TIME

DATE/TIME

DATE/TIME

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 03FEB25
ACTWGT: 15.00 LB
CAD: 4692371/INET4535
DIMS: 12x12x14 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868

(714) 771-6900
INV:
PO:

REF: EFI-LA
DEPT:

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58CJ2/E49C/C6C4

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SAMPLE RECEIPT CHECKLIST

Section 1: General Info
Date Received: 2/4/25 WO# 525318 Client: PRIMA Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No
Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples
Shipping Info: FedEx

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**
Date Opened 2/4/24 By (initials) NCM Type of ice used : ☒ Wet ☐ Blue/Gel ☐ None
☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)
☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)
If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR11 CF: +0.1
Cooler Temp (°C) #1: 5.2 / 5.3 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**
☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.
☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**
☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	/		
2) Is the sampler's name present on the CoC?	/		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	/		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			/
5) Were all of, and only, the correct samples received?	/		
6) Are sample labels present, legible, and in agreement with the CoC?	/		
7) Does the container count match the CoC?	/		
8) Was sufficient sample volume / mass received for the analyses requested?	/		
9) Were samples received in proper containers for the analyses requested?	/		
10) Were samples received with > 1/2 holding time remaining?	/		
11) Are samples properly preserved as indicated by CoC / labels?	/		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			/
13) Are VOA vials free from headspace/bubbles > 6mm?			/

Section 5: Explanations / Comments ☐ **PM notified**

Date Logged 2/4/25 **By (print)** ABD **(sign)** [signature]
Date Labeled 2/4/25 **By (print)** EA-DB **(sign)** ____

ENTHALPY ANALYTICAL

Analysis Results for 525318

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 525318
Location: EA-DZUS
Date Received: 02/04/25

Sample ID: EA-DZUS EFF 7-020325 **Lab ID: 525318-001** **Collected: 02/03/25 07:43**
Matrix: Water

525318-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.0**	J	ug/L	1.0	0.11	1	362179	02/05/25	02/07/25	KAM

Sample ID: EA-DZUS EFF 7-020325 (F) **Lab ID: 525318-002** **Collected: 02/03/25 07:43**
Matrix: Filtrate

525318-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**0.26**	J	ug/L	1.0	0.044	1	362323	02/06/25	02/07/25	DXC

Sample ID: EA-DZUS INFL 7-020325 **Lab ID: 525318-003** **Collected: 02/03/25 15:50**
Matrix: Water

525318-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**500**		ug/L	10	1.1	10	362179	02/05/25	02/07/25	KAM

Sample ID: EA-DZUS INFL 7-020325 (F) **Lab ID: 525318-004** **Collected: 02/03/25 15:50**
Matrix: Filtrate

525318-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**490**		ug/L	10	0.44	10	362323	02/06/25	02/07/25	DXC

J Estimated value

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1226281** **Batch: 362179**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1226281 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	02/05/25	02/06/25

Type: Lab Control Sample **Lab ID: QC1226282** **Batch: 362179**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1226282 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	98.13	100.0	ug/L	98%		80-120

Type: Matrix Spike **Lab ID: QC1226283** **Batch: 362179**
Matrix (Source ID): Water (525269-001) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1226283 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	92.66	0.6340	100.0	ug/L	92%		75-125	1

Type: Matrix Spike Duplicate **Lab ID: QC1226284** **Batch: 362179**
Matrix (Source ID): Water (525269-001) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1226284 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	89.29	0.6340	100.0	ug/L	89%		75-125	4	21	1

Type: Serial Dilution **Lab ID: QC1226410** **Batch: 362179**
Matrix (Source ID): Water (525318-003) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1226410 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	526.3	504.6	ug/L				50

Type: Blank **Lab ID: QC1226747** **Batch: 362323**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: 200.8 DirectAnalysis**

QC1226747 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.044	02/06/25	02/07/25

Type: Serial Dilution **Lab ID: QC1226750** **Batch: 362323**
Matrix (Source ID): Filtrate (525318-004) **Method: EPA 6020** **Prep Method: 200.8 DirectAnalysis**

QC1226750 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	494.2	486.4	ug/L				50

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1226896**	**Batch:**	**362323**
Matrix (Source ID):	**Filtrate (525479-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1226896 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	95.96	0.1390	100.0	ug/L	96%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1226897**	**Batch:**	**362323**
Matrix (Source ID):	**Filtrate (525479-001)**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1226897 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	94.34	0.1390	100.0	ug/L	94%		75-125	2	21	1

Type:	**Lab Control Sample**	**Lab ID:**	**QC1226898**	**Batch:**	**362323**
Matrix:	**Filtrate**	**Method:**	**EPA 6020**	**Prep Method:**	**200.8 DirectAnalysis**

QC1226898 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	98.75	100.0	ug/L	99%		80-120

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 526073
Report Level : II
Report Date : 02/19/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 526073
Location: EA-DZUS
Date Received: 02/12/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 8-021025	526073-001	02/10/25 07:37	Water
EA-DZUS EFF 8-021025 (F)	526073-002	02/10/25 07:37	Water
EA-DZUS INFL 8-021025	526073-003	02/10/25 12:25	Water
EA-DZUS INFL 8-021025 (F)	526073-004	02/10/25 12:25	Water
EA-DZUS EFF 9 021125	526073-005	02/11/25 07:38	Water
EA-DZUS EFF 9 021125 (F)	526073-006	02/11/25 07:38	Water
EA-DZUS INFL 9 021125	526073-007	02/11/25 10:20	Water
EA-DZUS INFL 9 021125 (F)	526073-008	02/11/25 10:20	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 526073
Location: EA-DZUS
Date Received: 02/12/25

This data package contains sample and QC results for eight water samples, requested for the above referenced project on 02/12/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Page __1__ of __1__
Chain of Custody # : _____

C&T LOGIN # 526073

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request															
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)										
	EA-DZUS Eff 8-021025	02/10/25	7:37	x			1			x							x											
	EA- DZUS Eff 8-021025 (F)	02/10/25	7:37	x			1			x								x										
	EA-DZUS Infl 8-021025	02/10/25	12:25	x			1			x							x											
	EA-DZUS Infl 8-021025 (F)	02/10/25	12:25	x			1			x								x										
	EA-DZUS Eff 9 021125	02/11/25	7:38	x			1			x							x											
	EA-DZUS Eff 9 021125 (F)	02/11/25	7:38	x			2			x		x			x			x										
	EA-DZUS Infl 9-021125	02/11/25	10:20	x			1			x							x											
	EA-DZUS Infl 9-021125 (F)	02/11/25	10:20	x			2			x		x			x			x										

Notes:
5 day TAT for samples
EA-DZUS Eff 9 021125, EA-DZUS Eff 9 021125 (F
EA-DZUS Infl 9-021125, EA-DZUS Infl 9-021125 (F)
Standard TAT for other samples
Samples labeled "(F)", Field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	RECEIVED BY:
Marcel Steinegger PRIMA 2/11/25 DATE/TIME	16:15 Fed Ex DATE/TIME
DATE/TIME	1000 2/12/25 DATE/TIME
DATE/TIME	DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 2/12/25 WO# 526073 Client: Prima Environmental Inc

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ■ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

☐ Courier ~~■ Walk-In~~ ☐ Field Sampling ■ Shipping Info: FEDEX

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 2/12/25 By (initials) GCK Type of ice used: ■ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 5.1 / 5.2 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other _____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	x		
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments

(If no comments are made, then no discrepancies noted.)

☐ **No additional discrepancies**

Date Logged 2/12/25 **By (print)** Emeryville **(sign)** _____

Date Labeled 2/12/25 **By (print)** Orange **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 11FEB25
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 13x10x9 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUS
DEPT:

68CJ4/26DE/C6C4

FedEx Express

J251024121701sv

TRK# 7720 2095 9018
0201

WED - 12 FEB 10:30A
PRIORITY OVERNIGHT

92 APVA

92868
CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 526073

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 526073
Location: EA-DZUS
Date Received: 02/12/25

Sample ID: EA-DZUS EFF 8-021025 **Lab ID: 526073-001** **Collected: 02/10/25 07:37**
Matrix: Water

526073-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.2**		ug/L	1.0	0.26	1	362948	02/13/25	02/15/25	KAM

Sample ID: EA-DZUS EFF 8-021025 (F) **Lab ID: 526073-002** **Collected: 02/10/25 07:37**
Matrix: Filtrate

526073-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**0.71**	J	ug/L	1.0	0.39	1	362939	02/13/25	02/18/25	KAM

Sample ID: EA-DZUS INFL 8-021025 **Lab ID: 526073-003** **Collected: 02/10/25 12:25**
Matrix: Water

526073-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**520**		ug/L	10	2.6	10	362948	02/13/25	02/18/25	KAM

Sample ID: EA-DZUS INFL 8-021025 (F) **Lab ID: 526073-004** **Collected: 02/10/25 12:25**
Matrix: Filtrate

526073-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**500**		ug/L	10	3.9	10	362939	02/13/25	02/13/25	KAM

Sample ID: EA-DZUS EFF 9 021125 **Lab ID: 526073-005** **Collected: 02/11/25 07:38**
Matrix: Water

526073-005 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**0.44**	J	ug/L	1.0	0.26	1	362948	02/13/25	02/15/25	KAM

Results for any subcontracted analyses are not included in this section.

Analysis Results for 526073

Sample ID:	Lab ID: 526073-006	Collected: 02/11/25 07:38
EA-DZUS EFF 9 021125 (F)	Matrix: Filtrate	

526073-006 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**1.5**		mg/L	0.10	0.05	1	362867	02/12/25 17:00	02/13/25 02:53	JAA
Sulfate	**16**		mg/L	1.0	0.18	1	362867	02/12/25 17:00	02/13/25 02:53	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	ND		ug/L	1.0	0.39	1	362939	02/13/25	02/18/25	KAM

Sample ID:	Lab ID: 526073-007	Collected: 02/11/25 10:20
EA-DZUS INFL 9 021125	Matrix: Water	

526073-007 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**510**		ug/L	10	2.6	10	362948	02/13/25	02/18/25	KAM

Sample ID:	Lab ID: 526073-008	Collected: 02/11/25 10:20
EA-DZUS INFL 9 021125 (F)	Matrix: Filtrate	

526073-008 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD										
Nitrogen, Nitrate	**4.2**		mg/L	0.10	0.05	1	362867	02/12/25 17:00	02/13/25 08:14	JAA
Sulfate	**14**		mg/L	1.0	0.18	1	362867	02/12/25 17:00	02/13/25 08:14	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**500**		ug/L	10	3.9	10	362939	02/13/25	02/13/25	KAM

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	**Lab ID:** QC1228692	**Batch:** 362867
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1228692 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.05	02/12/25 17:00	02/12/25 19:18
Sulfate	ND		mg/L	1.0	0.18	02/12/25 17:00	02/12/25 19:18

Type: Lab Control Sample	**Lab ID:** QC1228693	**Batch:** 362867
Matrix: Water	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1228693 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.343	4.518	mg/L	96%		90-110
Sulfate	24.35	25.00	mg/L	97%		90-110

Type: Matrix Spike	**Lab ID:** QC1228708	**Batch:** 362867
Matrix (Source ID): Water (525927-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1228708 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.533	0.7953	9.036	mg/L	97%		80-120	1
Sulfate	73.96	25.78	50.00	mg/L	96%		80-120	1

Type: Matrix Spike Duplicate	**Lab ID:** QC1228709	**Batch:** 362867
Matrix (Source ID): Water (525927-002)	**Method:** EPA 300.0	**Prep Method:** METHOD

QC1228709 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.474	0.7953	9.036	mg/L	96%		80-120	1	20	1
Sulfate	73.67	25.78	50.00	mg/L	96%		80-120	0	20	1

Type: Blank	**Lab ID:** QC1228952	**Batch:** 362948
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1228952 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.11	02/13/25	02/13/25

Type: Lab Control Sample	**Lab ID:** QC1228953	**Batch:** 362948
Matrix: Water	**Method:** EPA 6020	**Prep Method:** EPA 3015A

QC1228953 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	106.6	100.0	ug/L	107%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1228954	Batch:	362948
Matrix (Source ID):	Water (526167-005)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1228954 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	101.3	ND	100.0	ug/L	101%		75-125	10

Type:	Matrix Spike Duplicate	Lab ID:	QC1228955	Batch:	362948
Matrix (Source ID):	Water (526167-005)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1228955 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	97.82	ND	100.0	ug/L	98%		75-125	4	21	10

Type:	Serial Dilution	Lab ID:	QC1229343	Batch:	362948
Matrix (Source ID):	Water (526073-003)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1229343 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	492.0	519.4	ug/L				50

Type:	Blank	Lab ID:	QC1228922	Batch:	362939
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228922 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.39	02/13/25	02/13/25

Type:	Lab Control Sample	Lab ID:	QC1228923	Batch:	362939
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228923 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	93.32	100.0	ug/L	93%		80-120

Type:	Matrix Spike	Lab ID:	QC1228924	Batch:	362939
Matrix (Source ID):	Filtrate (526167-003)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228924 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	106.2	ND	100.0	ug/L	106%		75-125	10

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike Duplicate	Lab ID:	QC1228925	Batch:	362939
Matrix (Source ID):	Filtrate (526167-003)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228925 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	106.6	ND	100.0	ug/L	107%		75-125	0	21	10

Type:	Matrix Spike	Lab ID:	QC1228926	Batch:	362939
Matrix (Source ID):	Filtrate (526117-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228926 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	103.9	ND	100.0	ug/L	104%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1228927	Batch:	362939
Matrix (Source ID):	Filtrate (526117-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1228927 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	100.7	ND	100.0	ug/L	101%		75-125	3	21	1

Type:	Serial Dilution	Lab ID:	QC1230615	Batch:	362939
Matrix (Source ID):	Filtrate (526073-004)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1230615 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	508.9	496.1	ug/L				50

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 527048
Report Level : II
Report Date : 02/27/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527048
Location: EA-DZUS
Date Received: 02/20/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 10	527048-001	02/19/25 07:54	Water
EA-DZUS EFF 10 (F)	527048-002	02/19/25 07:54	Water
EA-DZUS INFL 10	527048-003	02/19/25 15:15	Water
EA-DZUS INFL 10 (F)	527048-004	02/19/25 15:15	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 527048
Location: EA-DZUS
Date Received: 02/20/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 02/20/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 527048

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request					
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium	
	EA-DZUS Eff 10	02/19/25	7:54	x			1			x							x	
	EA- DZUS Eff 10 (F)	02/19/25	7:54	x			2			x		x			x		x	
	EA-DZUS Infl 10	02/19/25	15:15	x			1			x							x	
	EA-DZUS Infl 10 (F)	02/19/25	15:15	x			2			x		x			x		x	

Notes:

Samples labeled "(F)" have been field filtered

SAMPLE RECEIPT
☐ Intact ☒ Cold 5.5 IR15
☐ On Ice ☐ Ambient

RELINQUISHED BY:

CSchreier/PRIMA 2/19/25 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

1700 FedEx 2/20/25 1215 DATE/TIME

DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 2/20/25 WO# 527048 Client: Prima Environmental, Inc.

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ■ No

Custody seals intact on arrival? ■ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

■ Courier ☐ Walk-In ☐ Field Sampling ☐ Shipping Info: _____

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 2/20/25 By (initials) GCK Type of ice used: ■ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR13 CF: 0

Cooler Temp (°C) #1: 5.5 / 5.5 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	x		
2) Is the sampler's name present on the CoC?	x		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	x		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			x
5) Were all of, and only, the correct samples received?	x		
6) Are sample labels present, legible, and in agreement with the CoC?	x		
7) Does the container count match the CoC?	x		
8) Was sufficient sample volume / mass received for the analyses requested?	x		
9) Were samples received in proper containers for the analyses requested?	x		
10) Were samples received with > 1/2 holding time remaining?	x		
11) Are samples properly preserved as indicated by CoC / labels?	x		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			x
13) Are VOA vials free from headspace/bubbles > 6mm?			x

Section 5: Explanations / Comments

(If no comments are made, then no discrepancies noted.)

☐ **No additional discrepancies**

Date Logged 2/20/25 **By (print)** G. Kim **(sign)** _____

Date Labeled 2/20/25 **By (print)** G. Kim **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 19FEB25
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 12x10x10 IN
BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EA-DZUS
DEPT:

58CJ4/26DE/C8C4

FedEx Express

E

425162412570Uu

THU - 20 FEB 10:30A
PRIORITY OVERNIGHT

TRK# 7721 8946 0870
0201

92 APVA

92868
CA-US SNA

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ENTHALPY ANALYTICAL

Analysis Results for 527048

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527048
Location: EA-DZUS
Date Received: 02/20/25

Sample ID: EA-DZUS EFF 10 **Lab ID: 527048-001** **Collected: 02/19/25 07:54**
Matrix: Water

527048-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**0.50**	J	ug/L	1.0	0.095	1	363769	02/21/25	02/21/25	KAM

Sample ID: EA-DZUS EFF 10 (F) **Lab ID: 527048-002** **Collected: 02/19/25 07:54**

527048-002 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**0.78**		mg/L	0.10	0.05	Water	1	363698	02/20/25 18:00	02/20/25 18:42	KUM
Sulfate	**15**		mg/L	1.0	0.18	Water	1	363698	02/20/25 18:00	02/20/25 18:42	KUM
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	ND		ug/L	1.0	0.39	Filtrate	1	363710	02/20/25	02/21/25	DXC

Sample ID: EA-DZUS INFL 10 **Lab ID: 527048-003** **Collected: 02/19/25 15:15**
Matrix: Water

527048-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**490**		ug/L	10	0.95	10	363769	02/21/25	02/21/25	KAM

Sample ID: EA-DZUS INFL 10 (F) **Lab ID: 527048-004** **Collected: 02/19/25 15:15**

527048-004 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**4.2**		mg/L	0.10	0.05	Water	1	363698	02/20/25 18:00	02/20/25 19:33	KUM
Sulfate	**14**		mg/L	1.0	0.18	Water	1	363698	02/20/25 18:00	02/20/25 19:33	KUM
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**460**		ug/L	10	3.9	Filtrate	10	363710	02/20/25	02/21/25	DXC

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1231571	Batch:	363698
Matrix (Source ID):	Water (527048-002)	Method:	EPA 300.0	Prep Method:	METHOD

QC1231571 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.465	0.7812	9.036	mg/L	96%		80-120	1
Sulfate	62.75	14.75	50.00	mg/L	96%		80-120	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1231572	Batch:	363698
Matrix (Source ID):	Water (527048-002)	Method:	EPA 300.0	Prep Method:	METHOD

QC1231572 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	9.540	0.7812	9.036	mg/L	97%		80-120	1	20	1
Sulfate	63.19	14.75	50.00	mg/L	97%		80-120	1	20	1

Type:	Blank	Lab ID:	QC1231573	Batch:	363698
Matrix:	Water	Method:	EPA 300.0	Prep Method:	METHOD

QC1231573 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.05	02/20/25 18:00	02/20/25 18:09
Sulfate	ND		mg/L	1.0	0.18	02/20/25 18:00	02/20/25 18:09

Type:	Lab Control Sample	Lab ID:	QC1231574	Batch:	363698
Matrix:	Water	Method:	EPA 300.0	Prep Method:	METHOD

QC1231574 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.424	4.518	mg/L	98%		90-110
Sulfate	24.59	25.00	mg/L	98%		90-110

Type:	Matrix Spike	Lab ID:	QC1231575	Batch:	363698
Matrix (Source ID):	Water (527046-001)	Method:	EPA 300.0	Prep Method:	METHOD

QC1231575 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	8.429	ND	9.036	mg/L	93%		80-120	1
Sulfate	688.7	1168	50.00	mg/L	-959%	E,NM	80-120	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1231576	Batch:	363698
Matrix (Source ID):	Water (527046-001)	Method:	EPA 300.0	Prep Method:	METHOD

QC1231576 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.461	ND	9.036	mg/L	94%		80-120	0	20	1
Sulfate	689.1	1168	50.00	mg/L	-958%	E,NM	80-120		20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID:** QC1231813 **Batch:** 363769
Matrix: Water **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231813 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	02/21/25	02/21/25

Type: Lab Control Sample **Lab ID:** QC1231814 **Batch:** 363769
Matrix: Water **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231814 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	103.7	100.0	ug/L	104%		80-120

Type: Matrix Spike **Lab ID:** QC1231815 **Batch:** 363769
Matrix (Source ID): Water (527063-001) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231815 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	101.9	ND	100.0	ug/L	102%		75-125	1

Type: Matrix Spike Duplicate **Lab ID:** QC1231816 **Batch:** 363769
Matrix (Source ID): Water (527063-001) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231816 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	104.3	ND	100.0	ug/L	104%		75-125	2	21	1

Type: Matrix Spike **Lab ID:** QC1231817 **Batch:** 363769
Matrix (Source ID): Water (527063-002) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231817 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	111.4	ND	100.0	ug/L	111%		75-125	1

Type: Matrix Spike Duplicate **Lab ID:** QC1231818 **Batch:** 363769
Matrix (Source ID): Water (527063-002) **Method:** EPA 6020 **Prep Method:** EPA 3015A

QC1231818 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	104.9	ND	100.0	ug/L	105%		75-125	6	21	1

ENTHALPY ANALYTICAL

Batch QC

Type:	Serial Dilution	Lab ID:	QC1231876	Batch:	363769
Matrix (Source ID):	Water (527048-003)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1231876 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	494.0	492.2	ug/L				50

Type:	Blank	Lab ID:	QC1231615	Batch:	363710
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1231615 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.39	02/20/25	02/21/25

Type:	Lab Control Sample	Lab ID:	QC1231616	Batch:	363710
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1231616 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	109.0	100.0	ug/L	109%		80-120

Type:	Matrix Spike	Lab ID:	QC1231617	Batch:	363710
Matrix (Source ID):	Filtrate (526748-002)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1231617 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	110.7	ND	100.0	ug/L	111%		75-125	5

Type:	Matrix Spike Duplicate	Lab ID:	QC1231618	Batch:	363710
Matrix (Source ID):	Filtrate (526748-002)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1231618 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	109.8	ND	100.0	ug/L	110%		75-125	1	21	5

Type:	Serial Dilution	Lab ID:	QC1231621	Batch:	363710
Matrix (Source ID):	Filtrate (527048-004)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1231621 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	502.2	464.3	ug/L				50

E	Response exceeds instrument's linear range
ND	Not Detected
NM	Not Meaningful

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

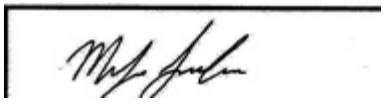
Lab Job Number : 527440
Report Level : II
Report Date : 03/05/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews
Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527440
Location: EA-DZUS
Date Received: 02/26/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 11 -022525	527440-001	02/25/25 08:04	Water
EA-DZUS EFF 11 -022525 (F)	527440-002	02/25/25 08:04	Water
EA-DZUS INFL 11 -022525	527440-003	02/25/25 12:40	Water
EA-DZUS INFL 11 -022525 (F)	527440-004	02/25/25 12:40	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 527440
Location: EA-DZUS
Date Received: 02/26/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 02/26/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Login 527440

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 527440

Project No:

Project Name: EA-DZUS

EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV

Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier

Report To: Cindy Schreier

Company : PRIMA Environmental, Inc.

Telephone: 916-939-7300

Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				# of Containers	Chemical Preservative					Analytical Request																
		Date	Time	Water	Soil				HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)											
	EA-DZUS Eff 11 -022525	02/25/25	8:04	x				1			x							x												
	EA- DZUS Eff 11 -022525 (F)	02/25/25	8:04	x				2			x		x			x			x											
	EA-DZUS Infl 11 -022525	02/25/25	12:40	x				1			x							x												
	EA-DZUS Infl 11 -022525 (F)	02/25/25	12:40	x				2			x		x			x			x											

Notes:

Samples labeld (F) are field filtered

SAMPLE RECEIPT

☐ Intact ☐ Cold

☐ On Ice ☐ Ambient

RELINQUISHED BY:

Marissa Sbrolgiozzi PRIMA 2/25/25 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

@1500 2/26/25 10:09 DATE/TIME

Fed Ex EA

DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info
Date Received: 2/26/25 WO# 527440 Client: Prima

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No
Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples
☐ Courier ☐ Walk-In ☐ Field Sampling ☒ Shipping Info: Fed Ex

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**
Date Opened 2/26/25 By (initials) NCM Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None
☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)
☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)
If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR11 CF: +0.1
Cooler Temp (°C) #1: 4.7 / 4.8 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**
☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.
☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**
☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	X		
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments
(If no comments are made, then no discrepancies noted.)

☐ **No additional discrepancies**

Date Logged 2/26/25 **By (print)** NCM **(sign)** _____
Date Labeled 2/26/25 **By (print)** orange EA **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 25FEB25
ACTWGT: 10.00 LB
CAD: 4692371/INET4535
DIMS: 13x10x9 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EA-DZUS
DEPT:

58C4/26DE/C6C4

FedEx Express

J251024121701uv

TRK# 7723 1518 4760
0201

WED - 26 FEB 10:30A
PRIORITY OVERNIGHT

92 APVA

92868
CA-US SNA

4.7 14.8 T244

After printing this label:
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

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ENTHALPY ANALYTICAL

Analysis Results for 527440

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527440
Location: EA-DZUS
Date Received: 02/26/25

Sample ID: EA-DZUS EFF 11 -022525 **Lab ID: 527440-001** **Collected: 02/25/25 08:04** **Matrix: Water**

527440-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**0.55**	J	ug/L	1.0	0.26	1	364302	02/26/25	02/26/25	DXC

Sample ID: EA-DZUS EFF 11 -022525 (F) **Lab ID: 527440-002** **Collected: 02/25/25 08:04**

527440-002 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**1.1**		mg/L	0.10	0.05	Water	1	364277	02/26/25 11:50	02/26/25 19:26	JAA
Sulfate	**16**		mg/L	1.0	0.18	Water	1	364277	02/26/25 11:50	02/26/25 19:26	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	ND		ug/L	1.0	0.39	Filtrate	1	364323	02/26/25	02/26/25	DXC

Sample ID: EA-DZUS INFL 11 -022525 **Lab ID: 527440-003** **Collected: 02/25/25 12:40** **Matrix: Water**

527440-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**380**		ug/L	10	0.95	10	364302	02/26/25	02/26/25	DXC

Sample ID: EA-DZUS INFL 11 -022525 (F) **Lab ID: 527440-004** **Collected: 02/25/25 12:40**

527440-004 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**4.3**		mg/L	0.10	0.05	Water	1	364277	02/26/25 11:50	02/26/25 19:48	JAA
Sulfate	**15**		mg/L	1.0	0.18	Water	1	364277	02/26/25 11:50	02/26/25 19:48	JAA
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**400**		ug/L	10	3.9	Filtrate	10	364323	02/26/25	02/26/25	DXC

J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1233338	Batch: 364277
Matrix: Water	Method: EPA 300.0	Prep Method: METHOD

QC1233338 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.05	02/26/25 11:50	02/26/25 14:11
Sulfate	ND		mg/L	1.0	0.18	02/26/25 11:50	02/26/25 14:11

Type: Lab Control Sample	Lab ID: QC1233339	Batch: 364277
Matrix: Water	Method: EPA 300.0	Prep Method: METHOD

QC1233339 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.515	4.518	mg/L	100%		90-110
Sulfate	24.82	25.00	mg/L	99%		90-110

Type: Matrix Spike	Lab ID: QC1233340	Batch: 364277
Matrix (Source ID): Water (527338-001)	Method: EPA 300.0	Prep Method: METHOD

QC1233340 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	9.108	ND	9.036	mg/L	101%		80-120	1
Sulfate	71.06	21.87	50.00	mg/L	98%		80-120	1

Type: Matrix Spike Duplicate	Lab ID: QC1233341	Batch: 364277
Matrix (Source ID): Water (527338-001)	Method: EPA 300.0	Prep Method: METHOD

QC1233341 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	8.882	ND	9.036	mg/L	98%		80-120	3	20	1
Sulfate	69.84	21.87	50.00	mg/L	96%		80-120	2	20	1

Type: Matrix Spike	Lab ID: QC1233526	Batch: 364277
Matrix (Source ID): Water (527419-006)	Method: EPA 300.0	Prep Method: METHOD

QC1233526 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	14.66	6.179	9.036	mg/L	94%		80-120	1
Sulfate	554.6	654.5	50.00	mg/L	-200%	E,NM	80-120	1

Type: Matrix Spike Duplicate	Lab ID: QC1233527	Batch: 364277
Matrix (Source ID): Water (527419-006)	Method: EPA 300.0	Prep Method: METHOD

QC1233527 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	14.57	6.179	9.036	mg/L	93%		80-120	1	20	1
Sulfate	554.5	654.5	50.00	mg/L	-200%	E,NM	80-120		20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank **Lab ID: QC1233433** **Batch: 364302**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1233433 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	02/26/25	02/26/25

Type: Lab Control Sample **Lab ID: QC1233434** **Batch: 364302**
Matrix: Water **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1233434 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	104.1	100.0	ug/L	104%		80-120

Type: Matrix Spike **Lab ID: QC1233435** **Batch: 364302**
Matrix (Source ID): Water (526862-001) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1233435 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	111.7	0.7910	100.0	ug/L	111%		75-125	1

Type: Matrix Spike Duplicate **Lab ID: QC1233436** **Batch: 364302**
Matrix (Source ID): Water (526862-001) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1233436 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	103.8	0.7910	100.0	ug/L	103%		75-125	7	21	1

Type: Serial Dilution **Lab ID: QC1233501** **Batch: 364302**
Matrix (Source ID): Water (527440-003) **Method: EPA 6020** **Prep Method: EPA 3015A**

QC1233501 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	387.8	376.1	ug/L				50

Type: Blank **Lab ID: QC1233507** **Batch: 364323**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: 200.8 DirectAnalysis**

QC1233507 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.39	02/26/25	02/26/25

Type: Lab Control Sample **Lab ID: QC1233508** **Batch: 364323**
Matrix: Filtrate **Method: EPA 6020** **Prep Method: 200.8 DirectAnalysis**

QC1233508 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	100.4	100.0	ug/L	100%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1233509	Batch:	364323
Matrix (Source ID):	Filtrate (527348-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1233509 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	108.7	ND	100.0	ug/L	109%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1233510	Batch:	364323
Matrix (Source ID):	Filtrate (527348-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1233510 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	107.6	ND	100.0	ug/L	108%		75-125	1	21	1

Type:	Serial Dilution	Lab ID:	QC1233511	Batch:	364323
Matrix (Source ID):	Filtrate (527440-004)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1233511 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	410.1	396.7	ug/L				50

E Response exceeds instrument's linear range
ND Not Detected
NM Not Meaningful

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 527849
Report Level : II
Report Date : 03/11/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527849
Location: EA-DZUS
Date Received: 03/04/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 12-030325	527849-001	03/03/25 07:45	Water
EA-DZUS EFF 12-030325 (F)	527849-002	03/03/25 07:45	Water
EA-DZUS INFL 12-030325	527849-003	03/03/25 11:00	Water
EA-DZUS INFL 12-030325 (F)	527849-004	03/03/25 11:00	Water

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 527849
Location: EA-DZUS
Date Received: 03/04/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 03/04/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Ion Chromatography (EPA 300.0):
No analytical problems were encountered.

Enthalpy Analytical LLC

CHAIN OF CUSTODY

Page __1__ of __1__

Chain of Custody # : _____

Login 527849

C&T LOGIN # 527849

Project No:

Project Name: EA-DZUS

EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV

Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier

Report To: Cindy Schreier

Company : PRIMA Environmental, Inc.

Telephone: 916-939-7300

Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																				
		Date	Time	Water	Soil			# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)														
	EA-DZUS Eff 12 -030325	03/03/25	7:45	x				1			x							x															
	EA-DZUS Eff 12 -030325 (F)	03/03/25	7:45	x				2			x		x			x			x														
	EA-DZUS Infl 12 -030325	03/03/25	11:00	x				1			x							x															
	EA-DZUS Infl 12 -030325 (F)	03/03/25	11:00	x				2			x		x			x			x														

Notes:

Samples labeld (F) are field filtered

SAMPLE RECEIPT

☐ Intact ☑ Cold

☑ On Ice ☐ Ambient

51/5.2 1121

RELINQUISHED BY:

Marisa Stickroyer PRIMA 03/03/25 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

15:00 FedEx DATE/TIME

1000 3/4/25 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 3/4/25 WO# 527849 Client: PRIMA Environmental

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ■ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

☐ Courier ☐ Walk-In ☐ Field Sampling ■ Shipping Info: FEDEX

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 3/4/25 By (initials) GCK Type of ice used: ■ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): _____ / _____ Thermometer/IR Gun: IR11 CF: +0.1

Cooler Temp (°C) #1: 5.1 / 5.2 #2: ____/____ #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ■ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ■ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other_____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	X		
2) Is the sampler's name present on the CoC?	X		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	X		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	X		
5) Were all of, and only, the correct samples received?	X		
6) Are sample labels present, legible, and in agreement with the CoC?	X		
7) Does the container count match the CoC?	X		
8) Was sufficient sample volume / mass received for the analyses requested?	X		
9) Were samples received in proper containers for the analyses requested?	X		
10) Were samples received with > 1/2 holding time remaining?	X		
11) Are samples properly preserved as indicated by CoC / labels?	X		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			X
13) Are VOA vials free from headspace/bubbles > 6mm?			X

Section 5: Explanations / Comments

(If no comments are made, then no discrepancies noted.)

☐ **No additional discrepancies**

Date Logged 3/4/25 **By (print)** FPDIWA **(sign)** _____

Date Labeled 3/4/25 **By (print)** FPDIWA **(sign)** _____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 03MAR25
ACTWGT: 8.00 LB
CAD: 4692371/INET4535
DIMS: 13x9x9 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:
REF: EA-DZUZ
DEPT:

58CJ2/07B9/C6C4

FedEx Express

J2510241217010W

TRK# 7724 4796 6716
0201

TUE - 04 MAR 10:30A
PRIORITY OVERNIGHT

92 APVA

92868
CA-US SNA

After printing this label:
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ENTHALPY ANALYTICAL

Analysis Results for 527849

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 527849
Location: EA-DZUS
Date Received: 03/04/25

Sample ID: EA-DZUS EFF 12-030325 | **Lab ID: 527849-001** | **Matrix: Water** | **Collected: 03/03/25 07:45**

527849-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.7**		ug/L	1.0	0.26	1	364962	03/05/25	03/05/25	DXC

Sample ID: EA-DZUS EFF 12-030325 (F) | **Lab ID: 527849-002** | **Collected: 03/03/25 07:45**

527849-002 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**2.5**		mg/L	0.10	0.05	Water	1	364843	03/04/25 13:45	03/04/25 19:14	KUM
Sulfate	**16**		mg/L	1.0	0.18	Water	1	364843	03/04/25 13:45	03/04/25 19:14	KUM
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**1.0**		ug/L	1.0	0.49	Filtrate	1	364858	03/04/25	03/04/25	DXC

Sample ID: EA-DZUS INFL 12-030325 | **Lab ID: 527849-003** | **Matrix: Water** | **Collected: 03/03/25 11:00**

527849-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**280**		ug/L	10	2.6	10	364962	03/05/25	03/05/25	DXC

Sample ID: EA-DZUS INFL 12-030325 (F) | **Lab ID: 527849-004** | **Collected: 03/03/25 11:00**

527849-004 Analyte	Result	Qual	Units	RL	MDL	Matrix	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 300.0 Prep Method: METHOD											
Nitrogen, Nitrate	**4.3**		mg/L	0.10	0.05	Water	1	364843	03/04/25 13:45	03/04/25 19:36	KUM
Sulfate	**15**		mg/L	1.0	0.18	Water	1	364843	03/04/25 13:45	03/04/25 19:36	KUM
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis											
Cadmium	**290**		ug/L	10	4.9	Filtrate	10	364858	03/04/25	03/04/25	DXC

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1235241**	**Batch:**	**364843**
Matrix (Source ID):	**Water (527795-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1235241 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Nitrogen, Nitrate	11.85	2.577	9.036	mg/L	103%		80-120	1
Sulfate	64.20	13.28	50.00	mg/L	102%		80-120	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1235242**	**Batch:**	**364843**
Matrix (Source ID):	**Water (527795-001)**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1235242 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Nitrogen, Nitrate	12.05	2.577	9.036	mg/L	105%		80-120	2	20	1
Sulfate	65.35	13.28	50.00	mg/L	104%		80-120	2	20	1

Type:	**Blank**	**Lab ID:**	**QC1235243**	**Batch:**	**364843**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1235243 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Nitrogen, Nitrate	ND		mg/L	0.10	0.05	03/04/25 13:45	03/04/25 13:58
Sulfate	ND		mg/L	1.0	0.18	03/04/25 13:45	03/04/25 13:58

Type:	**Lab Control Sample**	**Lab ID:**	**QC1235244**	**Batch:**	**364843**
Matrix:	**Water**	**Method:**	**EPA 300.0**	**Prep Method:**	**METHOD**

QC1235244 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Nitrogen, Nitrate	4.514	4.518	mg/L	100%		90-110
Sulfate	24.99	25.00	mg/L	100%		90-110

Type:	**Blank**	**Lab ID:**	**QC1235623**	**Batch:**	**364962**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1235623 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	03/05/25	03/05/25

Type:	**Lab Control Sample**	**Lab ID:**	**QC1235624**	**Batch:**	**364962**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1235624 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	107.7	100.0	ug/L	108%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1235625	Batch:	364962
Matrix (Source ID):	Water (527980-005)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1235625 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	100.6	ND	100.0	ug/L	101%		75-125	10

Type:	Matrix Spike Duplicate	Lab ID:	QC1235626	Batch:	364962
Matrix (Source ID):	Water (527980-005)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1235626 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	96.96	ND	100.0	ug/L	97%		75-125	4	21	10

Type:	Matrix Spike	Lab ID:	QC1235627	Batch:	364962
Matrix (Source ID):	Water (527980-006)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1235627 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	101.0	ND	100.0	ug/L	101%		75-125	10

Type:	Matrix Spike Duplicate	Lab ID:	QC1235628	Batch:	364962
Matrix (Source ID):	Water (527980-006)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1235628 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	98.14	ND	100.0	ug/L	98%		75-125	3	21	10

Type:	Serial Dilution	Lab ID:	QC1235673	Batch:	364962
Matrix (Source ID):	Water (527849-003)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1235673 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	279.7	276.5	ug/L				50

Type:	Blank	Lab ID:	QC1235285	Batch:	364858
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1235285 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.49	03/04/25	03/04/25

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC1235286	Batch:	364858
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1235286 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	101.9	100.0	ug/L	102%		80-120

Type:	Matrix Spike	Lab ID:	QC1235287	Batch:	364858
Matrix (Source ID):	Filtrate (527766-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1235287 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	104.9	ND	100.0	ug/L	105%		75-125	5

Type:	Matrix Spike Duplicate	Lab ID:	QC1235288	Batch:	364858
Matrix (Source ID):	Filtrate (527766-001)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1235288 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	103.5	ND	100.0	ug/L	103%		75-125	1	21	5

Type:	Serial Dilution	Lab ID:	QC1235289	Batch:	364858
Matrix (Source ID):	Filtrate (527849-004)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1235289 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	273.6	291.6	ug/L				50

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number : 528274
Report Level : II
Report Date : 03/14/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



John Goyette, Service Center Manager
(510) 204-2233 Ext 13112
john.goyette@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 528274
Location: EA-DZUS
Date Received: 03/07/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS EFF 13-030625	528274-001	03/06/25 07:44	Water
EA-DZUS EFF 13-030625 (F)	528274-002	03/06/25 07:44	Water
EA-DZUS INFL 13-030625	528274-003	03/06/25 10:35	Water
EA-DZUS INFL 13-030625 (F)	528274-004	03/06/25 10:35	Water

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 528274
Location: EA-DZUS
Date Received: 03/07/25

This data package contains sample and QC results for four water samples, requested for the above referenced project on 03/07/25. The samples were received cold and intact.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Filtrate:
No analytical problems were encountered.

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

CHAIN OF CUSTODY

Login 528274

C&T LOGIN #

Chain of Custody # : _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				# of Containers	Chemical Preservative					Analytical Request												
		Date	Time	Water	Soil				HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Cadmium (Total)	Cadmium (Dissolved)								
	EA-DZUS Eff 13 -030625	03/06/25	7:44	x				1			x							x									
	EA- DZUS Eff 13 -030625 (F)	03/06/25	7:44	x				1			x								x								
	EA-DZUS Infl 13 -030625	03/06/25	10:35	x				1			x							x									
	EA-DZUS Infl 13 -030625 (F)	03/06/25	10:35	x				1			x								x								

Notes:

Samples labeled (F) field filtered

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:

03/06/25 @ 15:00
Marisa Sheehan PRIMA DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

FedEx DATE/TIME

3.7.25 1015 DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 3/7/25 WO# 528274 Client: Prime Env

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☒ No

Custody seals intact on arrival? ☒ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

☐ Courier ☐ Walk-In ☐ Field Sampling ☒ Shipping Info: FedEx

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 3/7/25 By (initials) DEP Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____/____ Thermometer/IR Gun: IR13 CF: 0

GCK 3/7 Cooler Temp (°C) #1: 4.3/4.3 #2: 4.6/4.6 #3: ____/____ #4: ____/____ #5: ____/____ #6: ____/____

Section 3b: Microbiology Samples ☒ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☒ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?	✓		
2) Is the sampler's name present on the CoC?	✓		
3) Were containers received in good condition (unbroken / unopened / uncompromised)?	✓		
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)	✓		
5) Were all of, and only, the correct samples received?	✓		
6) Are sample labels present, legible, and in agreement with the CoC?	✓		
7) Does the container count match the CoC?	✓		
8) Was sufficient sample volume / mass received for the analyses requested?	✓		
9) Were samples received in proper containers for the analyses requested?	✓		
10) Were samples received with > 1/2 holding time remaining?	✓		
11) Are samples properly preserved as indicated by CoC / labels?	✓		
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			✓
13) Are VOA vials free from headspace/bubbles > 6mm?			✓

Section 5: Explanations / Comments

(If no comments are made, then no discrepancies noted.)

☐ **No additional discrepancies**

Date Logged 3/7/25 **By (print)** GCK **(sign)** [signature]

Date Labeled 3/7/25 **By (print)** Orange **(sign)** ____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 06MAR25
ACTWGT: 8.00 LB
CAD: 4692371/INET4535
DIMS: 11x9x10 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUZ
DEPT:

4.6/4a
1613

58CJ2/07B9/C6C4

FedEx Express

J251024121701uv

TRK# 7725 3436 0140
0201

FRI - 07 MAR 10:30A
PRIORITY OVERNIGHT

92 APVA

92868
CA-US SNA

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ENTHALPY ANALYTICAL

Analysis Results for 528274

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 528274
Location: EA-DZUS
Date Received: 03/07/25

Sample ID: EA-DZUS EFF 13-030625 | **Lab ID:** 528274-001 | **Matrix:** Water | **Collected:** 03/06/25 07:44

528274-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**1.5**		ug/L	1.0	0.095	1	365402	03/10/25	03/10/25	KAM

Sample ID: EA-DZUS EFF 13-030625 (F) | **Lab ID:** 528274-002 | **Matrix:** Filtrate | **Collected:** 03/06/25 07:44

528274-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**1.3**		ug/L	1.0	0.39	1	365250	03/07/25	03/08/25	KAM

Sample ID: EA-DZUS INFL 13-030625 | **Lab ID:** 528274-003 | **Matrix:** Water | **Collected:** 03/06/25 10:35

528274-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3015A										
Cadmium	**220**		ug/L	10	0.95	10	365402	03/10/25	03/11/25	KAM

Sample ID: EA-DZUS INFL 13-030625 (F) | **Lab ID:** 528274-004 | **Matrix:** Filtrate | **Collected:** 03/06/25 10:35

528274-004 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: 200.8 DirectAnalysis										
Cadmium	**210**		ug/L	10	3.9	10	365250	03/07/25	03/08/25	KAM

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1237311**	**Batch:**	**365402**
Matrix (Source ID):	**Water (528340-003)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237311 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	105.6	ND	100.0	ug/L	106%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1237312**	**Batch:**	**365402**
Matrix (Source ID):	**Water (528340-003)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237312 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	105.1	ND	100.0	ug/L	105%		75-125	0	21	1

Type:	**Matrix Spike**	**Lab ID:**	**QC1237313**	**Batch:**	**365402**
Matrix (Source ID):	**Water (528239-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237313 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	109.3	ND	100.0	ug/L	109%		75-125	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1237314**	**Batch:**	**365402**
Matrix (Source ID):	**Water (528239-002)**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237314 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	110.4	ND	100.0	ug/L	110%		75-125	1	21	1

Type:	**Blank**	**Lab ID:**	**QC1237315**	**Batch:**	**365402**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237315 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.095	03/10/25	03/10/25

Type:	**Lab Control Sample**	**Lab ID:**	**QC1237316**	**Batch:**	**365402**
Matrix:	**Water**	**Method:**	**EPA 6020**	**Prep Method:**	**EPA 3015A**

QC1237316 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	108.2	100.0	ug/L	108%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Serial Dilution	Lab ID:	QC1237337	Batch:	365402
Matrix (Source ID):	Water (528274-003)	Method:	EPA 6020	Prep Method:	EPA 3015A

QC1237337 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	229.0	223.3	ug/L				50

Type:	Blank	Lab ID:	QC1236669	Batch:	365250
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1236669 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Cadmium	ND		ug/L	1.0	0.39	03/07/25	03/07/25

Type:	Lab Control Sample	Lab ID:	QC1236670	Batch:	365250
Matrix:	Filtrate	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1236670 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Cadmium	102.6	100.0	ug/L	103%		80-120

Type:	Matrix Spike	Lab ID:	QC1236671	Batch:	365250
Matrix (Source ID):	Filtrate (528216-012)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1236671 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Cadmium	96.10	ND	100.0	ug/L	96%		75-125	5

Type:	Matrix Spike Duplicate	Lab ID:	QC1236672	Batch:	365250
Matrix (Source ID):	Filtrate (528216-012)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1236672 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Cadmium	102.8	ND	100.0	ug/L	103%		75-125	7	21	5

Type:	Serial Dilution	Lab ID:	QC1236676	Batch:	365250
Matrix (Source ID):	Filtrate (528274-004)	Method:	EPA 6020	Prep Method:	200.8 DirectAnalysis

QC1236676 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Cadmium	195.5	208.9	ug/L				50

ND Not Detected

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

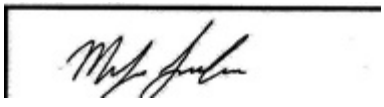
Lab Job Number : 528632
Report Level : II
Report Date : 03/20/2025

Analytical Report *prepared for:*

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Location: EA-DZUS

Authorized for release by:



Miguel Gamboa, Project Manager
miguel.gamboa@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105, ORELAP# 4197

ENTHALPY ANALYTICAL

Sample Summary

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 528632
Location: EA-DZUS
Date Received: 03/13/25

Sample ID	Lab ID	Collected	Matrix
EA-DZUS CA COL. -A	528632-001	03/11/25 09:00	Soil
EA-DZUS CA COL. -B	528632-002	03/11/25 09:00	Soil
EA-DZUS CA COL. -C	528632-003	03/11/25 09:00	Soil

ENTHALPY ANALYTICAL

Case Narrative

Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762
Cindy Schreier

Lab Job Number: 528632
Location: EA-DZUS
Date Received: 03/13/25

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 03/13/25. The samples were received cold and intact.

Metals (EPA 6010B):

- High RPD was observed for phosphorus in the MS/MSD of EA-DZUS CA COL. -A (lab # 528632-001).
- No other analytical problems were encountered.

528632

CHAIN OF CUSTODY

Enthalpy Analytical LLC
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900 Phone

Chain of Custody # : _____

C&T LOGIN # _____

Project No:
Project Name: EA-DZUS
EDD Format: _____ Rpt Level: ☐ II ☐ III ☐ IV
Turnaround Time: ☐ RUSH ____ ☒ Standard

Sampler: Cindy Schreier
Report To: Cindy Schreier
Company : PRIMA Environmental, Inc.
Telephone: 916-939-7300
Email: data@primaenvironmental.com

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					Analytical Request																	
		Date	Time	Water	Soil		# of Containers	HCl	H_2SO_4	HNO_3	NaOH	None	VOCs (8260)	Alkalinty	anions (sulfate, Nitrate)	Metals (Cr, Fe, Mn)	Phosphorous (Total)	Cadmium (Dissolved)												
	EA-DZUS CA col. - A	03/11/25	9:00		x		1					x					x													
	EA-DZUS CA col. - B	03/11/25	9:00		x		1					x					x													
	EA-DZUS CA col. - C	03/11/25	9:00		x		1					x					x													

Login 528632

Notes:

SAMPLE RECEIPT
☐ Intact ☒ Cold
☒ On Ice ☐ Ambient

1.5 IR13
1.5 TO.0

RELINQUISHED BY:

Heather Stickinger PRIMA 3/12/2025 DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

@ 15:00 FedEx DATE/TIME

3/13/25 10:29 ENTHALPY DATE/TIME

DATE/TIME

SAMPLE RECEIPT CHECKLIST

Section 1: General Info

Date Received: 03/13/25 WO# 528032 Client: PRIMA

Section 2: Shipping / Custody **Are custody seals present?** ☐ Yes ☑ No

Custody seals intact on arrival? ☑ N/A ☐ Yes ☐ No ☐ On cooler / box ☐ On samples

☐ Courier ☐ Walk-In ☐ Field Sampling ☑ Shipping Info: FEDEX

Section 3a: Condition / Packaging ☐ **Outside 0.0 - 6.0°C (0.0 - 10.0°C for microbiology) (PM notified)**

Date Opened 03/13/25 By (initials) JKC Type of ice used: ☑ Wet ☐ Blue/Gel ☐ None

☐ Samples received on ice directly from the field; cooling process had begun. (if checked, skip temperatures)

☐ Sample matrix doesn't require cooling (e.g. air, bulk PCB). (if checked, skip temperatures)

If no cooler: Observed/Adjusted Temp (°C): ____ / ____ Thermometer/IR Gun: IR13 CF: ±0.0

Cooler Temp (°C) #1: 1.5 / 1.5 #2: ____ / ____ #3: ____ / ____ #4: ____ / ____ #5: ____ / ____ #6: ____ / ____

Section 3b: Microbiology Samples ☑ **No microbiology samples submitted (skip 3b)**

☐ Within temp range 0.0 - 10.0°C or received on ice directly from field.

☐ Adequate headspace for microbiology analysis.

Section 3c: Air Samples ☑ **No air samples submitted (skip 3c)**

☐ 1.4L Canisters ☐ 6L Canisters ☐ Tedlar Bags ☐ MCE Cassettes ☐ Sorbent Tubes ☐ Other ____

Section 4: Containers / Labels / Samples	YES	NO	N/A
1) Were custody papers present, filled properly, and legible?			
2) Is the sampler's name present on the CoC?			
3) Were containers received in good condition (unbroken / unopened / uncompromised)?			
4) Were the samples bagged? (required for microbiology samples; recommended for soil samples)			
5) Were all of, and only, the correct samples received?			
6) Are sample labels present, legible, and in agreement with the CoC?		/	
7) Does the container count match the CoC?			
8) Was sufficient sample volume / mass received for the analyses requested?			
9) Were samples received in proper containers for the analyses requested?			
10) Were samples received with > 1/2 holding time remaining?			
11) Are samples properly preserved as indicated by CoC / labels?			
12) Unpreserved VOAs received - If necessary, was the hold time changed in LIMS?			
13) Are VOA vials free from headspace/bubbles > 6mm?			

Section 5: Explanations / Comments

(If no comments are made, then no discrepancies noted.)

4.6: TIME ON COC IS "9:00" BUT TIME ON CONTAINER LABEL IS "12:00"

☐ **No additional discrepancies**

Date Logged 03/12/25 **By (print)** EMERYVILLE **(sign)** ____

Date Labeled 03/13/25 **By (print)** JETH CO **(sign)** ____

ORIGIN ID:MHRA (916) 939-7300
CINDY SCHREIER
PRIMA ENVIRONMENTAL, INC.
5070 ROBERT J. MATHEWS PKWY
SUITE 300
EL DORADO HILLS, CA 95762
UNITED STATES US

SHIP DATE: 12MAR25
ACTWGT: 20.00 LB
CAD: 4692371/INET4535
DIMS: 16x10x15 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ENTHALPY ANALYTICAL
931 WEST BARKLEY AVE

ORANGE CA 92868
(714) 771-6900
INV:
PO:

REF: EA-DZUS/TRIN-SM
DEPT:

58CJ3/502Z/C6C4

FedEx Express

J25102412T01uv

THU - 13 MAR 10:30A
PRIORITY OVERNIGHT

TRK# 7726 7361 7377
0201

92868

92 APVA

CA-US SNA

1.5 IR13

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ENTHALPY ANALYTICAL

Analysis Results for 528632

Cindy Schreier
Prima Environmental, Inc.
5070 Robert J. Mathews Pkwy
Suite 300
El Dorado Hills, CA 95762

Lab Job #: 528632
Location: EA-DZUS
Date Received: 03/13/25

Sample ID: EA-DZUS CA COL. -A **Lab ID: 528632-001** **Collected: 03/11/25 09:00**
Matrix: Soil

528632-001 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: EPA 3050B										
Phosphorus	**1,700**		mg/Kg	190	22	0.95	365991	03/14/25	03/14/25	CAP

Sample ID: EA-DZUS CA COL. -B **Lab ID: 528632-002** **Collected: 03/11/25 09:00**
Matrix: Soil

528632-002 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: EPA 3050B										
Phosphorus	**1,600**		mg/Kg	200	23	0.99	365991	03/14/25	03/15/25	CAP

Sample ID: EA-DZUS CA COL. -C **Lab ID: 528632-003** **Collected: 03/11/25 09:00**
Matrix: Soil

528632-003 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6010B Prep Method: EPA 3050B										
Phosphorus	**2,300**		mg/Kg	200	23	0.98	365991	03/14/25	03/15/25	CAP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1239167	Batch: 365991
Matrix: Soil	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239167 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Phosphorus	ND		mg/Kg	200	23	03/14/25	03/14/25

Type: Lab Control Sample	Lab ID: QC1239168	Batch: 365991
Matrix: Soil	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239168 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Phosphorus	109.3	125.0	mg/Kg	87%	NM	80-120

Type: Matrix Spike	Lab ID: QC1239169	Batch: 365991
Matrix (Source ID): Soil (528632-001)	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239169 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Phosphorus	1,820	1734	119.0	mg/Kg	72%	NM	75-125	0.95

Type: Matrix Spike Duplicate	Lab ID: QC1239170	Batch: 365991
Matrix (Source ID): Soil (528632-001)	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239170 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Phosphorus	2,756	1734	119.0	mg/Kg	858%	NM	75-125	41*	20	0.95

Type: Post Digest Spike	Lab ID: QC1239171	Batch: 365991
Matrix (Source ID): Soil (528632-001)	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239171 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Phosphorus	1,709	1734	119.0	mg/Kg	-21%	NM	75-125	0.95

Type: Serial Dilution	Lab ID: QC1239203	Batch: 365991
Matrix (Source ID): Soil (528632-001)	Method: EPA 6010B	Prep Method: EPA 3050B

QC1239203 Analyte	Result	Source Sample Result	Units	Qual	RPD	RPD Lim	DF
Phosphorus	1,871	1734	mg/Kg				4.8

* Value is outside QC limits
ND Not Detected
NM Not Meaningful

CONSTANT HEAD
PERMEABILITY TEST REPORT

Sample ID.	Permeability (cm/sec)
EA - DZUS Soil	6.82E-03

Test Method: ASTM D2434

SAMPLE IDENTIFICATION: EA - DZUS Soil
SAMPLE DATE: 3/6/2025

LAB NUMBER: 95835

PROJECT NUMBER:	25-118	March 26, 2025

GULF SHORE EXPLORATION AND TESTING
3362 Fitzgerald Road, Rancho Cordova, CA 95742
Phone: (916) 939-4117 FAX: (916) 635-4315

EA - DZUS

CONSTANT HEAD
PERMEABILITY TEST REPORT

Sample ID.	Permeability (cm/sec)
EA - DZUS Soil +3% Ap	4.07E-03

Test Method: ASTM D2434

SAMPLE IDENTIFICATION: EA - DZUS Soil +3% Ap
SAMPLE DATE: 3/24/2025

LAB NUMBER: 96014

PROJECT NUMBER:	25-118	March 26, 2025

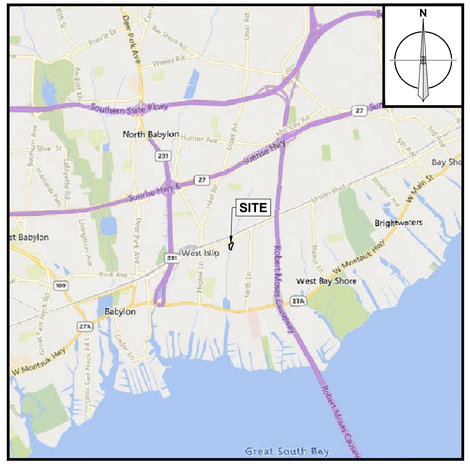
GULF SHORE
EXPLORATION AND TESTING
3362 Fitzgerald Road, Rancho Cordova, CA 95742
Phone: (916) 939-4117 FAX: (916) 635-4315

EA - DZUS

Appendix C
Design Drawings

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FORMER DZUS FASTENER
(NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER
WEST ISLIP, NEW YORK



VICINITY MAP
SCALE: 1" = 2,000'



SITE LOCATION MAP
SCALE: 1" = 500'

PREPARED FOR:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
625 BROADWAY, 12TH FLOOR
ALBANY, NEW YORK 12233

PREPARED BY:
EA ENGINEERING AND GEOLOGY, P.C.
333 WEST WASHINGTON STREET
SUITE 300
SYRACUSE NEW YORK 13202

SHEET LIST

DRAWING NO.	SHEET NO.	DRAWING TITLE
G-001	1	TITLE SHEET
G-002	2	GENERAL NOTES AND LEGEND
C-101	3	EXISTING CONDITIONS PLAN
C-102	4	SITE DESIGN PLAN
C-201	5	CROSS-SECTION PLAN
C-501	6	DETAILS
L-101	7	RESTORATION PLANTING PLAN

EA Engineering and Geology, P.C.
333 W Washington Street, Suite 300
Syracuse, New York 13202
(315) 431-4610

NEW YORK STATE Department of Environmental Conservation

HORIZONTAL DATUM:
NAD83 NEW YORK STATE PLANES, LONG ISLAND, US FOOT

VERTICAL DATUM:
NAVD88

SCALE AS SHOWN

FULL SIZE PLOT: 22" x 34"

REVISIONS

SEAL

STATE OF NEW YORK
DONALD FRANCIS GOMAN III
LICENSED PROFESSIONAL ENGINEER
75666

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PROJECT NAME
FORMER DZUS FASTENER
(NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER

PROJECT ADDRESS
460 UNION BLVD,
WEST ISLIP, NY 11795

DRAWING TITLE
TITLE SHEET

DRAWING INFORMATION

DRAWN BY: JAP | DESIGNED BY: TR
CHECKED BY: DFC | PROJECT MANAGER: HW
PROJECT NUMBER: 1602515

DRAWING NO.
G-001

DATE: OCTOBER 2025 | SHEET: 1 OF 7

100% PLANS - FOR CONSTRUCTION

FILE PATH: Q:\PROJECTS\1602515 - DZUS FASTENER\CAD\PRODUCTION\DESIGN SET\1602515 - 00 - GENERAL SHEETS.DWG [GA01] PERRY, JEFF - 11/7/2025 2:17 PM

PROJECT INFORMATION

SITE LOCATION:
460 UNION BLVD,
WEST ISLIP, NY 11795
TAX MAP: 0500 (DISTRICT), 45500 (SECTION), 0300 (BLOCK), 001006 (LOT)
TAX ID # 0500-455.00-03.00-001.006

CLIENT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
625 BROADWAY, 12TH FLOOR
ALBANY, NEW YORK 12233

ENGINEER:
EA ENGINEERING AND GEOLOGY, P.C.
333 WEST WASHINGTON STREET
SUITE 300
SYRACUSE NEW YORK 13202

DATUM:
HORIZONTAL: NAD83 NEW YORK STATE PLANES, LONG ISLAND, US FOOT
VERTICAL: NAVD88

SITE DATA

1. TOPOGRAPHY AND EXISTING CONDITIONS ARE BASED ON AS-BUILT SURVEY DATA (DATED JUNE 2020) AND GIS DATA FROM NOAA NATIONAL GEODETIC SURVEY OPEN DATA (DATED 2014 POST SANDY).
2. PROPERTY LINES ARE BASED ON GIS DATA GATHERED FROM OPEN DATA NEW YORK STATE GEOGRAPHIC INFORMATION SYSTEMS (GIS) CLEARINGHOUSE (DATED 2024).
3. STREAM, WETLANDS, AND VEGETATION DELINEATION PERFORMED BY EA ENGINEERING AND GEOLOGY PC… (12 AUGUST 2024)
4. SOILS DATA ARE BASED ON THE USDA WEB SOIL SURVEY, ACCESSED FEBRUARY 2025.

GENERAL CONSTRUCTION NOTES

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND/OR REPAIRING IN PLACE ALL UTILITY STRUCTURES (BOTH BELOW AND ABOVE GROUND), PIPING, AND APPURTENANCES THAT ARE TO REMAIN IN PLACE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINIMIZING AND PREVENTING DUST, SEDIMENT, AND SOIL FROM IMPACTING ROADS DUE TO VEHICLES ARRIVING AND LEAVING THE JOB SITE AS PART OF THIS WORK.
4. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK THAT WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLETE SUCH WORK WITHOUT ADDITIONAL COMPENSATION.
5. EXISTING UTILITIES AND STRUCTURES, INCLUDING BUT NOT LIMITED TO UNDERGROUND, SURFACE, OR OVERHEAD ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UNDERGROUND UTILITIES. POWER, TELEPHONE, FIBER OPTIC CABLE, DUCT WAYS, SPRINKLER SYSTEMS, SEPTIC SYSTEMS, AND WATER, GAS, AND SEWER SERVICE LINES MAY NOT BE INDICATED ON THESE DRAWINGS, OTHER UTILITIES AND STRUCTURES MAY BE PRESENT. UNDERGROUND LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES, AS FURNISHED BY THE OWNER OF EACH UTILITY OR STRUCTURE, ARE APPROXIMATE. OVERHEAD UTILITIES ARE NOT SHOWN IN PROFILE.
6. IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR, CONSTRUCT, AND MAINTAIN THE SITE SECURITY FENCING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, JOB SAFETY SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL STRIP AND STOCKPILE 6 INCHES OF UPLAND AND WETLAND TOPSOIL FROM THE PRB ALIGNMENT ON SHEET C-102. STOCKPILE MATERIALS SHALL BE SEPARATE. STOCKPILE MATERIALS SHOULD BE KEPT SEPARATE TO PREVENT INTERMIXING OF TOPSOIL TYPES. SURFACE WATER SHALL BE DIRECTED AWAY FROM THE STOCKPILE SITE TO PREVENT EROSION OR DETERIORATION OF STOCKPILED MATERIAL. AFTER STOCKPILE REMOVAL THE AREA SHALL BE LEFT IN A CLEAN AND NEAT CONDITION AND THE SURFACE GRADED TO PREVENT FREE STANDING WATER. EXAMPLE STOCKPILE DETAIL IS PROVIDED ON SHEET C-501 BUT THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS.
8. RESTORE ANY EXISTING STRUCTURES THAT ARE DISTURBED, DAMAGED, OR REMOVED BY CONSTRUCTION TO THEIR ORIGINAL LOCATION AND CONDITION.
9. THE CONTRACTOR SHALL VERIFY ALL REQUIRED PERMITS HAVE BEEN OBTAINED BEFORE PROCEEDING WITH CONSTRUCTION. AN APPROVED SET OF PERMIT PLANS AND PERMITS MUST BE MADE AVAILABLE AT THE SITE THROUGHOUT WORK.
10. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING WORK AREAS SECURE AT ALL TIMES.
11. THE CONTRACTOR SHALL PROTECT ALL TREES AS MUCH AS PRACTICABLE. CLEARING AND TREE REMOVAL SHALL BE APPROVED BY THE ENGINEER AND THE DEPARMENT.
12. EXCESS MATERIAL THAT REMAINS UNUSED FOLLOWING CONSTRUCTION ACTIVITIES WILL BE THE PROPERTY OF THE CONTRACTOR AND MUST BE REMOVED FROM THE PROJECT SITE.
13. BEFORE FINAL COMPLETION OF THIS WORK, ALL ROADWAYS, FENCES, AND SIGNAGE SHALL BE RESTORED TO THEIR PRE-CONSTRUCTION CONDITION. VARIANCES SHALL BE SUBMITTED TO THE ENGINEER AND DEPARTMENT FOR APPROVAL.
14. CONSTRUCTION ACTIVITIES SHALL NOT PRODUCE NOISE THAT WILL RESULT IN EXCESS OF 60 DBA AS MEASURED BY A TYPE 2 SOUND LEVEL METER AT OCCUPIED BUSINESSES, SCHOOLS, OR RESIDENCES THAT ARE CLOSEST TO THE SOURCE OF THE NOISE. IN ACCORDANCE WITH CHAPTER 35 OF THE "CODE OF THE TOWN OF ISLIP" THE MAXIMUM PERMISSIBLE A-WEIGHTED SOUND PRESSURES RECEIVED BY RESIDENTIAL PROPERTIES BETWEEN THE HOURS OF 7:00 AM AND 10:00 PM IS 55 DBA; FROM 10:00 PM TO 7:00 AM RECEIVED SOUND PRESSURES MUST NOT EXCEED 50 DBA. NOISE ABATEMENT AND/OR NO WORK PERIODS SHALL BE REQUIRED OF THE CONTRACTOR.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING A COMMUNITY AIR MONITORING PLAN (CAMP); ENSURING AND DOCUMENTING THAT FUGITIVE DUST DOES NOT IMPACT AREAS OUTSIDE THE WORK AREA.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING LOADING DOCK AREA BEHIND STOP N' SHOP (AS SHOWN ON SHEET C-102) ACCESSIBLE TO TRAFFIC / DELIVERIES.

IMPORTED MATERIAL NOTES

1. CONTRACTOR SHALL SUBMIT LIST OF FILL MATERIALS, SEED MIX DATA, AGGREGATES, FERTIZILER, MULCH, SOIL AMENDMENTS AND OTHER ACCESSORIES TO THE ENGINEER FOR REVIEW AND APPROVAL INCLUDING THE NAME OF SUPPLIERS AND MATERIALS TESTING.
2. THE CONTRACTOR SHALL PERFORM GEOTECHNICAL TESTING AND ANALYTICAL TESTING ON IMPORTED MATERIAL IN ACCORDANCE WITH NYSDEC DER-10, THE SCOPE OF WORK, AND THESE DRAWINGS. A MINIMUM OF ONE GRAIN SIZE (ASTM D6913/D6913M) AND ONE SOIL CLASSIFICATION (ASTM D2487) SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF EACH TOPSOIL MATERIAL.
3. ALL IMPORTED MATERIALS SHALL BE CERTIFIED CLEAN IN ACCORDANCE WITH NYSDEC DER-10 5.4(E).
4. COMMON FILL MATERIAL
   a. COMMON FILL SHALL NOT CONTAIN MAN-MADE FILLS TRASH, REFUSE, FROZEN MATERIAL, OR ANY OTHER DELETERIOUS MATERIALS.
   b. COMMON FILL MATERIAL SHALL BE SAND BACKFILL AND SHALL MEET NYSDOTSS ITEM 733-15A GRADATION REQUIREMENTS.
   c. ALL MATERIALS BROUGHT ONSITE SHALL BE TESTED TO ENSURE CLEAN MATERIALS ARE USED IN ACCORDANCE WITH NYSDEC DER-10 SUBDIVISION 5.4(e).
   d. ONE TEST PER SOURCE OF TOPSOIL IS REQUIRED FOR ENGINEERING REVIEW AND APPROVAL PRIOR TO DELIVERY TO THE SITE.
6. RIP RAP SHALL BE MEDIUM STONE FILLING SHALL MEET NYSDOTSS ITEM 733-2103 REQUIREMENTS. MEDIUM STONE FILLING SHALL BE USED AS RIP RAP AT ALL STORM SEWER OUTLETS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER

UTILITIES

1. CONFIRM LOCATIONS OF EXISTING UTILITIES AND INFRASTRUCTURE, INCLUDING OVERHEAD, ABOVEGROUND, AND UNDERGROUND UTILITIES. CONSIDER THE LOCATION OF UTILITIES DEPICTED WITHIN THESE DRAWINGS APPROXIMATE.
2. CONTRACTOR IS RESPONSIBLE FOR MANAGING STORMWATER INCLUDING DISCHARGE FROM STORMWATER OUTLET SHOWN ON SHEET C-101 WITHIN THE LIMIT OF DISTURBANCE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE STORMWATER OUTLET TO PRE-CONSTRUCTION CONDITION PRIOR TO DEMOBILIZATION.

SEQUENCE OF WORK

1. PREPARATION AND APPROVAL OF REQUIRED PLANS AND SUBMITTALS
2. CONTRACTOR MOBILIZATION
3. LOCATE EXISTING UTILITIES
4. INSTALL CONSTRUCTION ENTRANCE(S)
5. INSTALL TEMPORARY FACILITIES AND EROSION AND SEDIMENT CONTROL
6. CLEAR EXISTING VEGETATION FROM WORK AREA
7. STRIP AND STOCKPILE TOPSOIL
8. INSTALL TEMPORARY WATER DIVERSION
9. INSTALL STORMWATER MITIGATION MEASURES
   9.1. BYPASS EXISTING STORMWATER PIPE
10. INSTALL PERMEABLE REACTIVE BARRIER
    10.1. EXCAVATE TRENCH FOR BARRIER INSTALLATION
    10.2. MIX APATITE II PRODUCT WITH EXCAVATED MATERIAL TO ACHIEVE 3% SOIL MIX BY MASS
    10.3. PERFORM QA/QC MEASURES FOR BARRIER CONSTRUCTION
    10.4. REMIX AREAS OF PRB AT DIRECTION OF THE ENGINEER PROVIDED FAIL
11. INSTALL MONITORING WELLS
12. RESTORE AND RESEED WORKZONE ACCORDING TO SHEET L-101.

EROSION AND SEDIMENTATION CONTROL

1. DISTURBANCE OF SOIL SURFACES IS REGULATED BY STATE LAW AND LOCAL ORDINANCE. ALL WORK SHALL COMPLY WITH THE FOLLOWING CRITERIA AND ISSUED PERMIT CONDITIONS TO PREVENT OR MINIMIZE SOIL EROSION.
2. THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN, OR AS DICTATED BY THE NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND THE TOWN OF ISLIP. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED IN EFFECTIVE CONDITION DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL USE THE LATEST EDITION OF THE "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" DOCUMENT AS A GUIDE IN CONSTRUCTION OF THE EROSION AND SEDIMENT CONTROLS INDICATED ON THE PLANS. ALL EROSION AND SEDIMENT CONTROL MEASURES OR WORKS AND REHABILITATION MEASURES MUST CONFORM TO OR EXCEED THE SPECIFICATIONS OR STANDARDS SET OUT IN THIS DOCUMENT.
4. THE CONTRACTOR SHALL INSPECT EROSION AND SEDIMENT CONTROL DEVICES AT THE END OF EACH WORKING DAY, AFTER EACH STORM EVENT, AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE TIMELY INSTALLATION, INSPECTION, MAINTENANCE, AND/OR REPLACEMENT OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES TO ENSURE PROPER OPERATION THROUGHOUT THE LIFE OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF PERMANENT MEASURES UNTIL CONSTRUCTION OF THE PROJECT IS COMPLETED OR UNTIL IT IS ACCEPTED BY THE OWNER. THE OWNER IS RESPONSIBLE THEREAFTER.
6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CLEAN ROADS, CONTROL DUST, AND TAKE ALL NECESSARY MEASURES TO ENSURE THAT THE SITE AND ALL ADJACENT ROADS BE MAINTAINED IN A MUD- AND DUST-FREE CONDITION AT ALL TIMES THROUGHOUT THE LIFE OF THE CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO, WATER AND/OR CRUSHED STONE OR COARSE GRAVEL.
7. PROPOSED ACCESS, STAGING, AND TEMPORARY SEDIMENT STOCKPILING LOCATIONS ARE DEPICTED ON THE PLANS FOR INFORMATIONAL PURPOSES ONLY. SHALL BE DELINEATED BY THE CONTRACTOR FOR APPROVAL PRIOR TO PROJECT INITIATION.
8. THE CONTRACTOR SHALL INSTALL ALL PERIMETER SEDIMENT CONTROL BARRIERS (I.E. SILT FENCE AS SHOWN ON THE PLANS AROUND ANY SOIL STOCKPILE AREAS.)
9. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED TO ANY DISTURBED AREAS (INCLUDING SOIL STOCKPILE AREAS) THAT HAVE NOT YET REACHED FINISHED GRADE AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY CEASED.

TEMPORARY WATER DIVERSION

1. CONTRACTOR SHALL HYDRAULICALLY ISOLATE WILLETTS CREEK FROM THE WORK ZONE.
2. COFFER DAMS, DIVERSIONS, OR BERMS TO DIVERT FLOW AROUND THE WORK AREA SHALL PROVIDE PROTECTION FROM RELEASE OF SEDIMENT AND WATER TO WILLETTS CREEK. DIVERSIONS AND OTHER CONTROL STRUCTURES DEPICTED ON THESE DRAWINGS ARE FOR INFORMATIONAL PURPOSES ONLY. THE MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
3. DIVERSIONS SHOULD NOT OBSTRUCT MORE THAN 40% OF THE STREAM WIDTH
4. THE CONTRACTOR SHALL MANAGE ALL WATER WITHIN THE WORK AREA. NO FREE WATER CAN BE RELEASED FROM THE WORK ZONE INTO WILLETTS CREEK. DEWATERING FLUIDS/CONTACT WATER FROM THE WORK AREA SHALL BE CONTAINERIZZED AND DISPOSED OFFSITE BY THE CONTRACTOR.

QA/QC NOTES

1. CONTRACTOR SHALL BE RESPONSBILE FOR COMPLYING WITH THE QA/QC TESTING SPECIFICED IN THE SCOPE OF WORK.
2. DEFICIENCIES IN MIXING/DISTRIBUTION OF APATITE II AS DETERMINED BY QA/QC TESTING, VISUAL OBSERVATION, OR AS DETERMINED BY THE ENGINEER OR THE STATE OF NEW YORK WILL BE REMEDIED BY THE CONTRACTOR.
3. REMEDIES ARE ANTICIPATED TO INCLUDE ADDITIONAL MIXING TIME, INCREASED QUANTITY OF APATITE II IN SUBJECT MIXING CELL; CONTRACTOR IS NOT RESPONSIBLE FOR PURCHASE AND SUPPLY OF APATITE II.

ABBREVIATIONS

AC	ACRES
APPROX	APPROXIMATELY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLDG	BUILDING
BW	BOTTOM OF WALL
CL - C/L	CENTER LINE
CONC	CONCRETE
CY - CU YDS	CUBIC YARDS
DIA	DIAMETER
EL - ELEV	ELEVATION
EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY
ESC	SOIL EROSION AND SEDIMENT CONTROL
ESD	ENVIRONMENTAL SITE DESIGN
EX - EXST	EXISTING
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FT	FEET
INV	INVERT
MHW	MEAN HIGH WATER
MLW	MEAN LOW WATER
NA	NOT APPLICABLE
NAD83	NORTH AMERICAN DATUM OF 1983
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
NGS	NATIONAL GEODETIC SURVEY
NO.	NUMBER
NRCS	NATIONAL RESOURCE CONSERVATION SERVICE
OH - OVHD	OVERHEAD OR ABOVEGROUND
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PR - PROP	PROPOSED
RCP	REINFORCED CONCRETE PIPE
SCH	SCHEDULE
SD	STORM DRAIN
SF - SQ FT	SQUARE FEET
SS	SANITARY SEWER
SWM	STORMWATER MANAGEMENT
TYP	TYPICAL
UG - UGND	UNDERGROUND
UNK	UNKNOWN
U.S.	UNITED STATES
USACE	U.S. ARMY CORPS OF ENGINEERS
USDA	U.S. DEPARTMENT OF AGRICULTURE
USGS	U.S. GEOLOGICAL SURVEY
W/	WITH
WSEL	WATER SURFACE ELEVATION

LEGEND

DESCRIPTION	EXISTING	PROPOSED
ELECTRIC LIGHT POST	#	#
ELECTRIC UTILITY POLE	#-O-	#-O-
ELECTRIC OVHD LINE	OHE	OHE
PROPERTY BOUNDARY		
SITE MONITORING WELL	MW	MW
SITE WATER LEVEL MARKER		
SITE FLOW ARROW		
SITE BOLLARD		
SITE SPOT ELEVATION	+ EL	+ EL
SITE HANDICAP PARKING SPACE		
SITE TRAFFIC ARROW		
SITE TREE	-#	+#
SITE CONTOUR	#	#
SITE FENCE	X X X X	X X X X
1 SITE TEMPORARY SECURITY FENCE		
SITE SOIL BOUNDARY		
SITE SOIL CLASSIFICATION	SfB HSG B	
SITE TREE/BRUSH LINE		
SITE WETLAND		
STORM DRAIN MANHOLE	D	D
STORM DRAIN HEADWALL		
STORM DRAIN FLARED END SECTION		
STORM DRAIN UTILITY MARKING	SD	SD
STORM DRAIN RIP RAP		
WATERWAY STREAM CHANNEL		
PLAN NORTH ARROW		
PLAN NUMBER CALLOUT		#
PLAN KEYNOTE CALLOUT		X
PLAN REVISION CALLOUT		#
PLAN STRUCTURE NAME/NUMBER		X / #
PLAN SECTION CUT VIEW BEGIN		X
PLAN SECTION CUT VIEW END		X'
PLAN POINT OF INVESTIGATION		
ESC LIMIT OF DISTURBANCE	LOD	LOD
ESC STABILIZED CONSTRUCTION ENTRANCE		
ESC SILT FENCE OR FILTER SOCK	ESC	ESC
UPLAND AREA		
WETLAND AREA		
UPLAND RESTORATION AREA		
WETLAND RESTORATION AREA		
BARRIER		

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NEW YORK STATE Department of Environmental Conservation

HORIZONTAL DATUM:
NAD83 NEW YORK STATE PLANES, LONG ISLAND, US FOOT

VERTICAL DATUM:
NAVD88

SCALE AS SHOWN

FULL SIZE PLOT: 22" x 34"

REVISIONS

1	2025/11/07	FOR BIDS DUE

SEAL

STATE OF NEW YORK · DONALD FRANCIS CONAN III · 75666 · LICENSED PROFESSIONAL ENGINEER

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PROJECT NAME
FORMER DZUS FASTENER (NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER

PROJECT ADDRESS
460 UNION BLVD,
WEST ISLIP, NY 11795

DRAWING TITLE
GENERAL NOTES AND LEGEND

DRAWING INFORMATION

DRAWN BY: JAP | DESIGNED BY: TR
CHECKED BY: DFC | PROJECT MANAGER: HW
PROJECT NUMBER: 1602515

DRAWING NO.
G-002

DATE: OCTOBER 2025 | SHEET: 2 OF 7

100% PLANS - FOR CONSTRUCTION

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LEGEND

- UPLAND AREA
- WETLAND AREA

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NEW YORK STATE Department of Environmental Conservation

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0 15 30 60
GRAPHIC SCALE IN FEET

FULL SIZE PLOT: 22" x 34"

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DONALD FRANCIS COWN III
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PROJECT ADDRESS
460 UNION BLVD,
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DRAWING TITLE
EXISTING CONDITIONS PLAN

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CHECKED BY: DFC	PROJECT MANAGER: HW

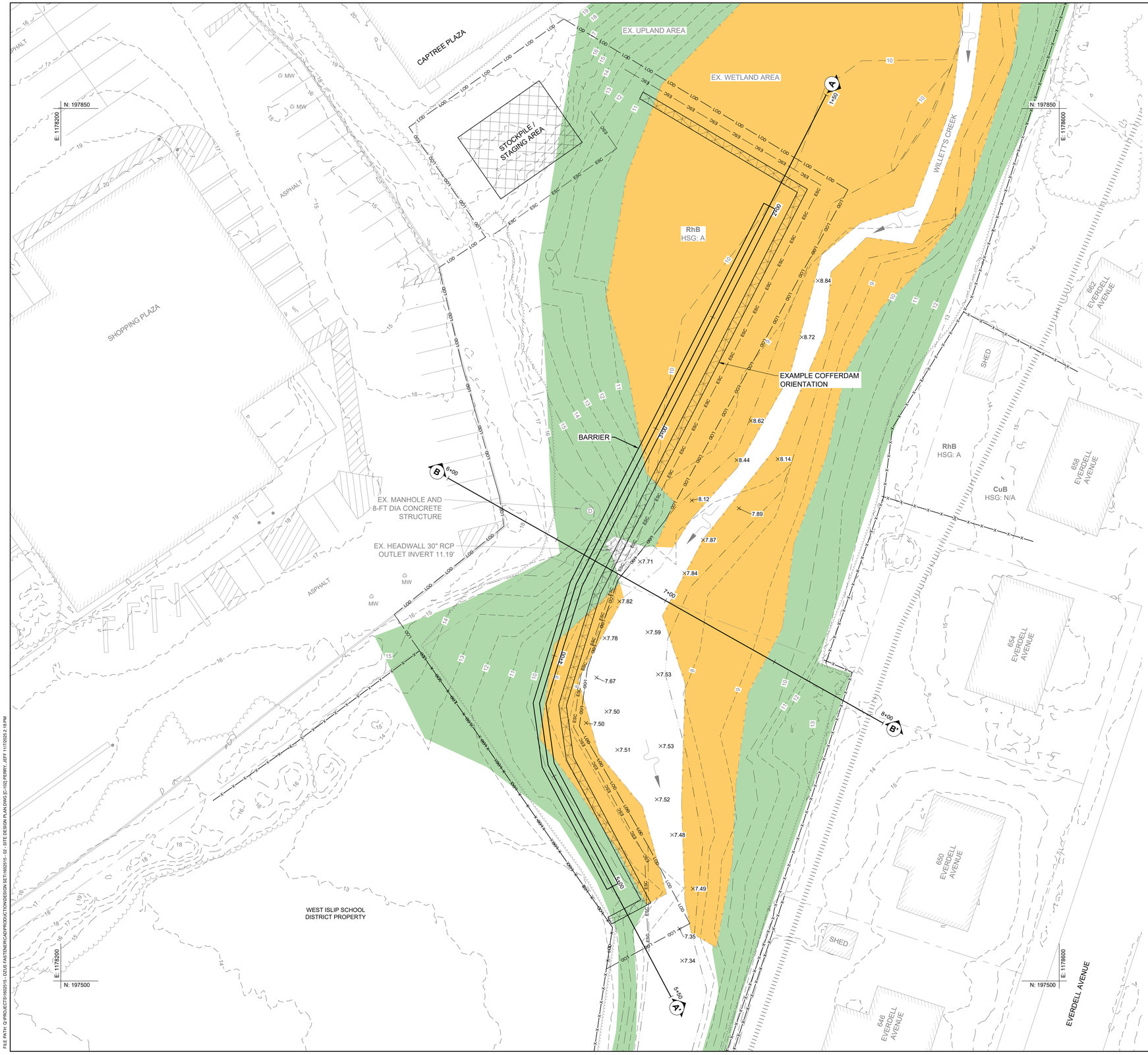
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DRAWING NO.
C-101

DATE: OCTOBER 2025 SHEET: 3 OF 7

100% PLANS - FOR CONSTRUCTION

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LEGEND

- UPLAND AREA
- WETLAND AREA

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NEW YORK STATE Department of Environmental Conservation

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0 10 20 40
GRAPHIC SCALE IN FEET

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REVISIONS

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460 UNION BLVD,
WEST ISLIP, NY 11795

DRAWING TITLE
SITE DESIGN PLAN

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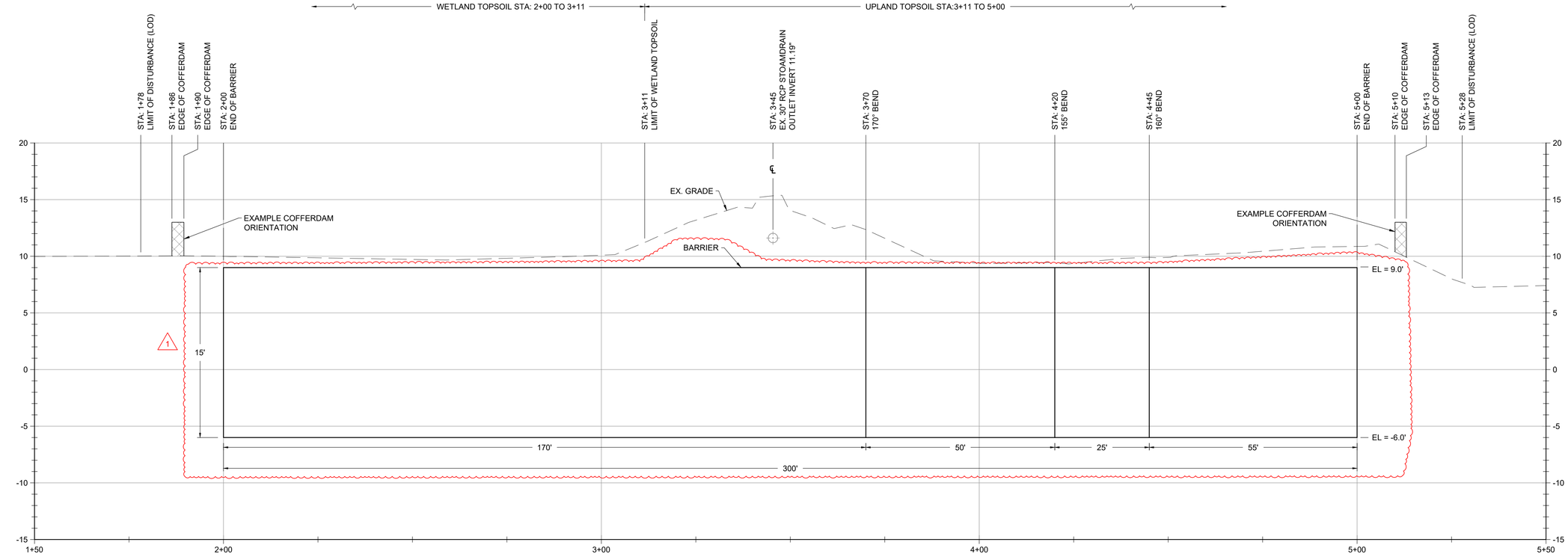
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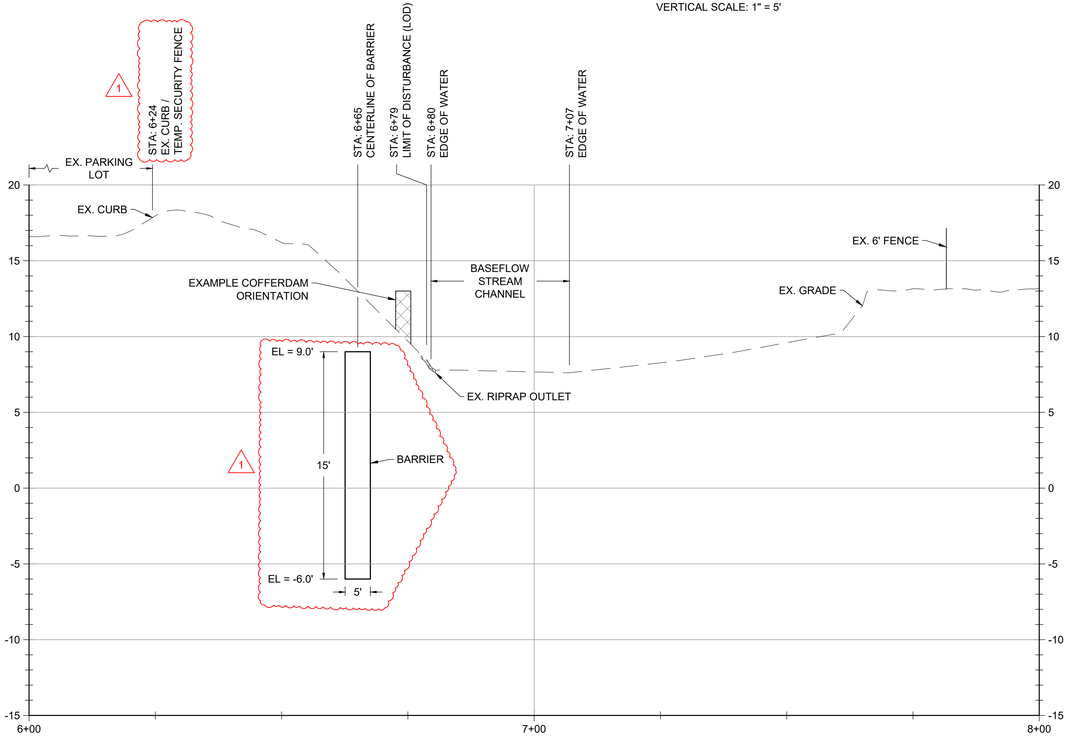
DATE: OCTOBER 2025 SHEET: 4 OF 7

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PROFILE A-A'
HORIZONTAL SCALE: 1" = 15'
VERTICAL SCALE: 1" = 5'



CROSS-SECTION B-B'
HORIZONTAL SCALE: 1" = 15'
VERTICAL SCALE: 1" = 5'

0 7.5 15 30
HORIZONTAL SCALE: 1" = 15'

0 2.5 5 10
VERTICAL SCALE: 1" = 5'

NOTE

WATER SURFACE ELEVATION PROVIDED BY PAUL JAMES OLSZEWSKI, P.L.S., PLLC. SURVEY WAS PERFORMED 17 JUNE 2024. VERTICAL DATUM - NAVD 88.

EA Engineering and Geology, P.C.

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VERTICAL DATUM:
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SCALE AS SHOWN

FULL SIZE PLOT: 22" x 34"

REVISIONS

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(NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER

PROJECT ADDRESS
460 UNION BLVD,
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DRAWING TITLE
CROSS-SECTION PLAN

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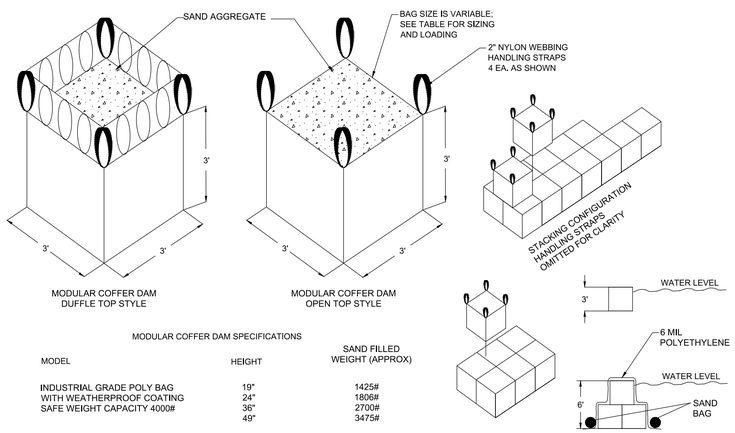
DRAWING NO.
C-201

DATE: OCTOBER 2025 — SHEET: 5 OF 7

100% PLANS - FOR CONSTRUCTION

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~~EXAMPLES OF ACCEPTABLE COFFER DAMS:~~ 1

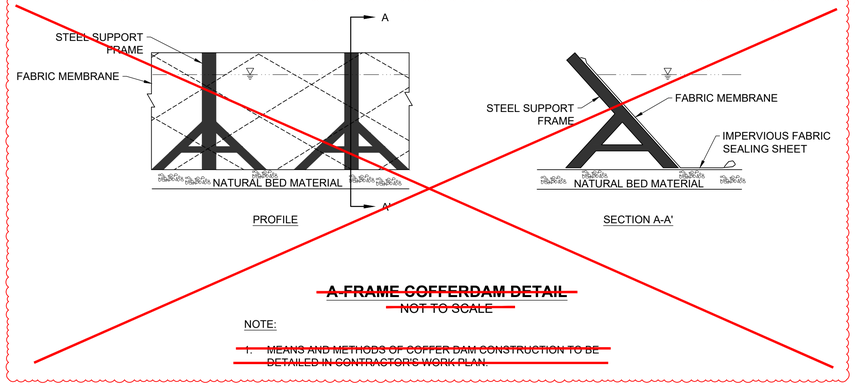


MODULAR COFFER DAM SPECIFICATIONS

MODEL	HEIGHT	SAND FILLED WEIGHT (APPROX)
INDUSTRIAL GRADE POLY BAG WITH WEATHERPROOF COATING SAFE WEIGHT CAPACITY 4000#	19"	1425#
	24"	1806#
	36"	2700#
	49"	3475#

SANDBAG COFFERDAM SYSTEM DETAIL
NOT TO SCALE

1

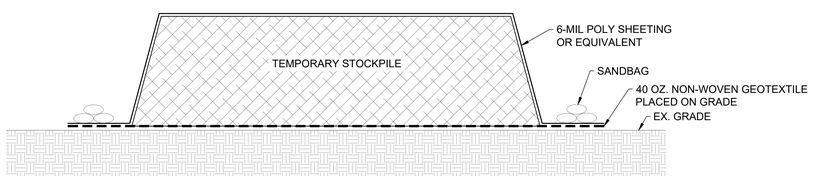


~~A-FRAME COFFERDAM DETAIL~~
~~NOT TO SCALE~~

NOTE:

1. ~~MEANS AND METHODS OF COFFER DAM CONSTRUCTION TO BE DETAILED IN CONTRACTOR'S WORK PLAN.~~

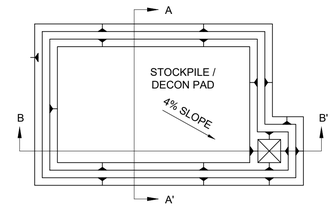
1



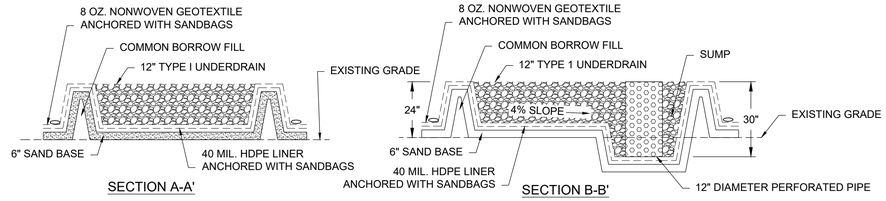
TEMPORARY STOCKPILE PAD DETAIL
NOT TO SCALE

NOTE:

1. THIS STOCKPILE CONFIGURATION SHALL BE USED FOR TEMPORARILY STAGING THE MATERIALS TO BE REUSED IN SITE RESTORATION: WETLAND TOPSOIL, UPLAND TOPSOIL.



PLAN VIEW

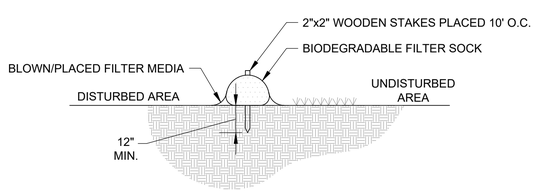


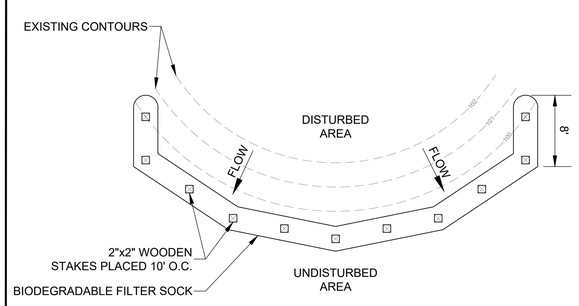
NOTES:

1. STOCKPILE SHALL BE AS SHOWN OR AS PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
2. 2H:1V MAXIMUM SLOPES.
3. 3 FOOT MINIMUM TOP OF BANK WIDTH.
5. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL STOCKPILE PAD MATERIALS OFFSITE.

1

WASTE STOCKPILE / DECON PAD
NOT TO SCALE





ADAPTED FROM DETAILS PROVIDED BY: FILTREXX	BIODEGRADABLE FILTER SOCK

EA Engineering and Geology, P.C.

333 W Washington Street, Suite 300
Syracuse, New York 13202
(315) 431-4610

NEW YORK STATE Department of Environmental Conservation

HORIZONTAL DATUM:
NAD83 NEW YORK STATE PLANES, LONG ISLAND, US FOOT

VERTICAL DATUM:
NAVD88

SCALE AS SHOWN

FULL SIZE PLOT: 22" x 34"

REVISIONS

1	2025/11/07	FOR BIDS DUE

SEAL

STATE OF NEW YORK · DONALD FRANCIS COWIN III · 75666 · LICENSED PROFESSIONAL ENGINEER

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PROJECT NAME
FORMER DZUS FASTENER
(NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER

PROJECT ADDRESS
460 UNION BLVD,
WEST ISLIP, NY 11795

DRAWING TITLE
DETAILS

DRAWING INFORMATION

DRAWN BY: JAP	DESIGNED BY: TR
CHECKED BY: DFC	PROJECT MANAGER: HW

PROJECT NUMBER: 1602515

DRAWING NO.
C-501

DATE: OCTOBER 2025 SHEET: 6 OF 7

100% PLANS - FOR CONSTRUCTION

FILE PATH: Q:\PROJECTS\1602515 - DZUS FASTENER\CAD\PRODUCTION\DESIGN SET\1602515 - 04 - DETAILS.DWG [C-501] PERRY, JEFF 11/7/2025 2:19 PM



RESTORATION NOTES

1. ALL DISTURBED AREAS DEFINED SHALL BE RESTORED TO PRE-EXISTING GRADE FOR APPLICATION OF SEED, MULCH, LIMESTONE, AND FERTILIZER IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) SPECIFICATIONS SECTION 610 TURF AND WILDFLOWER ESTABLISHMENTS. FERTILIZER, MULCH, AND SEED SHALL BE APPLIED IN ACCORDANCE WITH NYSDOT 3.02 ESTABLISHED TURF, AND METHOD NO. 1, GROUND PREPARATION. CARE DURING CONSTRUCTION SHALL CONFIRM WITH METHOD NO. 1
2. SEED TO BE SPREAD IN UPLAND AREAS SHALL BE THOROUGHLY MIXED AND EVENLY SOWN AT A RATE OF 95 LB/ACRE OF PURE LIVE SEED OVER THE PREPARED AREAS. SEED MAY BE SOWN HYDRAULICALLY. SEED MIXTURE SHALL BE AS SHOWN BELOW:

BOTANICAL NAME	COMMON NAME	PERCENT OF SEED MIXTURE
ANDROPOGON GERARDII	BIG BLUESTEM	17
ASCLEPIAS INCARNATA	SWAMP MILKWEED	0.5
ASCLEPIAS INCARNATA VAR. PULCHRA	EASTERN SWAMP MILKWEED	0.5
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	1
ELYMUS VIRGINICUS	VIRGINIA WILD-RYE	24
EUPATORIUM PERFOLIATUM	BONESET	2
HELENIUM AUTUMNALE	SNEEZEWEED	2
MONARDA FISTULOSA	WILD BERGAMOT	1
PANICUM CLANDESTINUM	DEERTONGUE	14
PANICUM VIRGATUM	SWITCHGRASS	11
PYCNANTHEMUM TENUIFOLIUM	SLENDER MOUNTAIN MINT	1
RUDBECKIA HIRTA	BLACK-EYED SUSAN	1
SOLIDAGO NEMORALIS	GRAY GOLDENROD	1
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	2
SYMPHYOTRICHUM NOVI-BELGII	NEW YORK ASTER	1
TRIDENS FLAVUS	PURPLETOP	15
VERBENA HASTATA	BLUE VERVAIN	4
ZIZIA AUREA	GOLDEN ALEXANDER	0.5

3. SEED TO BE SPREAD IN WETLAND AREAS SHALL BE THOROUGHLY MIXED AND EVENLY SOWN AT A RATE OF 18 LB/ACRE OF PURE LIVE SEED OVER THE PREPARED AREAS. SEED MAY BE SOWN HYDRAULICALLY. SEED MIXTURE SHALL BE AS SHOWN BELOW:

BOTANICAL NAME	COMMON NAME
CAREX VULPINOIDEA	FOX SEDGE
CAREX SCOPARIA	BLUNT BROOM SEDGE
CAREX LURIDA	LURID SEDGE
CAREX LUPULINA	HOP SEDGE
POA PALUSTRIS	FOWL BLUEGRASS
BIDENS FRONDOSA	BEGGAR TICKS
SCIRPUS ATROVIRENS	GREEN BULRUSH
ASCLEPIAS INCARNATA	SWAMP MILKWEED
CAREX CRINITE	FRINGED SEDGE
VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED
JUNCUS EFFUSUS	SOFT RUSH
ASTER LATERIFLORUS (SYMPHYOTRICHUM LATERIFLORUM)	STARVED/CALICO ASTER
IRIS VERSICOLOR	BLUE FLAG
GLYCERIA GRANDIS	AMERICAN MANNAGRASS
MIMULUS RINGENS	SQUARE STEMMED MONKEY FLOWER
EUPATORIUM MACULATUM (EUTROCHIUM MACULATUM)	SPOTTED JOE PYE WEED

4. FERTILIZER SHALL MEET NYSDOT 713-03, TYPE NO. 2. A 20-20-20- FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 LB/ACRE. ANOTHER ANALYSIS, IN THE SAME RATIO, MAY BE USED BY VARYING THE APPLICATION RATE TO PRODUCE THE SAME VALUES SPECIFIED. IN ADDITION, 2 TONS/ACRE OF AGRICULTURAL LIME SHALL BE APPLIED, IN ACCORDANCE WITH NYSDOT 713-02.
5. BIODEGRADABLE EROSION CONTROL MATTING SHALL BE PLACED OVER AREAS WHERE TOPSOIL HAS BEEN DISTURBED AND REPLACED. ARES. BIODEGRADABLE EROSION CONTROL MATTING SHALL BE COMPOSED OF 100 PERCENT AGRICULTURAL STRAW OR 70 PERCENT AGRICULTURAL STRAW/30 PERCENT COCONUT FIBER MATRIX STITCHED WITH A DEGRADABLE NETTING DESIGNED TO DEGRADE WITHIN 18 TO 24 MONTHS. MATS SHALL BE STAKED USING MIN 12" WOODEN STAKES.
6. SEEDING SHALL BE APPLIED BETWEEN 15 APRIL AND 15 OCTOBER, ANY OTHER TIME SHALL REQUIRE THE APPROVAL OF ENGINEER AND NYSDEC.
7. PLANTED AREAS SHALL BE CARED FOR IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION REQUIREMENTS OF NYDOT SECTIONS 611-3.05—POST-PLANTING CARE.
8. VEGETATION ESTABLISHMENT PERIOD EXECUTION SHALL CONTINUE UNTIL ALL OF THE FOLLOWING CONDITIONS ARE MET:
   - 8.1 WATER EVENTS HAVE BEEN COMPLETED. WATERING SHALL BE AT INTERVALS TO OBTAIN MOIST SOIL CONDITION TO A MINIMUM DEPTH OF 1 INCH. FREQUENCY OF WATERING AND QUANTITY OF WATER SHALL BE ADJUSTED IN ACCORDANCE WITH THE GROWHT OF VEGETATION.
   - 8.2 VEGETATIVE COVER IS ESTABLISHED OVER 95 PERCENT OF SEEDED AREAS
   - 8.3 NOT MORE THAN 5 PERCENT OF AREAS WITH BARE SPOTS LARGER THAN 1 SQUARE FOOT.
   - 8.4 LESS THAN 15 PERCENT INVASIVE SPECIES ARE PRESENT WITHIN AREAS VEGETATED BY CONTRACTOR
   - 8.5 WRITTEN APPROVAL BY ENGINEER AND NYSDEC.
9. IF PERMANENT SEEDING CAN NOT BE COMPLETED WITHIN THE DATES SPECIFIED, INSTALL TEMPORARY SEED AND MULCH IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATIONS 209-3.03. IF NEITHER PERMANENT NOR TEMPORARY SEEDING CAN BE INSTALLED WITHIN THE RECOMMENDED SEEDING PERIODS, USE TEMPORARY MULCHING OR EROSION CONTROL BLANKETING TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
10. DAMAGE TO PAVED AREAS, CURBS, OR SIDEWALKS WILL BE RESTORED WITH ASPHALT COLD-PATCH OR CONCRETE, AS APPROPRIATE.

LEGEND

- UPLAND AREA
- WETLAND AREA
- UPLAND RESTORATION AREA
- WETLAND RESTORATION AREA

EA Engineering and Geology, P.C.

333 W Washington Street, Suite 300
Syracuse, New York 13202
(315) 431-4610

NEW YORK STATE Department of Environmental Conservation

HORIZONTAL DATUM:
NAD83 NEW YORK STATE PLANES, LONG ISLAND, US FOOT

VERTICAL DATUM:
NAVD88

0 10 20 40
GRAPHIC SCALE IN FEET

FULL SIZE PLOT: 22" x 34"

REVISIONS

SEAL

STATE OF NEW YORK · DONALD FRANCIS CONATI III · LICENSED PROFESSIONAL ENGINEER · 75666

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PROJECT NAME
FORMER DZUS FASTENER (NYSDEC SITE NO. 152033)
INTERIM REMEDIAL MEASURE
PERMEABLE REACTIVE BARRIER

PROJECT ADDRESS
460 UNION BLVD,
WEST ISLIP, NY 11795

DRAWING TITLE
RESTORATION PLANTING PLAN

DRAWING INFORMATION

DRAWN BY: JAP	DESIGNED BY: TR
CHECKED BY: DFC	PROJECT MANAGER: HW

PROJECT NUMBER: 1602515

DRAWING NO.
L-101

DATE: OCTOBER 2025 SHEET: 7 OF 7

100% PLANS - FOR CONSTRUCTION

FILE PATH: Q:\PROJECTS\1602515 - DZUS FASTENER\CAD\PRODUCTION\DESIGN SET\1602515 - 05 - RESTORATION PLANTING PLAN.DWG [L-101] PERRY, JEFF 11/7/2025 2:19 PM

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Appendix D
Engineer's Estimate

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Table 1. Engineer's Estimate for Apatite II Permeable Reactive Barrier

Client:	NYSDEC	Project Manager: Hilary Williams	
Project Name:	Dzus Fastener		
Project Number:	1602515		

Item No.	Qty	Description	Unit of Measure	Unit Price	Item Price
1		**Miscellaneous Work**			**$ 282,528.00**
101	20%	Mobilization/Demobilization			$ 210,628.40
102	1	Estimated Odor Suppression	LS	$ 22,000.00	$ 22,000.00
103	20	Liquid Disposal - Non Haz	Drum	$ 135.00	$ 2,700.00
104	3	Imported material testing	EA	$ 1,000.00	$ 3,000.00
105	1	Meetings	LS	$ 7,500.00	$ 7,500.00
106	1	Planning Documents	LS	$ 25,000.00	$ 25,000.00
107	2	Survey	Day	$ 4,350.00	$ 8,700.00
108	1	Temporary Decontamination Pad	LS	$ 3,000.00	$ 3,000.00
2		**Site Preparation (West Islip, NY)**			**$ 62,226.00**
201	16	Portable toilet	Week	$ 130.00	$ 2,080.00
202	4	Dust monitoring	Month	$ 7,740.00	$ 30,960.00
203	4	Frac tank	Month	$ 2,952.42	$ 11,809.68
204	200	Fence Removal	LF	$ 12.07	$ 2,414.32
205	675	Install temporary construction fence	LF	$ 9.50	$ 6,412.50
206	15	Install crane mats	EA	$ 338.00	$ 5,070.00
207	700	Silt Fence	LF	$ 4.97	$ 3,479.00
3		**Site Clearing and Topsoil Staging**			**$ 32,469.00**
301	3660	Clearing and grubbing	SY	$ 7.03	$ 25,749.30
302	6	Upland Topsoil Stripping and Stockpiling	MSF	$ 560.00	$ 3,360.00
303	6	Wetland Topsoil Stripping and Stockpiling	MSF	$ 560.00	$ 3,360.00
4		**Temporary Water Diversion & Management**			**$ 35,496.00**
401	142	Open Top Bags, 35x35x40" Supersacks for Temp Coffer Dam	EA	$ 24.00	$ 3,400.00
402	149	Sand Fill Material; Fill Open Top Bags For Temp Coffer Dam	CY	$ 8.00	$ 1,190.27
403	6	Pallet of Small 40 lb Sand Bags Temp Coffer Dam (75 bags / pallet)	EA	$ 1,195.00	$ 7,170.00
404	6	6 mil poly liner rolls (10' X 100') Temp Coffer Dam	EA	$ 42.00	$ 252.00
405	4	6" Pump - Dewatering	Month	$ 5,871.00	$ 23,484.00
5		**Permeable Reactive Barrier Installation (St. 2+00 to St. 5+00)**			**$ 686,580.00**
501	320	PRB Installation	LF	$ 2,144.00	$ 686,080.00
502	167	Excavate and Stockpile Overlaying Soil	CF	$ 3.00	$ 500.00
503	40	Transport of Apatite II to Site from Storage	CY	$ 19.12	$ 764.80
6		**Monitoring Well Installation (20 Wells)**			**$ 94,000.00**
601	460	Installation of borings for well installation	LF	$ 45.00	$ 20,700.00
602	460	Installation of 2-inch PVC monitoring well (10-ft PVC screen)	LF	$ 130.00	$ 59,800.00
603	20	Installation stick up well cover	Each	$ 450.00	$ 9,000.00
604	20	55-gal DOT drums and staging onsite	Drum	$ 100.00	$ 2,000.00
605	20	Disposal of 55-gallon drums containing Non-Haz Solids	Drum	$ 125.00	$ 2,500.00
7		**Site Restoration**			**$ 23,223.00**
701	3660	Upland Seed	SY	$ 1.00	$ 3,660.22
702	667	Wetland Seed	SY	$ 3.37	$ 2,248.00
703	3660	Spread Topsoil	SY	$ 2.90	$ 10,614.64
704	200	Reinstall Chain Link Fence	LF	$ 31.00	$ 6,200.00
705	167	Place Backfill - Material stockpiled as part of item no. 503	CF	$ 3.00	$ 500.00
8		**Furnish and Install Common Fill**			**$ 1,248.02**
801	17	Sand Backfill	CY	$ 55.06	$ 936.02
802	20	Haul Sand Backfill	CY	$ 9.53	$ 190.60
803	20	Place Sand Backfill	SY	$ 5.75	$ 115.00
804	20	Compact Sand Backfill	CY	$ 0.32	$ 6.40
9		**Surplus Soil Management, Transportation and Disposal - Non-Hazardous**			**$ 9,000.00**
901	60	Surplus material disposal - Non-Hazardous	Tons	$ 150.00	$ 9,000.00
10		**Surplus Soil Management, Transportation and Disposal - Hazardous**			**$ 6,000.00**
1001	20	Surplus material disposal - Hazardous	Tons	$ 300.00	$ 6,000.00
11		**Quality Assurance / Quality Control Sampling**			**$ 31,000.00**
1101	300	Lab Cost, 48 Hr TAT	Sample	$ 70.00	$ 21,000.00
1102	75	Labor and Equipment Cost (15 min / sample)	HR	$ 100.00	$ 7,500.00
1103	50	Shipping (daily)	Each	$ 50.00	$ 2,500.00
				Subtotal	**$ 1,263,770.02**
				Contingency	**15%**
				Total	**$ 1,453,336.00**

333 West Washington Street
Syracuse, New York 13202
www.eaest.com

Appendix D – Engineer's Estimate Assumptions

EA Engineering and Geology, P.C. (EA) has prepared this document to summarize and outline the assumptions associated with the Engineer's Estimate for the Permeable Reactive Barrier (PRB) Interim Remedial Measure. at the former Dzus Fastener Site (Site No. 152033) located in West Islip, New York. This memorandum includes a list of assumptions used to calculate the quantities that are listed in the bid table and that were used as the basis of the Engineer's Cost Estimate, as well as costing methods used to prepare the estimate.

Item Quantities

The following sections describe sources and calculations of quantities for cost estimating and bidding purposes. Many of the bid items will contain many different quantities which make up the total bid item cost. The most significant quantities which have the most influence on the cost of each bid item are described.

Bid Item 1: Miscellaneous Work

This bid item will be paid lump sum, therefore no quantities are presented on the Bid Form. The Engineer's Estimate includes the following quantities calculated based on the Design Drawings

- Mobilization and demobilization costs were assumed to be 20% of all other items.
- Planning documents and meetings
- Pre-construction and as-built construction survey by licensed surveyor. It is assumed each survey will require 2 days of onsite work.
- Odor suppression is expected to be required for the Apatite material in the event odors impact nearby residences or commercial spaces. Duration of nuisance control and odor suppression assumed to be required for the total length of construction (~4 months).
- Liquid disposal is assumed to be limited to investigation derived waste generated during the installation and development of 20 monitoring wells. Assumed one drum per well for a total of 20 drums. No contact water from the working area is anticipated under liquid disposal as work can be performed with water present in the excavation.
- Imported material testing is assumed to include analytical costs for up to three samples analyzed as stipulated in DER-10 Table 5.4 (e) 10.

Bid Item 2: Site Preparation

This bid item will be paid lump sum; no quantities are presented on the Bid Form. Significant work elements driving the cost of this bid item include the following:

- Duration of onsite work is estimated to be 4 months.
- Rental of items for site services / performance of work including: temporary facilities, dust monitoring, and frac tank.
- Fence removal of existing chain link fencing (up to 200 linear feet [LF]) may be necessary along the eastern boundary of the West Islip Middle School athletic fields for equipment access to install the PRB.
- Temporary site security fencing is required around the work area and limit of disturbance (LOD). Quantity is based on the anticipated perimeter of the working area as shown in the Design Drawings.
- Installation of access roads or construction mats to traverse site. Assumed usage of 15 temporary crane mats.
- The quantities estimated for erosion and sediment controls (silt fence) around stockpiles and site perimeter (700 LF).

Bid Item 3: Site Clearing and Topsoil Staging

This bid item will be paid lump sum; no quantities are presented on the Bid Form. Significant work elements driving the cost of this bid item include the following:

- Clearing and grubbing of light vegetation such as small tress, shrubs, herbaceous plants, and wetland vegetation. The estimated area was calculated as 3,660 square yards which represents the limit of disturbance (LOD) for construction activities.
- Upland and wetland topsoil along the PRB alignment will be stripped and stockpiled for later reuse during restoration activities. The area of topsoil to be stripped was estimated as a 20 ft width along the 300 LF of PRB, totaling 6,000 square feet.

Bid Item 4: Temporary Water Diversion & Management

This bid item will be paid lump sum; no quantities are presented on the Bid Form. Significant work elements driving the cost of this bid item include the following:

- Install and maintain temporary coffer dam during PRB construction. Length of the cofferdam is calculated from the extents shown in the Design Drawings (415 LF).
    - Temporary coffer dam is to be constructed of 1 CY supersacks with polysheeting.

  - The quantity of supersacks needed was estimated using total height of coffer dam required to isolate the work area from a 2-year storm event (3-ft) and total length of the proposed cofferdam (425 LF), equaling ~142 bags.
  - The quantity of sand needed to fill the supersacks was calculated from the total number of bags and the volume required to fill each bag (149 CY)

- Manage and divert flow from stormwater collection system in Stop & Shop plaza around the work area. The estimate assumed a 4 month rental of a 6" diameter pump to pump water from the catch basin to Willetts Creek.

Bid Item 5: Permeable Reactive Barrier Installation (S. 2+00 to St. 5+00)

The unit price bid item includes costs necessary for excavation of native soil, amendment with Apatite II, and emplacement to construct a 300 LF PRB. It also includes costs for stripping and stockpiling soil over the PRB top elevation.

- A total quantity of 320 LF is used for PRB installation to provide contingency for re-mixing select areas.
- Loading, transport, and unloading of Apatite II from storage facility to work site (8 miles round trip). Total quantity to be transported is 40 metric tons of Apatite II.
- The PRB construction requires the removal and stockpiling of soils overlying the PRB starting elevation. It is assumed that 3 ft of soil will need to be removed from the PRB 5 ft wide by 300 LF alignment, equaling 167 CY. This material will be replaced once the PRB is completed under Bid Item 7.

Bid Item 6: Monitoring Well Installation (20 Wells)

Unit price to install 20 monitoring wells following the PRB construction. The 460 LF is the sum of total vertical feet of drilling needed to complete soil borings and wells, plus ~10% contingency.

- 14 monitoring wells to 18 ft bgs (252 ft).
- 6 monitoring wells to 28 ft bgs (168 ft).

Bid Item 7: Site Restoration

Site restoration will be paid as a lump sum for backfill, spreading topsoil, grading, and seeding the work area. The level of effort is based on the anticipated limit of disturbance of the upland and wetland areas as shown on the Design Drawings, Sheet L-101 and quantities as described below:

- Limit of disturbance is measured as approximately 3660 square yards. Topsoil placement and seeding will occur across the whole limit of disturbance.
- Backfill and grading of 167 CY of material removed from overtop the PRB alignment under Bid Item 5
- The 200 LF of chain link fence removed under Bid Item 2 will be reinstalled.

Bid Item 8: Furnish and Install Common Fill

A single truckload of sand (17 CY) is assumed as the quantity for contingency backfill if needed to make design grades during site restoration.

Bid Item 9: Surplus Soil Management, Transportation and Disposal – Non-Hazardous

The quantities of Non-Hazardous materials (60 tons) are based on the volume of material displaced during Apatite II addition.

Bid Item 10: Surplus Soil Management, Transportation and Disposal – Hazardous

The quantity of hazardous materials (20 tons) is assumed as one truck load for waste disposal as a contingency.

Bid Item 11: Quality Assurance / Quality Control Sampling

The quantity of QA/QC samples is based on collecting 5 samples every 5 LF of trench (300 total samples). Labor costs are estimated as 15 mins per sample (75 hrs total).

Costing Methods

The Engineer's Estimate was developed based on the Design Drawings and the Basis of Design Report / IRM Work Plan. Costs were obtained from several sources, including RS Means (2025)[1], recent vendor quotes, and estimates based on similar projects. RS Means costing data was set to the West Islip, New York region. NYSDOT Weighted Average Item Price Reports were used when NYSDOT standard payment items aligned with work for the PRB (for example, clearing and grubbing, seeding, etc.). Other costing data was sourced from vendor quotes for rented/purchased materials and from contractors on other projects where work is similar in scope, quantity, and complexity.

1 RS Means Online. 2025. *Construction Cost Database for West Islip, New York*. Available online at rsmeansonline.com

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