



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 6, 2026

Tammy Hayman
Hayman Properties, LLC
3509 Campbell Farm Lane NE
Albuquerque, NM 87104

RE: Draft Discharge Permit, DP-2000, 312 Central SE

Dear Tammy Hayman:

The New Mexico Environment Department (NMED) hereby provides notice to you of the proposed approval of Ground Water Discharge Permit, DP-2000, (copy enclosed), pursuant to Subsection H of 20.6.2.3108 NMAC. NMED will publish notice of the availability of the draft Discharge Permit in the near future for public review and comment and will forward a copy of that notice to you.

Prior to making a final ruling on the proposed Discharge Permit, NMED will allow 30 days from the date the public notice is published in the newspaper for any interested party, including the Discharge Permit applicant, i.e., yourself, to submit written comments and/or a request a public hearing. A hearing request shall set forth the reasons why a hearing is requested. NMED will hold a hearing in response to a timely hearing request if the NMED Secretary determines there is substantial public interest in the proposed Discharge Permit.

Please review the enclosed draft Discharge Permit carefully. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline.

Please submit written comments or a request for hearing to my attention at the address below, via email to melanie.sandoval2@env.nm.gov or to pps.general@env.nm.gov, or directly into the NMED Public Comment Portal at <https://nmed.commentinput.com/comment/search>. If NMED does not receive written comments or a request for hearing during the public comment period, the draft Discharge Permit will become final.

Thank you for your cooperation during the review process. Feel free to contact me with any questions at (505) 660-7892.

Sincerely,

Melanie Sandoval Digitally signed by Melanie Sandoval
Date: 2026.05.06 15:48:29 -06'00'

Melanie Sandoval, Industrial Waste Team Lead

Encl: Draft Discharge Permit, DP-2000

cc: Timothy M. Haller, CPG: timhaller@vcimail.com
Tim Noger, GWQB

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469
Telephone (505) 827-2900 | www.env.nm.gov/gwqb/



**NEW MEXICO ENVIRONMENT DEPARTMENT GROUND
WATER QUALITY BUREAU**

UNDERGROUND INJECTION CONTROL

GENERAL DISCHARGE PERMIT



Certified Mail- Return Receipt Requested

Facility Name: 312 Central SE

Facility Location: 312 Central Avenue SE, Albuquerque, Bernalillo
County, New Mexico
T10N, R3E, Section 20

Legally Responsible Party: Hayman Properties, LLC
3509 Campbell Farm Lane NE
Albuquerque, NM 87104
505-463-4255
tdhayman123@gmail.com

Remediation Oversight Agency Contact: New Mexico Environment Department
Groundwater Quality Bureau
Voluntary Remediation Program
Tim Noger (VRP Project Manager)
505-629-8604

Remediation or Injection Plan Identification: "312 Central SE Groundwater Remediation
Workplan" by Haller & Associates, Inc.,
September 29, 2025 (Attachment 1)

Permitting Action: New

PPS Contact Melanie Sandoval, Industrial Waste Team Lead
melanie.sandoval2@env.nm.gov

EFFECTIVE DATE: **TERM ENDS:**

Justin D. Ball
Chief, Ground Water Quality Bureau
[Subsection H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.]

I. UIC GENERAL DISCHARGE PERMIT

The New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) issues this Underground Injection Control General Discharge Permit (UIC Permit) for the subsurface emplacement of additive fluids through ~~a Class V UIC injection well~~ direct-push borings for the purpose of facilitating vadose zone or groundwater remediation. The GWQB issues this UIC Permit to Hayman Properties, LLC (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

In issuing this UIC Permit, the GWQB has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met. The activities authorized by this UIC Permit are principally governed by [Groundwater Remediation Workplan for 312 Central Avenue SE Site] (Injection Plan), under the authority of [NMAC 20.6.3 – Environmental Protection, Water Quality, Voluntary Remediation], with oversight by the [Groundwater Quality Bureau – Voluntary Remediation Program]. Compliance with this UIC Permit requires compliance with the terms, requirements, and conditions of the Injection Plan. The term of this UIC Permit shall be no longer than five years from the effective date of this UIC Permit.

The injection activities, the location of the injection site, the type of injection and quantities of additives being used are briefly described as follows:

Injection Activities (summary: including injection well type, number of wells, and injection frequency)

Copy of the Injection Plan Attached (required): ☒

The attached workplan provides methods and specifications for mixing and injection of additives through up to 35 direct-push injection borings. CarBstrate™ (lactate and micronutrients) and SDC-9™ (cultured dechlorinating anaerobic bacteria) will be mixed with de-chlorinated and de-oxygenated water and injected into the area impacted by dissolved PCE. The NMED workplan approval letter is presented in Attachment 2.

Injection Site Information

Depth to groundwater: Approximately 55 feet below ground surface

Existing concentration of total dissolved solids (TDS) in groundwater: The average specific conductivity of five monitor wells measured in August 2025 was 1,300 µmhos/cm. Using a generic conversion factor of 0.7, the average TDS concentration is approximately 910 mg/L.

Location: South side of buildings at 300-312 Central Avenue SE and 316 Central Avenue SE, and including the alley between 312 Central SE and 316 Central SE.

County: Bernalillo

Latitude: 35.083347°

Longitude: -106.644174°

Map Showing Area of Injection Sites Attached (required) - ☒ (see Figure 6 of workplan)

Additives Being Used (including volumes, manufacturer, and mixing ratios)

CarBstrate™ by ETEC, LLC – 15,750 pounds
SDC-9™ by ETEC, LLC – 53 liters

Mixed onsite in 500-gallon batches using City of Albuquerque water
Depth to groundwater ranges from 50 to 55 feet below ground surface
Injection into the top 10 feet of the saturated zone via up to 35 direct-push borings

15,750 pounds CarBstrate™ ÷ 35 injection points = 450 pounds CarBstrate per point
1 gallon water per pound CarBstrate™ = 17,500 gallons CarBstrate solution
17,500 gallons CarBstrate™ solution ÷ 35 injection points = 500 gallons per point

53 liters SDC-9™ ÷ 35 injection points = 1.5 liters of SDC-9™ per point
1.5 liters SDC-9™ per 500-gallon batch of CarBstrate™ solution batch

Anticipated Precipitation, Dissolution, Adsorption, and Desorption Products

Anticipated Increases: Dissolved Fe and Mn, TOC, BOD, COD, alkalinity/CO₂, metabolic acids, CH₄, C₂H₆ and C₂H₄.

Anticipated Decreases: Chlorinated hydrocarbons, DO, ORP, sulfate, nitrate and sodium.

Anticipated Precipitants: Reduced-state Fe and Mn may precipitate as sulfides.

The hydrogeologic regime will change from aerobic to anaerobic.

The purpose of CarBstrate® is to introduce lactate and micronutrients to the shallow aquifer. The purpose of SDC-9® is to establish robust population of dechlorinating anaerobic bacteria. The microbes are shown to dechlorinate PCE and daughter products to ethene, CO₂ and H₂O.

Public Notice Posting Locations

2 inch by 3 inch Newspaper Ad required for Renewal applications.
Newspaper: NA

3 inch by 4 inch Newspaper Ad required for New, Modification, and Renewal/Modification applications.
Newspaper: Albuquerque Journal

2 feet by 3 feet sign posted for 30 days in a location conspicuous to the public at or near the facility required for New, Modification, and Renewal/Modification applications.
Sign Location: Front window of 312 Central SE

8.5 inch by 11 inch or larger posted off-site location conspicuous to the public (e.g. public library). Required for New, Modification, and Renewal/Modification applications.
Flyer Location: Albuquerque Main Library, 501 Copper NW, Albuquerque, NM 87102

This UIC Permit consists of the complete and accurate completion of this UIC Permit form as determined by the GWQB.

Issuance of this UIC Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

Signatures

Signature must be that of the person listed as the legally responsible party on this application.

I, the applicant, attest under penalty of law to the truth of the information and supporting documentation contained in this application for an Underground Injection Control General Discharge Permit.

Applicant's Signature

Signature:



Date:

12/15/25

Printed Name:

Tammy D. Hayman

Title:

OWNER

II. FINDINGS

In issuing this UIC Permit, GWQB finds:

1. The Permittee is injecting fluids so that such injections will move directly or indirectly into groundwater within the meaning of Section 20.6.2.3104 NMAC.
2. The Permittee is injecting fluids so that such fluids will move into groundwater of the State of New Mexico which has an existing concentration of 10,000 mg/L or less of TDS within the meaning of Subsection A of 20.6.2.3101 NMAC.
3. The Permittee is using a Class V UIC well as described in 20.6.2.5002(B)(5)(d)(ii) NMAC for in situ groundwater remediation by injecting a fluid that facilitates vadose zone or groundwater remediation.
4. The Permittee is injecting fluids into groundwater in order to achieve the remediation goals identified in the Injection Plan.

III. AUTHORIZATION TO DISCHARGE

The Permittee is authorized to inject chemical additives into groundwater in accordance with this UIC Permit and the Injection Plan under the oversight of [GROUNDWATER QUALITY BUREAU – VOLUNTARY REMEDIATION PROGRAM].

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3109 NMAC]

IV. CONDITIONS

The conditions of this UIC Permit shall be complied with by the Permittee and are enforceable by GWQB.

1. The Permittee shall perform remediation activities in accordance with the Injection Plan and shall notify GWQB of any changes prior to making them.

[20.6.2.3107 NMAC]

2. The Permittee shall monitor the injection activities and their effects on groundwater quality as required by the Injection Plan and shall provide GWQB with electronic copies of the required reporting and any pertinent documentation of activities at the site.

[20.6.2.3107.A NMAC, 20.6.2.3109.A NMAC]

3. If GWQB or the Permittee identifies any failure of the Injection Plan or this UIC Permit to comply with 20.6.2 NMAC not specifically noted herein, GWQB may require the Permittee to submit a corrective action plan and schedule for completion of corrective actions to address the failure.

Additionally, the GWQB may require the Permittee to submit a proposed modification to the Injection Plan, this UIC Permit, or both.

[20.6.2.3107.A NMAC, 20.6.2.3109.E NMAC]

4. ADDITIONAL MONITORING REQUIREMENTS – (RESERVED)
5. TERMINATION – Within 30 days of completion of activities authorized by this UIC Permit the Permittee shall submit a closure report and a request to terminate the UIC Permit to the GWQB for its approval. The closure report shall identify how the injection well(s) was (were) closed in accordance with the Injection Plan. The Permittee shall provide [GROUNDWATER QUALITY BUREAU - VOLUNTARY REMEDIATION PROGRAM] with a copy of this closure report.

[20.6.2.5005 NMAC, 19.27.4 NMAC]

6. INSPECTION and ENTRY – The Permittee shall allow a representative of the NMED to inspect the facility and its operations subject to this UIC Permit and the WQCC regulations. The GWQB representative may, upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which are located any records required to be maintained by regulations of the federal government or the WQCC.

The Permittee shall allow the GWQB representative to have access to, and reproduce for their use, any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this UIC Permit and the WQCC regulations.

Nothing in this UIC Permit shall be construed as limiting in any way the inspection and entry authority of GWQB under the WQA, the WQCC Regulations, or any other local, state, or federal regulations.

[20.6.2.3107.D NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]

7. MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the injection plan that would result in a change in the volume injected; the location of the injections; or the concentration of the additives being injected by the facility, the Permittee shall notify GWQB prior to implementing such changes. The Permittee shall obtain approval (which may require modification of this UIC Permit) by GWQB prior to implementing such changes.

[20.6.2.3107.C NMAC, 20.6.2.3109.E and G NMAC]

8. COMPLIANCE with OTHER LAWS – Nothing in this UIC Permit shall be construed in any way as relieving the Permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits, or orders.

[NMSA 1978, § 74-6-5.L]

9. PERMIT FEES – Payment of permit fees is due at the time of UIC Permit approval. Permit fees shall be paid in a single payment remitted to GWQB no later than 30 days after the UIC Permit effective date.

Permit fees are associated with issuance of this UIC Permit. Nothing in this UIC Permit shall be construed as relieving the Permittee of the obligation to pay all permit fees assessed by GWQB. A Permittee that ceases injecting or does not commence injecting during the term of the UIC Permit shall pay all permit fees assessed by GWQB. An approved UIC Permit shall be suspended or terminated if the facility fails to remit a payment by its due date.

[20.6.2.3114.F NMAC, NMSA 1978, § 74-6-5.K]

ATTACHMENT 1

Groundwater Remediation Plan

September 29, 2025

Mr. Tim Noger
New Mexico Environment Department
Groundwater Quality Bureau
Voluntary Remediation Program
1190 St. Francis Drive
Santa Fe, NM 87502-5469

RE: Groundwater Remediation Workplan
312 Central Avenue SE, Albuquerque, New Mexico
VRP #53211004

Dear Mr. Noger:

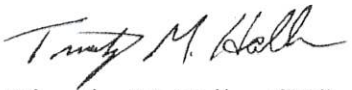
Haller & Associates, Inc. (HAI) is pleased to submit this workplan to remediate dissolved-phase tetrachloroethene (PCE) at 312 Central SE, Albuquerque, New Mexico. This workplan was prepared on behalf of Hayman Properties, LLC.

Soil vapor extraction and sub-floor venting were recently implemented at 312 Central SE to remediate the vadose zone and to mitigate the potential for indoor vapor intrusion. This workplan proposes to remediate PCE-impacted groundwater using in-situ reductive dechlorination methods.

If you have questions or comments, please call me at (505) 281-9333.

Sincerely,

HALLER & ASSOCIATES, INC.



Timothy M. Haller, CPG
President / Hydrogeologist

cc: Mrs. Tammy Hayman – Hayman Properties, LLC

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APPENDIX E – Cost Quotes

GROUNDWATER REMEDIATION WORKPLAN

312 CENTRAL AVENUE SE ALBUQUERQUE, NEW MEXICO

1.0 INTRODUCTION

The site referred to as “312 Central SE” consists of a multi-tenant commercial building at the southeast corner of Central Avenue and Broadway Boulevard, Albuquerque, New Mexico (Figure 1). The addresses of the building range from 300 to 312 Central SE. Route 66 Cleaners occupies 304-308 Central SE (Figure 2). Soil and groundwater beneath the site are impacted by tetrachloroethylene (PCE) associated with past dry-cleaning operations. The extent of PCE contamination was delineated during previous on-site and off-site subsurface investigations. The objective of this workplan is to remediate dissolved PCE to below the New Mexico Water Quality Control Commission (NMWQCC) standard of 5 micrograms per liter ($\mu\text{g/L}$).

A soil vapor extraction (SVE) system was installed and started in May 2025 to remove PCE vapor from the unsaturated zone. The SVE system utilizes three SVE wells and a regenerative blower which operates continuously. A sub-floor venting (SFV) system was installed and started in May 2025 to mitigate the risk of indoor vapor intrusion. The SFV system utilizes four radon fans to continuously evacuate sub-floor air from beneath 304-310 Central SE.

In July 2023, dissolved PCE concentrations ranged from 3.5 to 74 $\mu\text{g/L}$. The highest PCE concentration was detected in off-site monitor well MW-3B, located southeast of the site in the rear parking lot of 316 Central SE. Dissolved trichloroethene (TCE) concentrations ranged from 4.4 to 24 $\mu\text{g/L}$.

In August 2025, dissolved PCE concentrations ranged from 2.4 to 16 $\mu\text{g/L}$. The highest PCE concentration was detected in off-site monitor well MW-3. PCE concentrations decreased in all wells between July 2023 and August 2025. Dissolved TCE concentrations ranged from <1.0 to 6.4 $\mu\text{g/L}$. The highest TCE concentration was detected in off-site monitor well MW-5 (Table 2).

Groundwater analytical results are summarized in Table 2 and Figure 3. Distribution of dissolved PCE is shown on Figure 4. Groundwater elevations and flow direction are shown on Figure 5.

1.1 Proposed Remedial Strategy

The proposed strategy to remediate dissolved CVOCs consists of injection of CarBstrate™ to induce and support anaerobic dechlorination processes. CarBstrate™ was developed by ETEC, LLC (ETEC). ETEC describes the CarBstrate™ approach as follows:

“ETEC’s proposed approach is to add a nutrient-amended carbohydrate (CarBstrate) to the impacted area to overcome the TEA sinks (i.e., dissolved oxygen, nitrate, sulfate, etc.) and create sulfate-reducing and/or methanogenic conditions throughout the target treatment zone. Either one or both conditions will promote the transfer of electrons to the chlorinated solvents, which will reduce the concentrations and remediate the target area.

ETEC’s soluble nutrient-amended carbohydrate substrate (CarBstrate™) has been utilized throughout the country with excellent results. In addition to its high solubility and low-retardation factor, CarBstrate™ is a non-toxic product that includes the macro-nutrients that will be necessary for effective microbial growth (i.e., N and P) as well as a specific suite of trace metals that have been shown to be critical for active anaerobic microbial activity. The application of CarBstrate™ to the subsurface at the site will create the reductive conditions necessary for the reductive bioremediation process to occur. The high solubility of CarBstrate™ allows the solution to inject like water, which allows for efficient product distribution even in tight formations.”

The scope of this workplan consists of the following tasks:

- Obtain a discharge permit from the New Mexico Environment Department - Ground Water Quality Bureau (NMED-GWQB)
- Obtain an injection borings permit and a plugging plan approval from the New Mexico Office of the State Engineer (NMOSE)
- Obtain an excavation permit, temporary alley closure permit and fire hydrant access permit from the City of Albuquerque
- Inject CarBstrate™ solution and SDC-9™™ anaerobic bacteria culture into the shallow aquifer in 35 accessible locations within the actionable dissolved PCE plume
- Conduct quarterly and annual groundwater monitoring
- Prepare CarBstrate injection report and quarterly groundwater monitoring reports with evaluation of remedial performance

The CarBstrate™ injection proposal and product quote prepared by ETEC are presented in Appendix A. CarBstrate™ and SDC-9™ product overview sheets are presented in Appendix B. Material safety data sheets are presented in Appendix C.

2.0 SITE HYDROGEOLOGY

Depth to groundwater ranges from approximately 50 to 55 feet below ground surface (bgs) in the areas where dissolved PCE and TCE exceed the NMWQCC standard of 5 µg/L. Groundwater flow direction is generally to the east (Figure 5); however, dissolved PCE has migrated to the southeast of the site (Figure 4).

The generalized subsurface stratigraphy at the site consists of the following:

- 0-30 feet: reddish-brown and tan fine to coarse-grained gravelly sand (SW)
- 30-50 feet: reddish-brown fine grained silty sand and sandy silt (SM and ML)
- 50-60 feet: interbedded silty clay, clayey sand and gravelly sand (mixed CL, SC and SW)
- 60 to 70 feet: brown gravelly sand and sandy gravel (SW and GW)

Logs of monitor wells MW-1 through MW-5 are presented in Appendix D.

The lithology of upper 5 feet of the saturated zone (55 to 60 feet bgs) consists of interbedded silty clay, clayey sand and poorly sorted gravelly sand. Thus, the hydraulic conductivity varies widely within each stratum: 2.8×10^{-6} foot per day (ft/day) in the clay, 2.8×10^{-3} ft/day in the clayey sand, to 2.8 ft/day in the poorly sorted gravelly sand.

Hydraulic conductivity of the coarser gravelly sand and sandy gravel below a depth of 60 feet bgs is estimated at 10 ft/day or more.

(Source: USGS, "Published Ranges of Horizontal K", Bartolino and Adkins (2012, p. 25)

3.0 GROUNDWATER FIELD PARAMETERS

Groundwater pH at the site generally ranges from 7.0 to 7.3. Specific conductivity (SC) ranges from 1,011 to 2,863 micromhos per centimeter. Dissolved oxygen (DO) concentrations range from 0.0 to 3.9 milligrams per liter (mg/L). Oxidation-reduction potential ranges from -91 to +139 millivolts (mV).

Field parameter data, particularly DO and ORP indicate that groundwater ranges from reductive to oxidative, depending upon monitor well location. On-site monitor wells with higher DO and ORP are absent of PCE degradation products (TCE, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene and vinyl chloride).

TCE and cis-1,2-DCE are present in off-site wells MW-2, MW-3 and MW-5. These wells generally exhibit lower DO and/or ORP than the on-site wells. This indicates that naturally occurring anaerobic dechlorination of PCE is already occurring to some degree in the off-site downgradient monitor wells (Figure 3).

3.1 Pre-Injection Inorganics Sampling and Analysis

Groundwater samples were collected on July 28, 2025 from on-site well MW-1 and off-site well MW-3. The samples were analyzed for nitrate, sulfate, chloride, dissolved iron, dissolved manganese and total organic carbon (TOC). The purpose of these analyses was to establish background concentrations prior to inducing anaerobic conditions. Nitrate and sulfate act as electron acceptors and will consume a portion of the CarBstrate. Therefore, nitrate and sulfate must be accounted for in the remedial design.

TOC analysis will be used in the post-injection groundwater monitoring to assess the magnitude and extent of CarBstrate distribution. Iron and manganese generally increase during to anaerobic dechlorination. Therefore, pre-injection analysis of these parameters was performed to establish the baseline concentrations.

Pre-injection nitrate, sulfate dissolved iron, dissolved manganese and TOC concentrations are summarized below:

Well ID	Nitrate (mg/L)	Sulfate (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	TOC (mg/L)
MW-1	6.3	170	<0.020	0.53	1.7
MW-3	0.98	100	<0.020	0.71	1.7

mg/L – milligrams per liter

4.0 PERMITS AND ACCESS

4.1 GWQB Discharge Permit

HAI will prepare a discharge permit application for submittal to NMED-GWQB, Pollution Prevention Program. The discharge permit application will include a copy of this workplan and the GWQB workplan approval letter. HAI will complete the 30-day public notice procedures required by GWQB; mailing flyers to all property owners within 1/3 mile, posting flyers in nearby public spaces, posting an on-site sign, and publishing in the Albuquerque Journal. After completion of public notice procedures, HAI will submit an affidavit of public notice completion the GWQB.

4.2 NMOSE Injection Borings Permit

The NMOSE requires a permit for any boring that extends below the water table. HAI will prepare a permit application for 35 injection borings using NMOSE Form WR-07. The application will be submitted to the NMOSE with the permit application fee of \$5.00/boring (\$175.00). The NMOSE borings permit approval will be forwarded to Hayman Properties, LLC and NMED.

The NMOSE also requires a plugging plan for any boring that extends below the water table. HAI will prepare a plugging plan using NMOSE Form WD-08 with backfilling details of the injection borings. The NMOSE plugging plan approval will be forwarded to Hayman Properties, LLC and NMED.

4.3 City of Albuquerque Excavation Permit and Traffic Control Permit

HAI will submit an excavation permit application to the City of Albuquerque, Department of Municipal Development, Construction Services Division. The permit application will include temporary closure of the alley between 312 and 316 Central SE where 6 injection borings will be located (Figure 6). The application will include a traffic control plan prepared by Southwest Safety Services.

4.4 City of Albuquerque Fire Hydrant Meter Permit

HAI will submit an application to the City of Albuquerque to obtain potable water from the nearest City fire hydrant (#WHYD7993, 201 Arno Street SE) at the southwest corner of Arno Street and Gold Avenue. The permit will include rental of a City of Albuquerque water meter and authorization to obtain City water from the fire hydrant.

5.0 CARBSTRATE™ SOLUTION PREPARATION

CarBstrate™ by ETEC, LLC will be utilized for in-situ groundwater remediation. The purpose is to alter groundwater chemistry to an anaerobic state with sufficient electron donors (soluble carbohydrates) and electron acceptors (nitrogen, phosphorus and other micro-nutrients) to support anaerobic processes many months after injection. Anaerobic bacteria (SDC-9™ by ETEC, LLC) capable of degrading chlorinated volatile organic compounds will be injected with the CarBstrate™ solution to rapidly establish a highly active biomass of dechlorinating microbes.

5.1 CarBstrate™ Mass and Volume

A total of 15,750 pounds of CarBstrate™ will be injected. ETEC recommends a minimum of one gallon of water per pound of CarBstrate™. Additional water is recommended to increase the injection volume and the radius of influence of each injection point. The mixing ratio will consist of one pound of CarBstrate™ to ≈ 1.1 gallons of water.

The total volume of CarBstrate™ solution will be approximately 17,500 gallons. The solution will be mixed on-site in 500-gallon batches. Each batch will consist of 450 pounds of CarBstrate™ and approximately 500 gallons of water.

A total of thirty-five (35) 500-gallon batches containing 450 pounds of CarBstrate™ will be prepared. One 500-gallon batch of solution will be injected into each of the 35 injection points. Using this approach, 450 pounds of CarBstrate™ will be injected into each of the 35 injection points. The layout of the injection points is shown on Figure 6.

Summary of CarBstrate Injection Mass and Volume:

- $15,750 \text{ pounds CarBstrate} \div 35 \text{ injection points} = 450 \text{ pounds CarBstrate per point}$
- $1 \text{ gallon water per pound CarBstrate} \approx 17,500 \text{ gallons CarBstrate solution}$
- $17,500 \text{ gallons CarBstrate solution} \div 35 \text{ injection points} = 500 \text{ gallons per point}$

5.2 Water Source and Dechlorination

Make-up water will be obtained from a City of Albuquerque hydrant located approximately 250 feet south of 312 Central SE. The water will be dechlorinated prior to mixing with CarBstrate™ and SDC-9™ bacteria. The objective of dechlorination is to ensure that SDC-9™ bacteria are not killed by chlorine that may be present in the city water. Dechlorination will be performed using approximately 6 grams of sodium thiosulfate per 500 gallons of water. Chlorine levels will be field-tested using colorimetric test strips.

5.3 CarBstrate™ Solution Mixing

CarBstrate™ will be mixed with dechlorinated water in two (2) rented 500-gallon portable tank trailers with centrifugal pumps. CarBstrate™ will be dissolved in the tank by circulating the solution in a closed loop using the centrifugal pump.

Two tank trailers will be necessary to complete the project in a timely manner. While the drilling subcontractor is injecting solution from one tank trailer, the next batch of solution will be prepared in the other tank trailer. This approach ensures the drilling subcontractor will not be on standby while waiting for each batch of solution to be prepared.

5.4 SDC-9™ Solution Mixing

Anaerobic bacterial culture will be added to each 500-gallon batch of CarBstrate™ solution. ETEC's SDC-9™ Dechlorinating Culture is described as follows:

“The SDC-9™ culture is a pathogen-free, non-genetically altered microbial consortium capable of biologically degrading halogenated aliphatic pollutants including 1,1,1-TCA, 1,1,2-TCA, 1,1-DCA, 1,2-DCA, 1,2-DBE, TCA, CT, CF, PCE, TCE, cDCE, VC, and Freon 113 (1,2-dichloro-1,2-difluoroethane), and mixtures thereof. Molecular biological analyses of the SDC-9 culture have demonstrated that the culture has at least three closely-related strains of Dehalococcoides sp. bacteria which is the only bacterial genus known to degrade chlorinated ethenes completely to ethene. In addition, the culture contains other known pollutant degrading bacteria, including Desulfotobacterium and Desulfovibrio strains.”

A total of sixty-two (62) liters of SDC-9™ bacterial culture will be injected. Therefore, approximately 1.5 liters of SDC-9™ bacterial culture will be added to each 500-gallon batch of CarBstrate™ solution. The volume of bacterial culture added to each batch will be metered using a graduated cylinder on the bacteria delivery system shown in Appendix B.

Summary of SDC-9™ Injection Volume:

- $53 \text{ liters SDC-9}^{\text{TM}} \div 35 \text{ injection points} = 1.5 \text{ liters of SDC-9}^{\text{TM}} \text{ per point}$
- 1.5 liters SDC-9™ per 500-gallon batch of CarBstrate solution batch

6.0 INJECTION OF CARBSTRATE™ AND SDC-9™™ SOLUTION

6.1 Injection Equipment

CarBstrate™ and SDC-9™™ solution will be injected into the shallow aquifer using a Geoprobe 7720 direct-push rig provided by Certerra, Inc. (formerly Enviro-Drill, Inc.). A 2-foot-long injection tool will be connected to the drill rods and advanced to the target injection depth intervals. Solution will be pumped from the mixing tank to the drill rods using a centrifugal pump capable of pressure up to 100 pounds per square inch.

Injection pressure will be monitored using a pressure gauge on the pump outlet. Injection volume and flow rate will be monitored using a totalizing flow meter between the pump and drill rods. Injection pressure and flow rate will be controlled using the pump throttle and a gate valve on the pump outlet.

6.2 Injection Strategy

The lithology of the aquifer matrix is fine grained at the water table and coarsens with depth. Therefore, injection of CarBstrate™ solution will be performed in a “top down” manner. CarBstrate™ will be injected at five (5) depth intervals in each boring.

The first injection interval is the top 2 feet of the saturated zone. The next three injection intervals will begin 1 foot below the previous injection interval. The last injection interval will begin two (2) feet below the previous injection interval. This approach results in CarBstrate™ injection into the first 15 feet of the saturated zone.

CarBstrate™ solution will be injected at 5 depth intervals. One-hundred (100) gallons of solution will be injected at each of the five 2-foot-long injection intervals.

Below is an example of the injection strategy where the depth to groundwater is 53 feet:

<u>Depth Interval (feet bgs)</u>	<u>Injection Volume (gallons)</u>
53 to 55	100
56 to 58	100
59 to 61	100
62 to 64	100
66 to 68	100

Depth to groundwater varies by approximately 5 feet across the injection area due to topography. Therefore, the depth of the first injection interval will vary by up to 5 feet, based on the actual depth to groundwater at each injection location. Depth to groundwater is shown on Figure 7. The conceptual injection boring profile is shown on Figure 8. Conceptual injection depth intervals are shown on Figure 9.

7.0 CARBSTRATE INJECTION REPORT

HAI will prepare a report summarizing the injection of CarBstrate™ and SDC-9™ solution. The report will include descriptions of field methods and equipment, injection mass and volume, injection rates, injection pressures, field observations and any workplan deviations, if applicable.

The report appendices will include a site map showing exact locations of injection points, injection field data tables, field notes, site photographs and water meter data. Documents substantiating the purchase and delivery of CarBstrate™ and SDC-9™ will be presented. Copies of the various project-related permits will also be presented.

8.0 QUARTERLY GROUNDWATER MONITORING

Quarterly groundwater monitoring will be performed to evaluate dissolved PCE concentrations and trends, PCE degradation product concentrations and trends and anaerobic indicator trends. The first quarter event will be performed approximately three (3) months after completion of injection work. The quarterly groundwater monitoring regimen is presented in Table 3.

8.1 Static Water Level Measurements

Static groundwater levels and total depths will be gauged quarterly in all monitor wells and SVE wells. Water levels will be gauged to the nearest 0.01-foot using an electronic water level indicator. The water level indicator tape and probe will be decontaminated between wells to minimize potential cross-contamination. Wells will be gauged in order of “clean to dirty” based on historical analytical data.

8.2 Groundwater Sample Collection

Wells scheduled for sampling will be purged of a minimum of 3 well volumes prior to sampling. Purging will be performed using new disposable polyethylene bailers. Field parameters of pH, specific conductivity (SC), temperature (T), oxidation-reduction potential (ORP) and dissolved oxygen (DO) will be measured and recorded at each well volume using a Hanna HI98194 multi-parameter meter. The meter will be field-calibrated using Hanna HI9828-0 Quick Cal multi-parameter calibration solution. Purge volumes, field parameter measurements and field observations of turbidity and color will be recorded on monitor well sampling data forms.

Groundwater samples will be decanted from the bailers at a slow, non-turbulent rate into clean, method-specific containers provided by the laboratory with method-specific preservatives. Sample containers will be labeled with respect to well ID, site name, time and date of collection, requested analyses, preservative and sampler’s initials. The samples will be placed in a cooler with ice and cooled to less than 6 degrees Centigrade until delivered to the laboratory with complete chain-of-custody records.

VOCs and TOC will be analyzed quarterly. Nitrate and sulfate will be analyzed quarterly in monitor wells MW-1 and MW-3. The quarterly groundwater monitoring regimen is presented in Table 3.

8.3 Quarterly Groundwater Monitoring Reports

This task includes preparation of quarterly reports summarizing groundwater monitoring data and SVE system operation and maintenance (O&M). The reports will include the following elements, as applicable:

- Summary of activities performed and sampling protocols
- Field data and laboratory analytical data
- Dissolved contaminant concentration trends and groundwater elevation trends
- Anaerobic indicator trends
- SVE vapor concentrations and removal rates
- Conclusions and recommendations
- Figures:
 - Site location map
 - Site map
 - Groundwater elevation map
 - Analytical results maps
 - Distribution of dissolved VOCs
 - Distribution of DO and ORP
- Tables:
 - Groundwater levels
 - Groundwater analytical data
 - Vapor analytical data
 - SVE operational data
- Calculations:
 - Hydraulic gradient
 - PCE removal rates by SVE
- Appendices:
 - Groundwater Sampling Field Forms
 - SVE O&M Field Forms
 - Analytical Laboratory Reports

9.0 SEQUENCE OF EVENTS

The anticipated sequence of events is summarized below. After completion of the injection event, the sequence of events will follow a regular quarterly schedule.

1. **NMED Discharge Permit Application and Public Notice** – The discharge permit application will be submitted within 2 weeks after workplan approval.
2. **NMOSE Permit Application and Plugging Plan** – The permit application and plugging plan will be submitted within 2 weeks after workplan approval.
3. **City of Albuquerque Permit Applications** – The City permit applications require work dates to be specified. Therefore, the City of Albuquerque permit applications will be submitted after the discharge permit and injection borings permit have been approved.
4. **CarBstrate™ Purchase and Delivery** – HAI will order the CarBstrate™ and SDC-9™ concurrent with submittal of the City of Albuquerque permit applications. Delivery will be scheduled immediately after receipt of City permit approvals.
5. **CarBstrate Injection Event** – The injection event will begin approximately 2 weeks after all City permits have been approved. Injection activities will require approximately 3 weeks in the field.
6. **Quarterly Groundwater Monitoring and SVE O&M Reports** – Fieldwork for the 1st quarterly post-injection monitoring event will be performed approximately 3 months after completion of the injection event. Subsequent events and reports will be completed quarterly. Quarterly reports will be submitted to GWQB approximately 4 weeks after receipt of quarterly analytical laboratory reports.

This conceptual schedule is subject to change based on the following:

- Time between workplan submittal and workplan approval
- Time between submittal of permit applications and permit approvals
- Weather conditions
- Injection subcontractor scheduling availability following approval of all permit applications

10.0 PROJECT COSTS

1. **NMED, NMOSE and City of Albuquerque Permit Applications** – Preparation of the discharge permit application, injection borings permit application, borings plugging plan and various City of Albuquerque permit applications and payment of associated permit fees will be completed by HAI for a Fixed Fee of \$11,552.03, including 6.1875% New Mexico Gross Receipts Tax (NMGRT).
2. **Purchase and Shipping of ETEC Products** – ETEC CarBstrate™ and SDC-9™ will be purchased at the quoted cost of \$94,115.00 plus 7.625% NMGRT. Shipping was quoted at \$15,000.00 plus 7.625% NMGRT. Total cost is \$129,178.52, including 7.625% NMGRT. The ETEC proposal is presented in Appendix A.
3. **Injection Event** – Labor and equipment to complete the injection work and the associated report will be provided by HAI for a Fixed Fee of \$142,688.96, including 6.1875% NMGRT. This assumes the injection event will be completed in the estimated 3-week timeframe, and that the subcontractor quote is still valid when field implementation is scheduled.
4. **Injection Report** – The report of CarBstrate and SDC-9 injection will be completed as described herein for a Fixed Fee of \$5,362.47, including 6.1875% NMGRT.
5. **First Quarter Monitoring and Reports** – Seven (7) wells will be sampled during the 1st quarter. The first quarter event and associated report will be completed for a Fixed Fee of \$9,445.38, including 6.1875% NMGRT.
6. **Second, Third and Fourth Quarter Monitoring and Reports** – Five (5) key monitor wells will be sampled during the second, third and fourth quarters. These events and the associated reports will each be completed for a Fixed Fee of \$8,758.35, including 6.1875% NMGRT (per quarter).

The total cost of all groundwater remediation tasks described herein and outlined above is \$324,502.41, including NMGRT.

FIGURES

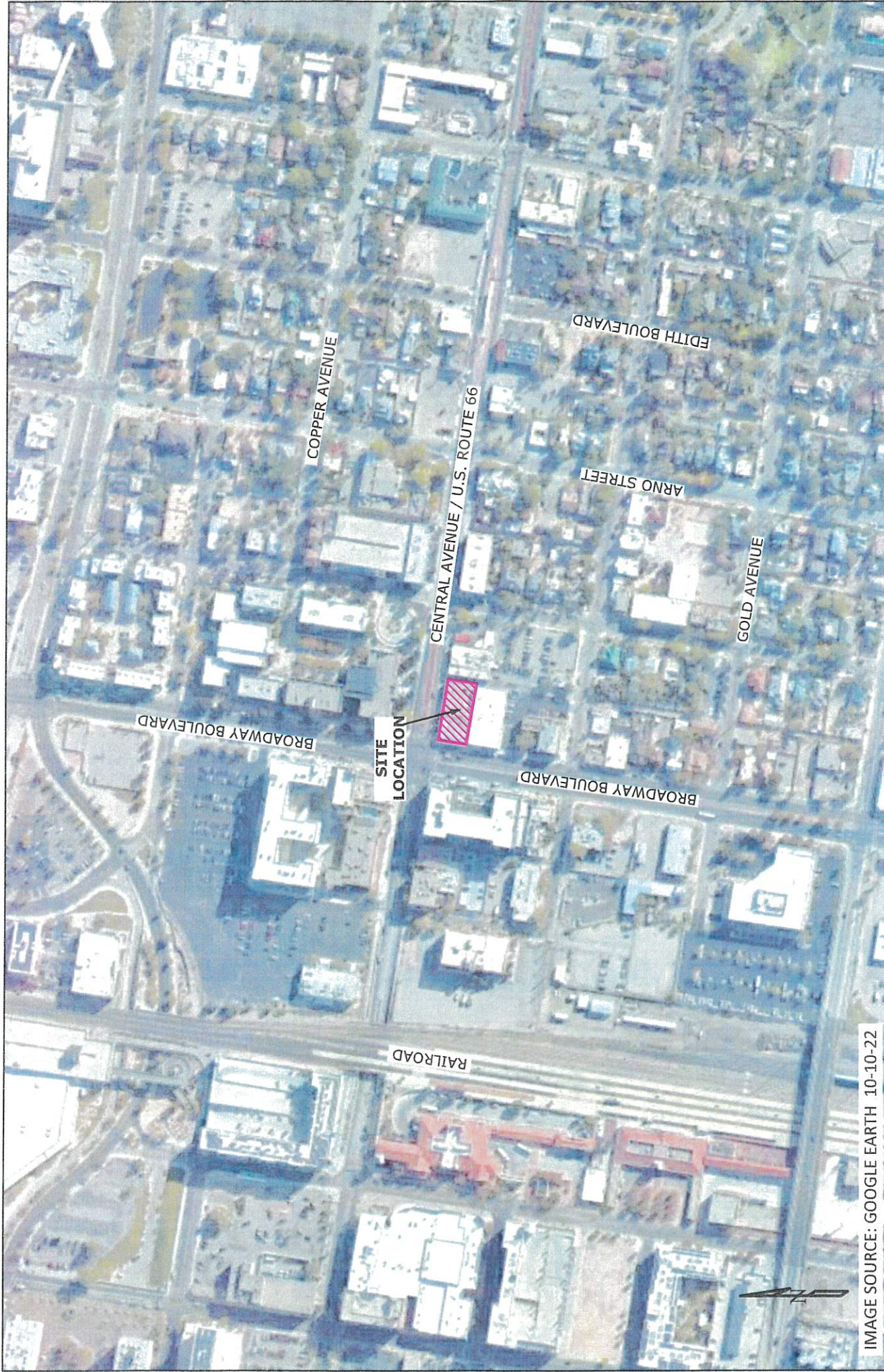


IMAGE SOURCE: GOOGLE EARTH 10-10-22

Haller & Associates, Inc.
Environmental Services & Geoscience

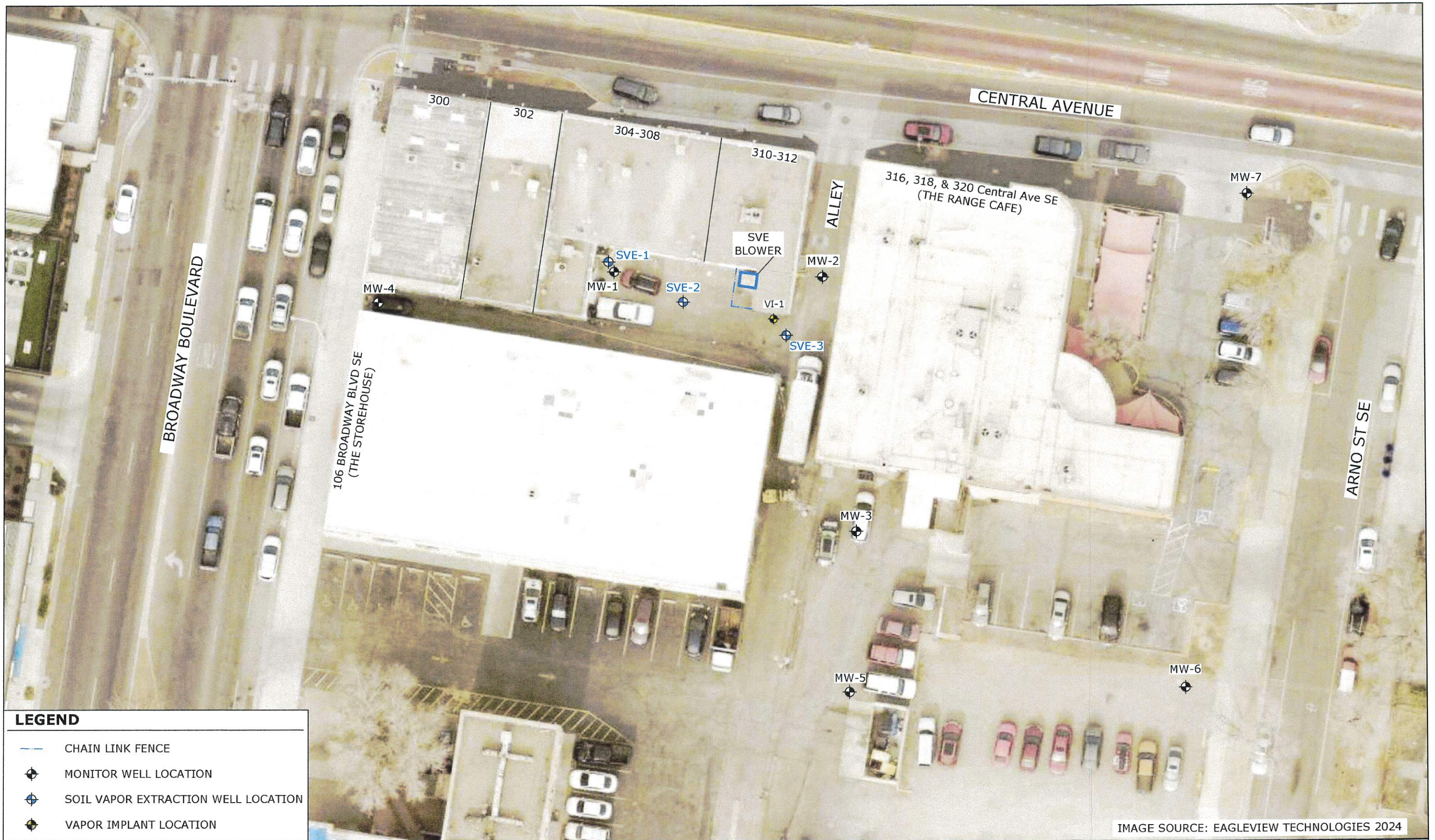
P.O. BOX 1667, 12220 N. HWY 14, SUITE C
CEDAR CREST, NEW MEXICO 87008

SITE LOCATION MAP

**312 CENTRAL AVENUE SOUTHEAST
ALBUQUERQUE, NEW MEXICO**

FIGURE

1



LEGEND

MONITOR WELL LOCATION

SOIL VAPOR EXTRACTION WELL LOCATION

VAPOR IMPLANT LOCATION

PCE

TETRACHLOROETHENE

TCE

TRICHLOROETHENE

DCE

1,1-DICHLOROETHENE

CIS-DCE

CIS-1,2-DICHLOROETHENE

TRANS-DCE

TRANS-1,2-DICHLOROETHENE

VC

VINYL CHLORIDE

RESULTS EXPRESSED IN MICROGRAMS PER LITER

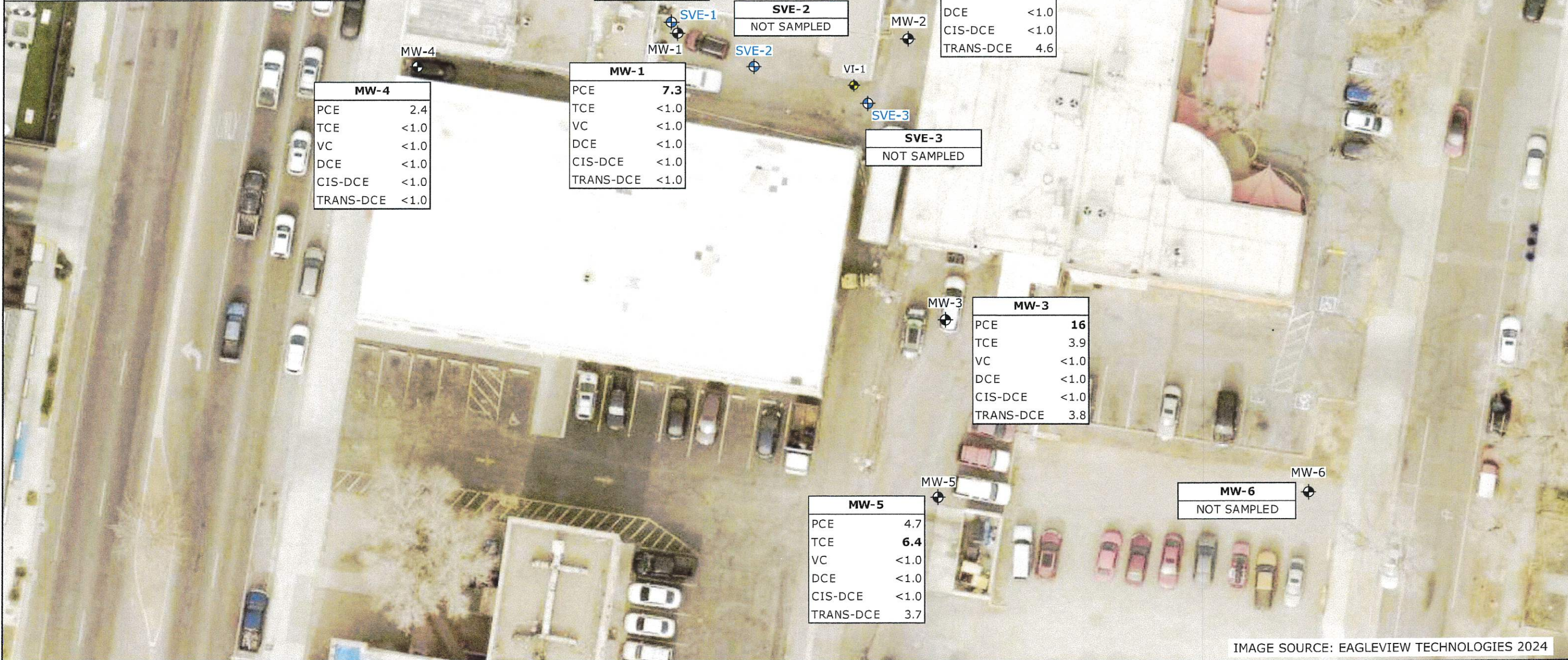
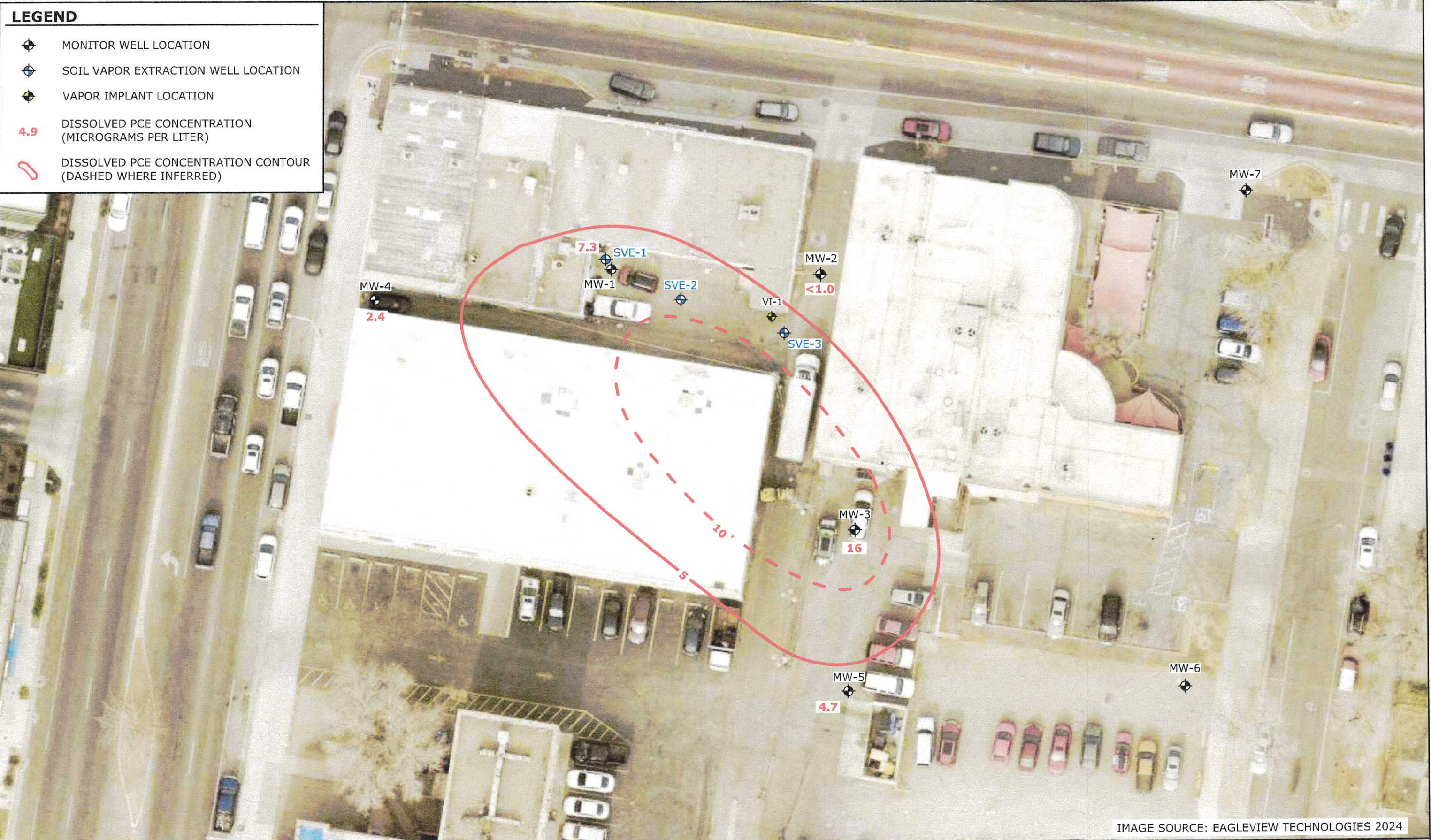
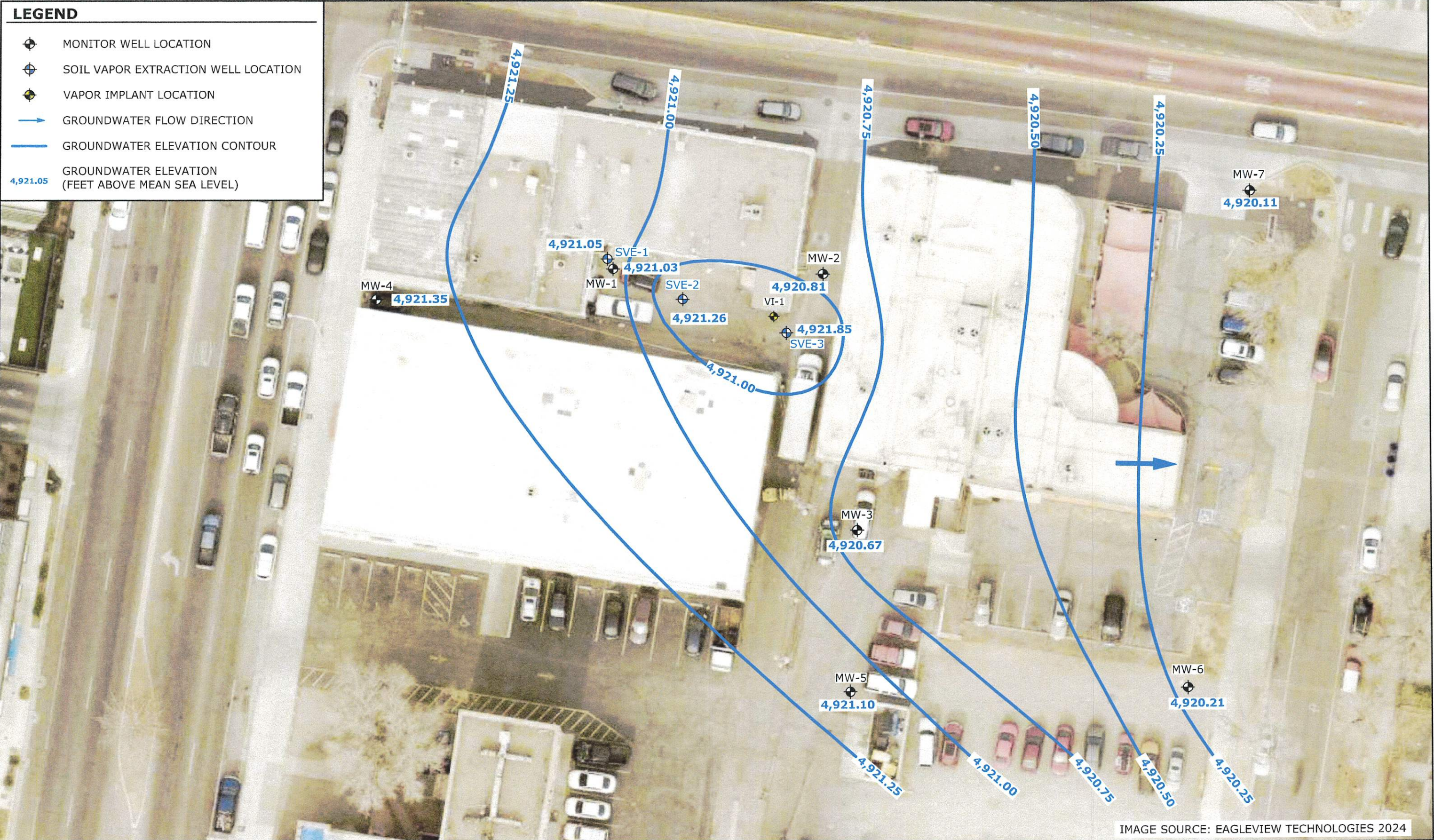


IMAGE SOURCE: EAGLEVIEW TECHNOLOGIES 2024



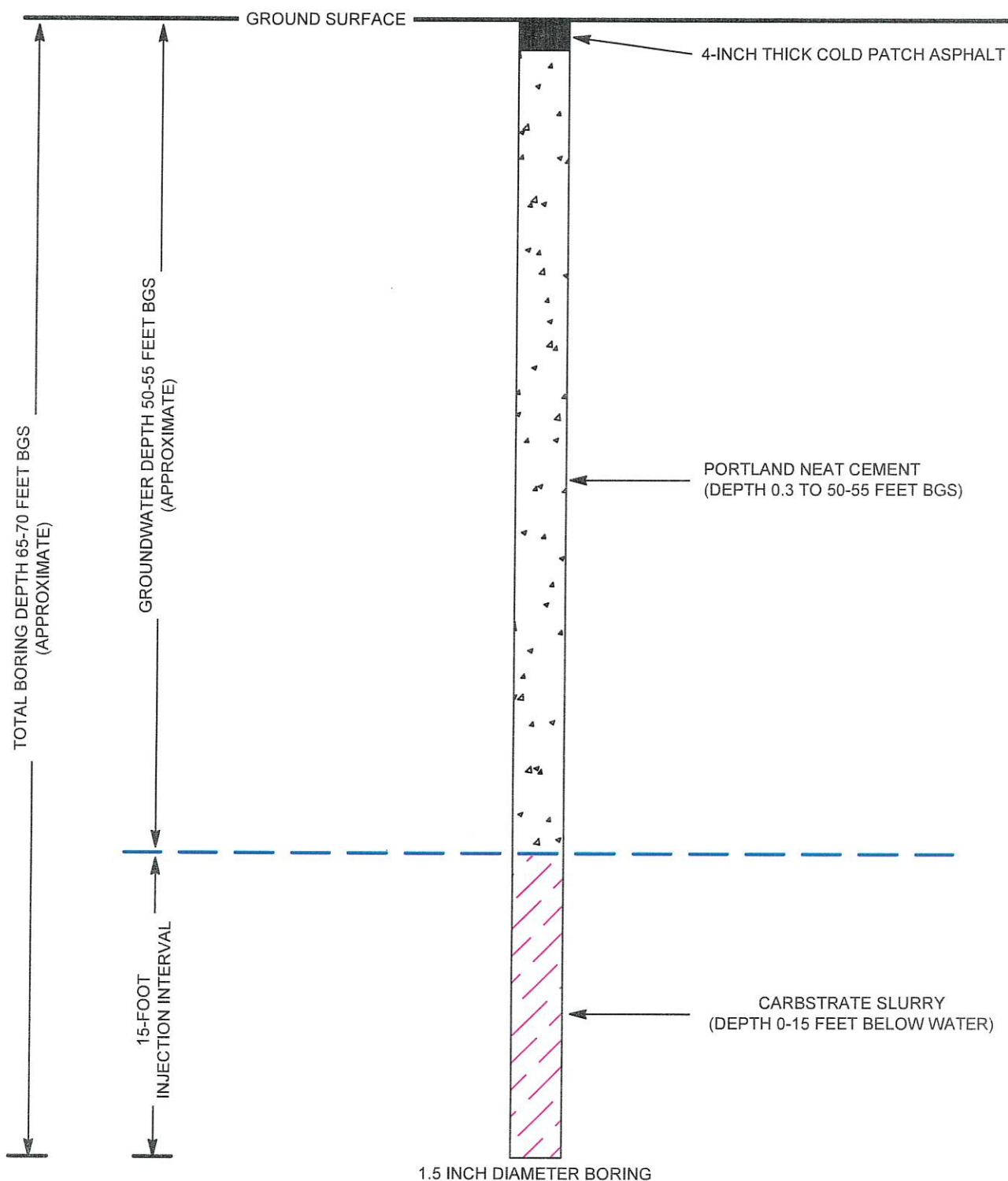




PROPOSED CARBSTRATE INJECTION POINTS

312 CENTRAL AVENUE SE
ALBUQUERQUE, NEW MEXICO





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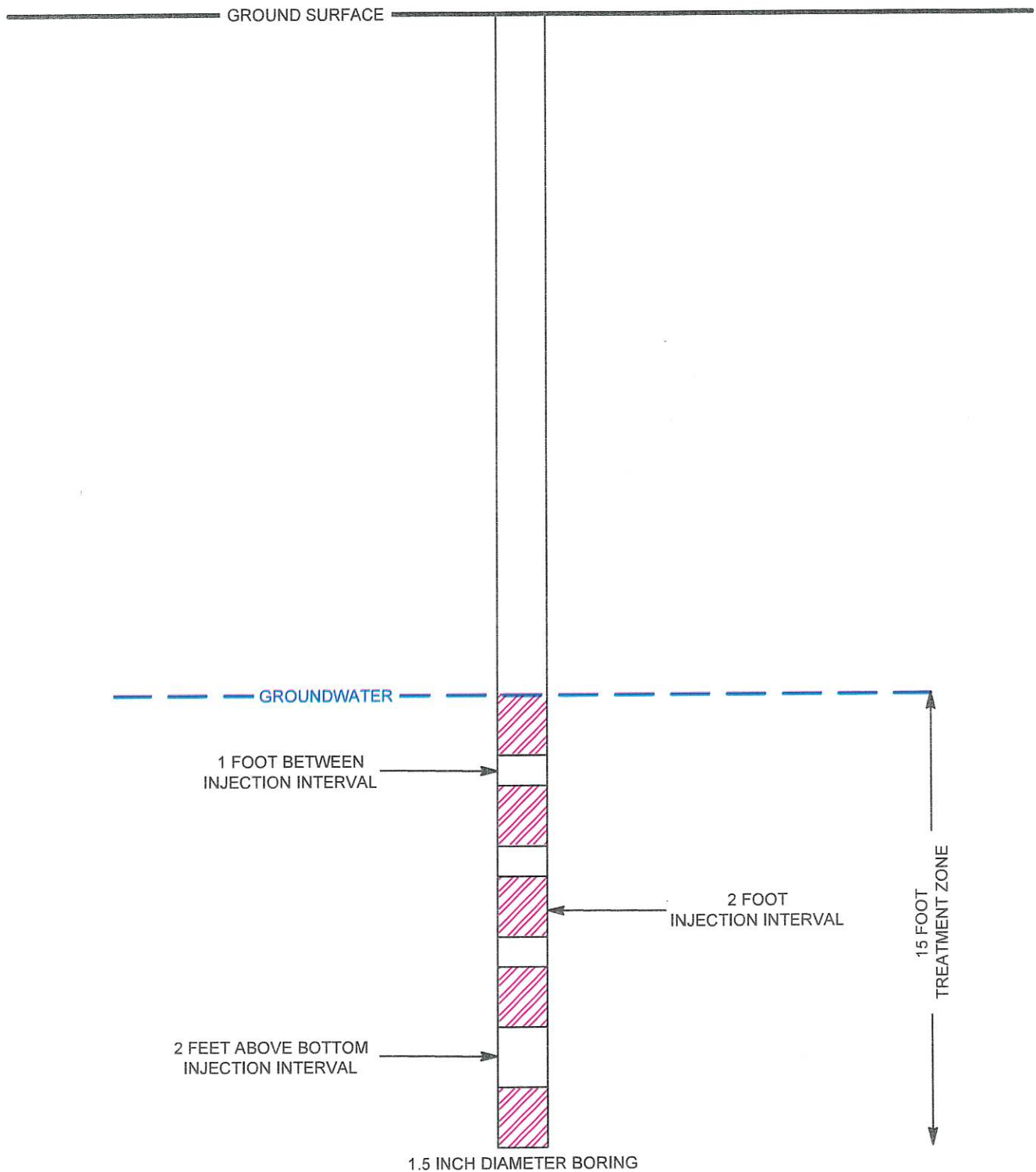
P.O. BOX 1667, 12220 N. HWY 14, SUITE B
CEDAR CREST, NEW MEXICO 87008

CONCEPTUAL INJECTION BORING PROFILE

312 CENTRAL AVENUE SE
ALBUQUERQUE, NEW MEXICO

FIGURE

8



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**CONCEPTUAL INJECTION DEPTH
INTERVALS**

**312 CENTRAL AVENUE SE
ALBUQUERQUE, NEW MEXICO**

FIGURE

9

TABLES

**Table 1. Groundwater Elevation Data
312 Central Avenue SE, Albuquerque, New Mexico**

Well ID	Date	Casing Elevation (ft MSL)	Depth to Groundwater (feet)	Groundwater Elevation (ft MSL)
MW-1 TD=63'	01-05-22	4,974.38	52.90	4,921.48
	01-11-22		52.93	4,921.45
	07-25-23		52.18	4,922.20
	09-06-23		52.75	4,921.63
	05-08-25		52.42	4,921.96
	08-11-25		53.35	4,921.03
MW-2 TD=66'	01-05-22	4,976.12	54.91	4,921.21
	01-11-22		54.98	4,921.14
	07-25-23		54.11	4,922.01
	09-06-23		54.81	4,921.31
	05-08-25		54.36	4,921.76
	08-11-25		55.31	4,920.81
MW-3 TD=66.5'	01-05-22	4,976.15	55.00	4,921.15
	01-11-22		55.11	4,921.04
	07-25-23		54.33	4,921.82
	09-06-23		54.94	4,921.21
	05-08-25		54.53	4,921.62
	08-11-25		55.48	4,920.67
MW-4 TD=66.5'	07-25-23	4,971.55	49.22	4,922.33
	09-06-23		49.69	4,921.86
	05-08-25		49.28	4,922.27
	08-11-25		50.20	4,921.35
MW-5 TD=66.5'	07-25-23	4,975.86	54.08	4,921.78
	09-06-23		54.66	4,921.20
	05-08-25		53.96	4,921.90
	08-11-25		54.76	4,921.10
MW-6 TD=66.5'	07-25-23	4,979.48	58.19	4,921.29
	09-06-23		58.76	4,920.72
	05-08-25		58.33	4,921.15
	08-11-25		59.27	4,920.21
MW-7 TD=66.5'	07-25-23	4,979.60	58.45	4,921.15
	09-06-23		58.98	4,920.62
	05-08-25		58.56	4,921.04
	08-11-25		59.49	4,920.11
SVE-1 TD=66.5'	07-25-23	4,974.38	52.15	4,922.23
	09-06-23		52.76	4,921.62
	05-08-25		52.39	4,921.99
	08-11-25		53.33	4,921.05
SVE-2 TD=66.5'	07-25-23	4,975.27	52.66	4,922.61
	09-06-23		53.50	4,921.77
	05-08-25		53.03	4,922.24
	08-11-25		54.01	4,921.26
SVE-3 TD=66.5'	05-08-25	4,976.06	53.39	4,922.67
	08-11-25		54.21	4,921.85

Table 2. Groundwater Organic Analytical Data
312 Central Avenue SE, Albuquerque, New Mexico

Well ID	Sample Date	Tetrachloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl Chloride (ug/L)	1,1-Dichloroethene (ug/L)	trans-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)
NMWQCC Standard:		5	5	2	7	100	70
MW-1	12-30-21	23	<1.0	<1.0	<1.0	<1.0	<1.0
	07-25-23	30	<2.0	<2.0	<2.0	<2.0	<2.0
	08-12-25	7.3	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2	12-30-21	8.4	8.6	<1.0	<1.0	<1.0	5.4
	07-25-23	10	6.6	<2.0	<2.0	<2.0	6.1
	08-12-25	<1.0	4.6	<1.0	<1.0	<1.0	4.6
MW-3	12-30-21	190	24	<1.0	<1.0	<1.0	11
	07-25-23	74	24	<2.0	<2.0	<2.0	19
	08-12-25	16	3.9	<1.0	<1.0	<1.0	3.8
MW-4	07-25-23	4.9	<2.0	<2.0	<2.0	<2.0	<2.0
	08-11-25	2.4	<1.0	<1.0	<1.0	<1.0	<1.0
	07-25-23	3.5	4.4	<2.0	<2.0	<2.0	3.8
MW-5	08-12-25	4.7	6.4	<1.0	<1.0	<1.0	3.7
	07-25-23	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	07-25-23	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
SVE-1	07-25-23	26	<1.0	<1.0	<1.0	<1.0	<1.0
	07-25-23	36	<2.0	<2.0	<2.0	<2.0	<2.0
	07-25-23	36	<2.0	<2.0	<2.0	<2.0	<2.0

TABLE 3. GROUNDWATER MONITORING REGIMEN
312 CENTRAL AVENUE SE
ALBUQUERQUE, NEW MEXICO

Well Number	Gauging Regimen	Post-Injection Sampling Regimen				1st Quarter Analytical Regimen				2nd, 3rd, 4th Quarter Analytical Regimen		
	Every Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	VOCs	TOC	Nitrate Sulfate	Field Parameters	VOCs	TOC	Field Parameters
MW-1	X	X	X	X	X	X	X	X	X	X	X	X
MW-2	X	X	X	X	X	X	X		X	X	X	X
MW-3	X	X	X	X	X	X	X	X	X	X	X	X
MW-4	X	X	X	X	X	X	X		X	X	X	X
MW-5	X	X	X	X	X	X	X		X	X	X	X
MW-6	X											
MW-7	X											
SVE-1	X	X				X	X		X			
SVE-2	X	X				X	X		X			
SVE-3	X	X				X	X		X			
TOTALS	10	8	5	5	5	8	8	2	8	5	5	5

NOTES:

VOCs = Volatile organic compounds by EPA Method 8260B

TOC = Total organic carbon analysis by Standard Method 5310C

Nitrate and sulfate analyses by EPA Method 300.0

Field Parameters = pH, temperature, specific conductance, oxidation-reduction potential and dissolved oxygen

X = Scheduled to be sampled

TABLE 4. SAMPLE ANALYTICAL QA/QC REQUIREMENTS
312 CENTRAL AVENUE SE
ALBUQUERQUE, NEW MEXICO

Target Analytes	Matrix	Analytical Method	Sample Container	Sample Preparation	Preservative	Holding Time
Volatile Organic Compounds (VOCs)	Water	EPA 8260B	3 x 40 mL glass vials	vials filled with no bubbles/headspace	Hydrochloric Acid	14 Days
Total Organic Carbon (TOC)	Water	SM 5310C	2 x 40 mL glass vials	vials filled with no bubbles/headspace	Sulfuric Acid	14 Days
Nitrate and Sulfate (NO ₃ and SO ₄)	Water	EPA 300.0	1X x 250-mL poly bottle	fill to shoulder of bottle	None	48 Hours*
NOTES: mL = milliliters *Nitrate hold time is 48 hours; sulfate and chloride hold time is 28 days All samples to be stored at <6 degrees Centigrade						

APPENDIX A

ETEC CarBstrate™ and SDC-9™ Application Proposal



ADVANCED
BIOREMEDIATION
SOLUTIONS

August 2025

PRODUCT PROPOSAL

312 Central SE, Albuquerque, NM

Version number 1.3

Presented to

Tim Haller
Haller & Associates

Presented by

Chase Maeser / Eric Bueltel
ETEC, Inc.

Introduction

As requested, this proposal provides recommendations for implementing in-situ remediation at the above referenced site. ETEC recommends the injection of our CarBstrate™ product into onsite wells to enhance biological degradation of remaining contaminants at the site.

Bioremediation product injections are being proposed to ensure the development of a strong microbial community and ensure the appropriate amount of amendments are delivered to the subsurface, to achieve mass balance and reach remedial goals.

Site Conditions

ETEC's approach for this site is based on the information provided by Haller & Associates and is summarized as follows:

- The following wells are impacted by chlorinated solvents:
 - MW-1 – 7.3 µg/L PCE
 - MW-2 – 4.6 µg/L TCE, 4.6 µg/L 1,2-cis-DCE
 - MW-3 – 16 µg/L PCE, 3.9 µg/L TCE, 3.8 µg/L 1,2-cis-DCE
 - MW-5 – 4.7 µg/L PCE, 6.4 µg/L TCE, 3.7 µg/L 1,2-cis-DCE
 - SVE-1 – 26 µg/L PCE

- SVE-2 – 36 µg/L PCE
- The impacted area is approximately 15,000 square feet
- Soil at the site is layered gravelly sand and gravelly clay to 47 feet bgs, silty clay from 47 to 52 feet bgs, silty sand from 52 to 57 feet bgs, sandy clay from 57 to 62 feet bgs, and gravelly sand and sandy gravel below 62 feet bgs
- DTW at the site varies from 50 to 55 feet bgs
- The treatment interval is approximately 15-17 feet from 50 feet bgs to 67 feet bgs (top of groundwater to bottom of nearest monitoring well)
- Competing electron acceptors are unknown at the time but are assumed as follows: DO 4 mg/L, nitrate 4 mg/L, Fe³⁺ 10 mg/L, Mn⁴⁺ 5mg/L, sulfate 135 mg/L
- Total estimated bioremediation product quantities as follows:
 - CarBstrate™ – 15,750 lbs. based on the estimated mass of contaminants and competing electron acceptors in the treatment area

We use the information provided to estimate required bioremediation product quantities.

Our Approach

Products



CarBstrate™

A fully soluble, carbohydrate-based substrate containing a highly effective electron donor. Also contains all required nutrients to sustain a robust bacterial population.

SDC-9 Dehalogenating Culture is also requested.

Bioremediation product injections:

ETEC's soluble nutrient-amended carbohydrate substrate (CarBstrate™) has been utilized throughout the United States with excellent results. In addition to its high solubility and low-retardation factor, CarBstrate™ is a non-toxic product that includes the macro-nutrients that will be necessary for effective microbial growth (i.e., N and P) as well as a specific suite of trace elements that have been shown to be critical for active anaerobic microbial activity. The application of CarBstrate to the subsurface at the site will create the reductive conditions necessary for the reductive dechlorination process to occur. CarBstrate's high solubility allows the injection solution to inject like water, allowing for efficient product

distribution even in tight formations. Finally, CarBstrate™ contains a pH buffer to mitigate pH shifts that may be produced by an extremely active microbial community.

Recommended Application

Assumes that 35 direct push points will be utilized for injection of the bioremediation product solution throughout the treatment area.

Bioremediation product application plan:

DESIGN OBJECTIVES: The primary objective of the application includes the reduction of the total contaminant mass via Enhanced Reductive Dechlorination (ERD) in groundwater and soil within a reasonable timeframe.

LOCATION: Infrastructure for remedial action will be designed to influence the plume area that was identified in the figure provided.

- **Injection Specifications:** ETEC recommends injecting 15,750 lbs. of CarBstrate™ with enough water to make a minimum of 15,750 gallons up to 10% of the pore volume or 42,000 gallons of solution into direct-push injection points. This volume will be split between the injection points and evenly distributed over the 17-foot-thick target zone located between 50 to 67 feet bgs. Approximately 35 injection points should be placed on 16-foot overlapping centers. Injections can be conducted under pressure and exact pressures and volume will be determined by the Haller and drilling personnel during the injection activities. A top-down application should be used to force solutions into the less permeable soil at the top of the treatment zone.

Exact product dosing and dilution for each location will be determined based on how readily the direct push points used for injection receive the bioremediation solution. The overall goal is to ensure distribution of bioremediation products throughout the target treatment zone.

Progress Monitoring Sampling Recommendation

To maximize the effectiveness of the proposed remedial approach and determine progress and subsequent injection requirements (if necessary), the collection of specific parameters is recommended by ETEC and are often required as part of a state issued injection approval. These parameters include:

FIELD READINGS	INORGANIC PARAMETERS
• pH • ORP • Conductivity • DO	• Ammonia-nitrogen • Nitrate-nitrogen • Sulfate • Dissolved iron • Dissolved manganese • Total Organic Carbon

ETEC recommends these parameters be sampled and analyzed from site wells within and around the remediation zone before and after the injections. ETEC typically observes the greatest reduction in concentrations between 3 to 6 months following the injections and recommends sampling be conducted accordingly.

GW monitoring will be the responsibility of Haller & Associates.

Quote details on following page...

Product Quote

1025-080

29 August 2025

ETEC, Inc.

3307 Evergreen Way
STE 707, PMB 133
Washougal, WA 98671

Bill to:

Haller & Associates
12220 N Hwy 14
Suite C
Cedar Crest, NM 87008

Ship to:

312 Central SE
Albuquerque, NM 87102

Project Reference	Prices Valid For	Standard Terms
312 Central SE	120 Days	NET30

ITEM & DESCRIPTION	QTY	COST
CarBstrate (lbs)	15,750.00	\$85,995.00
SDC-9 (L)	53	\$8,120.00
Shipping Fee (sales)	Lump	\$15,000.00
Subtotal		\$109,115.00
Sales Tax 7.75%		\$8,456.41
TOTAL		\$117,571.41

User Manual for the Calibrated Culture Delivery System



USER INSTRUCTION

WARNINGS

1. Keg is pressurized to 10 to 15 psi with Nitrogen before shipping.
2. Wear suitable eye and face protection, gloves and protective clothing.
3. Gas cylinders used to dispense culture **MUST** be equipped with a proper pressure regulator.
4. During operation **DO NOT** exceed the keg's maximum working pressure of 15 psi.

UNPACKING

1. Carefully remove keg and measuring cylinder from shipping container and stand keg upright.
2. Attach measuring cylinder to the keg by using the black Velcro straps.
3. Carefully check the keg, measuring cylinder, connectors, valves and tubing for any damage or defects. If any defects or damage is observed, do not use. Report any damage to CB&I immediately at 609-895-5376. A back-up set of quick connects is provided in the packaging material.
4. Check and ensure that black, white and green valves are in the **CLOSED** position and brass three-way valve is in position "1" (handle of the valve should be directed to position perpendicular to the body of the valve).



SET-UP

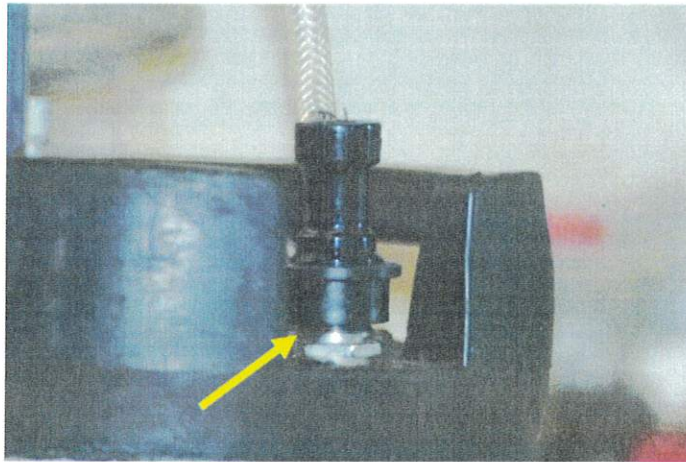
1. Using an appropriate length of reinforced $\frac{1}{4}$ " ID tubing, connect the tubing marked "Nitrogen tank →" to the gas tank regulator. Another end of the tubing is connected to position "1" of three way brass valve.



2. Connect the GREY connector to Gas "In" fitting of the keg. Be sure that the GREY connector is designed to be connected only to Gas "In" keg's fitting. Lubricate fitting with water before attachment.



3. Connect the Black connector to Liquid “Out” fitting of the keg. Be sure that the Black connector is designed to be connected only to Liquid “Out” keg’s fitting. Lubricate fitting with water before attachment. Ensure that the black valve attached to the BLACK quick connect is tightly closed.

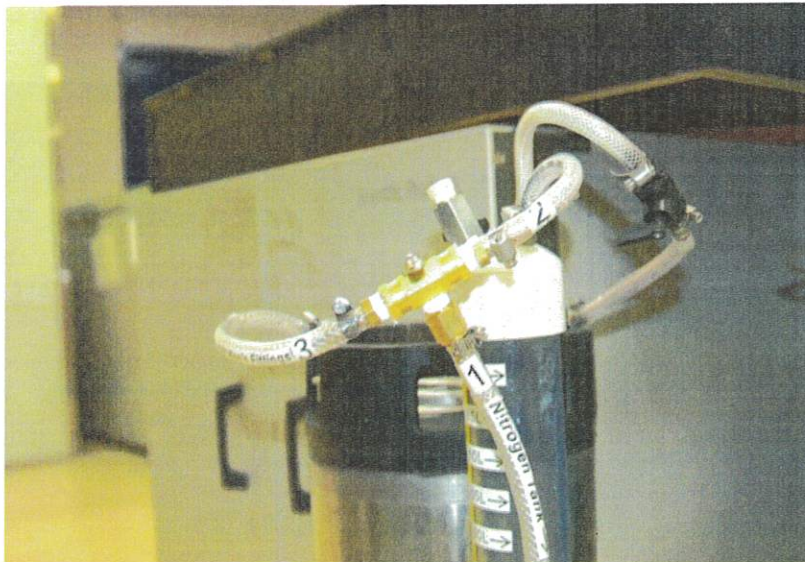


4. Connect an appropriate length of reinforced $\frac{1}{4}$ " ID tubing marked “Bacteria→” by the barbed fitting to the site tubing to distribute bacterial culture to the desired injection point. **Be sure that the green valve is closed. Do not connect this line to the injection line yet.**





Keg and measuring cylinder attached to the keg's fittings black and grey connectors.



Measuring cylinder with attached three-way brass valve.



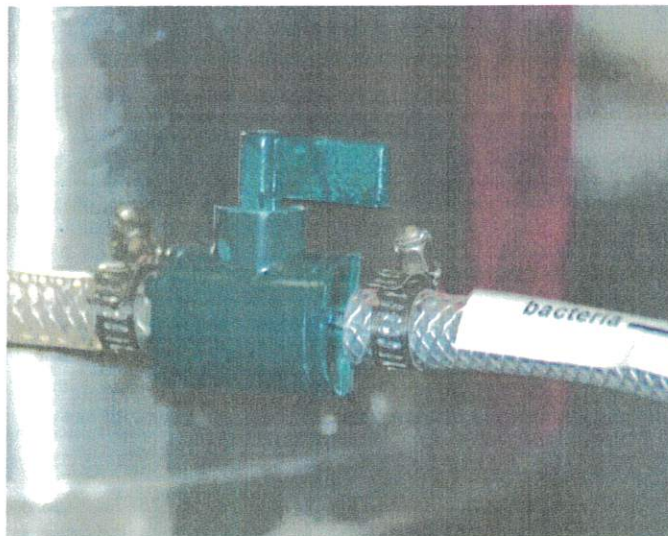
Keg and measuring cylinder connected to delivery gas tank.

OPERATION

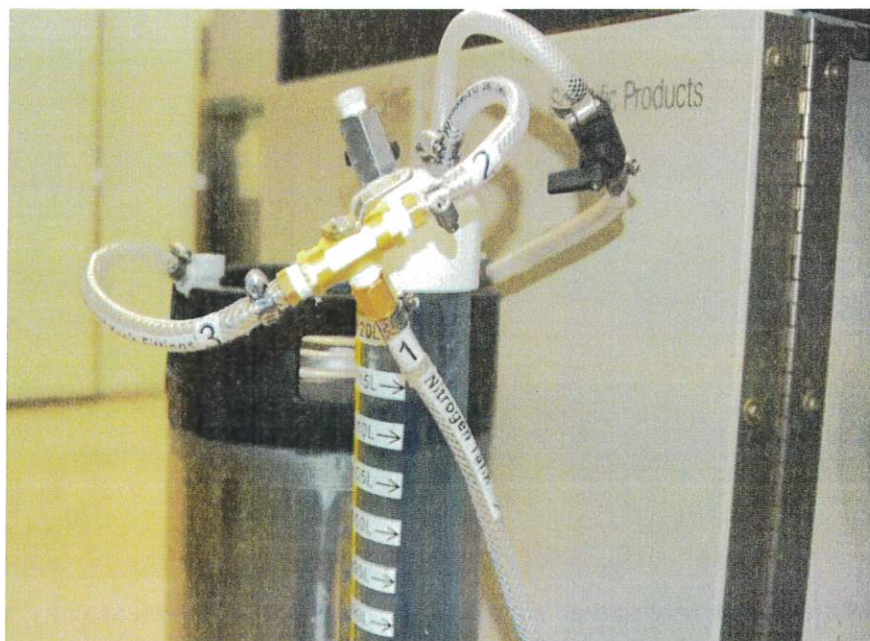
1. Set up the gas pressure on the delivery gas (Nitrogen or Argon) tank regulator at 10 to 15 psi.
2. Remove air from injection line by the following procedure:
 - A. Be sure that at this point that the injection line is not connected to the injection point.



B. Open the green valve located on the bottom of measuring cylinder.



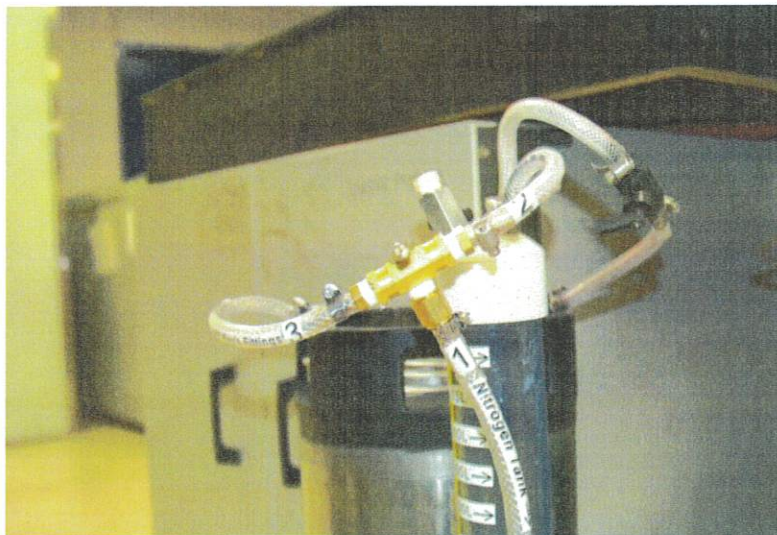
- C. **Slowly** turn the three way brass valve to position "2" to start supplying the delivery gas (nitrogen, argon) to the measuring cylinder and injection tubing. Flush the cylinder and injection tubing with gas for 2-3 min.



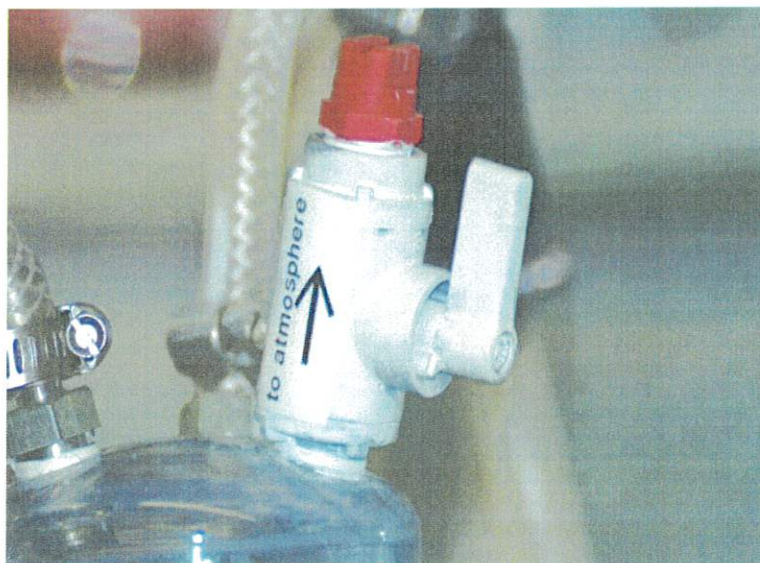
- D. Close the green valve.



E. Turn the three way brass valve to position “1”.



F. Open the white valve “to atmosphere” position to release any gas pressure in the measuring cylinder. The white valve is equipped with a check valve that prevents the air from being added into the measuring cylinder.



3. Add the required amount of bacteria to the measuring cylinder:

A. Turn the brass three way valve to position “3” to pressurize the keg with delivery gas.



B. **Slowly** open the black valve to add bacteria from the keg to the cylinder.



C. Add the required amount of bacteria and close the black valve.

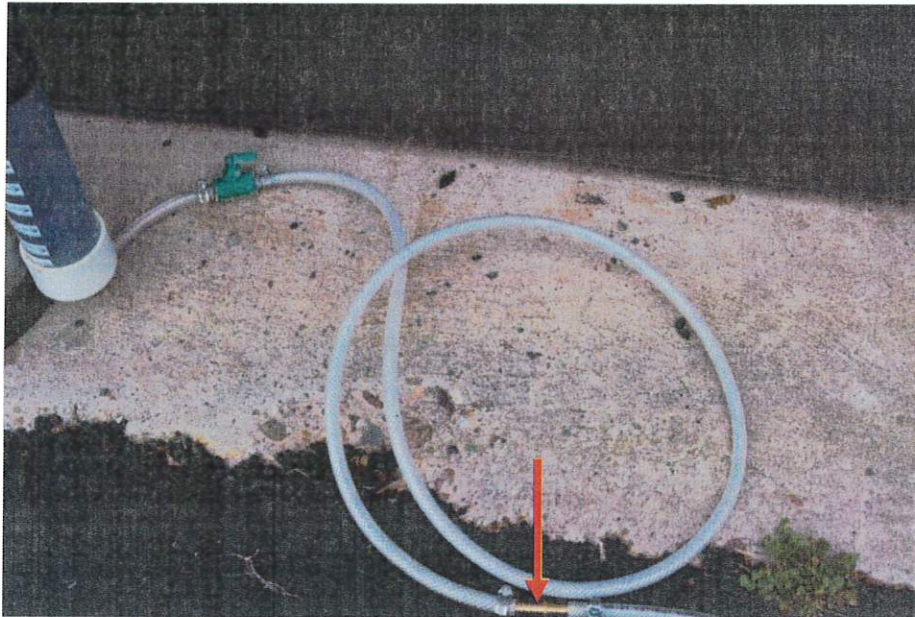


D. Close the white valve.



4. Transferring the measured amount of bacteria from the measuring cylinder to the injection point:

A. Be sure that at this point that the injection line is connected to the injection point.



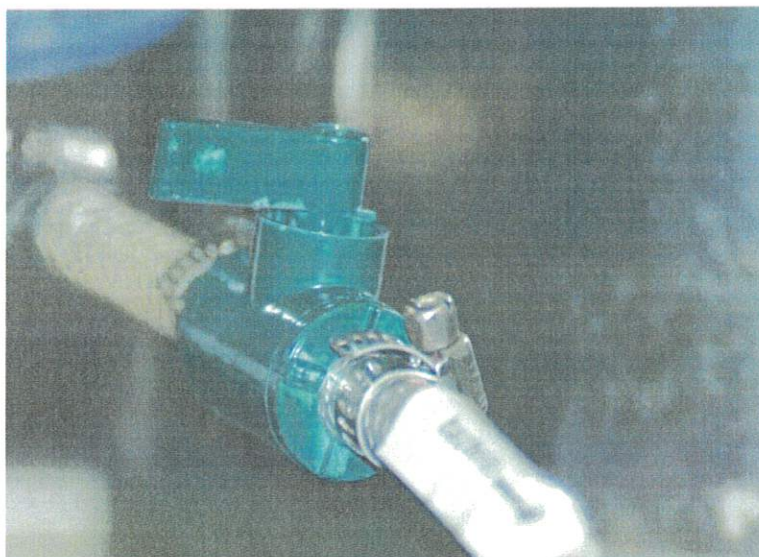
B. Turn the brass three way valve to position "2" to pressurize the measuring cylinder with delivery gas.



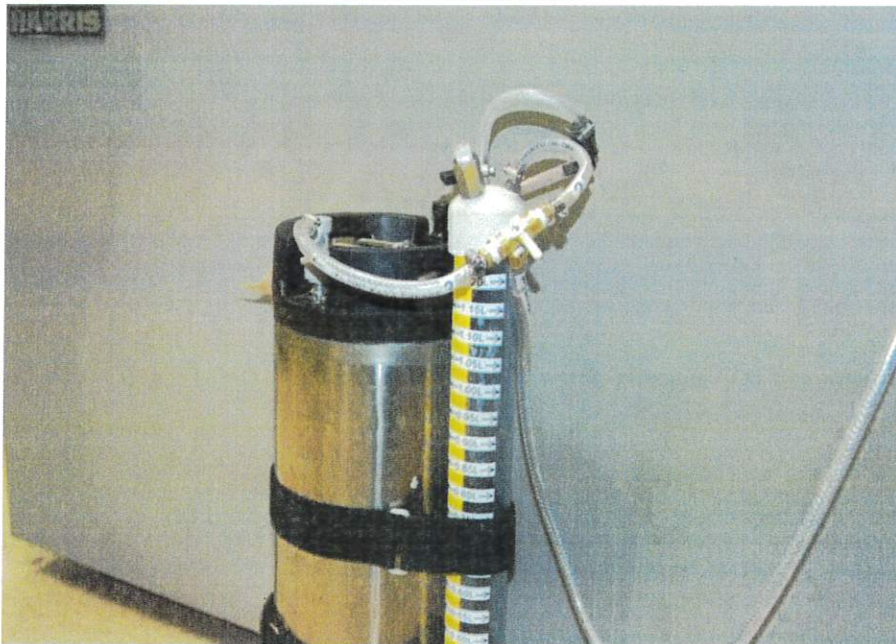
C. **Slowly** open the green valve on the “bacteria →” line to provide the desired flow of bacterial suspension. Delivery of the culture can be monitored by watching the liquid level in the measuring cylinder.



5. After delivery of the desired volume of bacterial suspension, close the green valve.



A. Turn the brass three way valve to position “1”.



- 6. To add more bacteria, follow the instructions according to steps 3 and 4 above.**
- 7. After finishing distributing the bacteria, disconnect the black and grey connectors from the keg by pulling up on the barrel of the quick connects.**

STORAGE

If the schedule of bacteria application requires adding the bacteria over a period of more than one day, the keg(s) should be stored at a temperature 2-4 °C, but do not freeze. This can normally be achieved by storing the kegs under ice in the provided coolers. The keg should be pressurized with Nitrogen to pressure 10- 15 psi before storing to ensure a tight seal on the keg cap.

SHIPPING



Cooler and Keg Packed for Return Shipment

After completion of operation, please ship the cooler with keg, delivery system and all spare fittings back to the following address:

Simon Vainberg
Aptim
17 Princess Road, Lawrenceville, NJ 08648

APPENDIX B

CarBstrate™ and SDC-9™ Product Overview Sheets



Advanced
Bioremediation
Solutions

ANAEROBIC-REDUCTIVE
REMEDIATION PRODUCT

CarBstrate™

THE INDUSTRY'S #1 COMPLETE SUBSTRATE

CarBstrate™ is a B-vitamin and nutrient-amended carbohydrate substrate specifically designed for in situ application. In addition to its high solubility and low-retardation factor, it is a non-toxic food-grade product that includes the macro-nutrients that are necessary for effective microbial growth (i.e. N and P) as well as a specific suite of trace elements that are critical for active anaerobic microbial activity.

PROPERTIES & CHARACTERISTICS

CarBstrate™ is a dry powder that is mixed with water for subsequent subsurface injection and recirculation. Once delivered into a target saturated zone, this nutrient-amended carbohydrate will stimulate consumption of terminal electron acceptor (TEA) sinks (i.e. dissolved oxygen, nitrate, sulfate, etc.) and provide available total organic carbon (TOC) that will maintain sulfate-reducing and/or methanogenic conditions throughout the target saturated zone. Additional product information includes:

Product Information

CarBstrate™ Characteristics

Packaging	50-lb. bags
Physical Composition	Dry powder
Changes groundwater pH	No
Water Soluble	Yes
Food-Grade Product	Yes
Effective Remediation of:	Chlorinated Solvents, Pentachlorophenol, Hexavalent, Chromium, Energetics, Nitrates, and More
Typical Injection Solution Strength	0.1 - 1 lb. per gallon of water
Field Application Assistance	Yes, upon request
Typical Application Method	Mix with water to make working solution, then pressure-inject into subsurface

CarBstrate™

[CASE STUDIES](#)[RELATED SERVICES](#)[TECHNICAL RESOURCES](#)[REQUEST INFORMATION](#)[ORDER NOW](#)

BioPro™
BIOLOGICAL PRODUCTS



INFO@ETECLLC.COM



(971) 222-3616



2021



SDC-9™

SDC-9™ Dechlorinating Culture (Bioaugmentation)

SDC-9™ dechlorinating culture was developed by APTIM to treat chlorinated solvent contaminated aquifers. sp. (DHC) bacteria that degrade a wide range of chlorinated contaminants via dehalorespiration. In addition to like PCE and TCE, the culture rapidly dechlorinates cDCE and VC to non-toxic ethene. Combined with ET dependent) SDC-9 can be added as part of your overall approach to achieving remedial goals.

The SDC-9™ culture is a pathogen-free, non-genetically altered microbial consortium capable of biologically degrading pollutants including 1,1,1-TCA, 1,1,2-TCA, 1,1-DCA, 1,2-DCA, 1,2-DBE, TCA, CT, CF, PCE, TCE, cDCE, VC, and Freon and mixtures thereof. Molecular biological analyses of the SDC-9 culture has demonstrated that the culture has Dehalococcoides sp. bacteria which is the only bacterial genus known to degrade chlorinated ethenes completely. The culture contains other known pollutant degrading bacteria, including Desulfotobacterium and Desulfovibrio strains.



- Not inhibited by chloroform
- Performs at pH levels as low as 5.5 (Vainberg and Steffan, 2014)
- Up to tenfold cell concentration available to reduce shipping costs
- Applied more than 650 times (well over 100,000 L) in the United States
- SDC-9 can be applied via direct injection
- ETEC's In Situ Delivery System (ISD™) makes dosing with SDC-9™ simple

HOME

ETEC, Inc.

ADVANCED BIOREMEDIATION SOLUTIONS

(971) 222-3616

INFO@ETECLLC.COM

Global Headquarters

Washougal, WA 98671

United States



Advanced
Bioremediation
Solutions

3830 S Truman Rd. Bldg. 12
Washougal, WA 98671
(971) 222-3903 Fax
www.etccllc.com

Safety Data Sheet

Revision Date: 11/3/2017

Section 1: Product and Company Identification

Product Name: CarBstrate™
MSDS Number: Not Assigned
Chemical Name: Proprietary
Chemical Family: Substrate Mixture

Recommended Use: Anaerobic bioremediation product
Restrictions on Use: No Data

Company: ETEC, LLC
3830 S Truman Rd. Bldg. 12
Washougal, WA 98671
USA

Telephone: (971) 222-3616

Emergency Telephone: (800) 535-5053
Medical Emergencies: (800) 301-7976
**U.S. Coast Guard National
Response Center:** (800) 424-8802

Section 2: GHS Hazards Identification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Irritant	Category 2
Eye Irritant	Category 2
Specific Target Organ Toxicity - Single Exposure (Respiratory system)	Category 3

Label Elements:

Signal Word: Warning



Hazard Statements:

Causes skin irritation.
Causes eye irritation.
May cause respiratory irritation.

Precautionary Statements:

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

Section 3: Composition/Information on Ingredients

Ingredients as defined by 29 CFR 1910.1200:

Chemical Ingredients:	CAS Number:	Percent Range:
Trade Secret	-	~20%

The specific chemical identity and/or exact percentage of the composition has been withheld as Trade Secret in accordance with paragraph (i) of §1910.1200.

Section 4: First Aid Measures**Description of first aid measures:**

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a poison center or doctor/physician if you feel unwell.

Skin Contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed: See sections 2 and/or 11.

Indication of any immediate medical attention and special treatment needed: No data available.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Unsuitable Extinguishing Media: No known information.

Specific Hazards Arising from the chemical/substance: May decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products: Nitrogen oxides, phosphorous oxides, ammonia.

Protective Equipment and Precautions for Fire-Fighters: As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not breathe dust/fume/gas/mist/vapors/spray.

Environmental Precautions: Do not release to the environment. See section 12 for further environmental data.

Methods for Containment/Cleaning Up: Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Precautions for Safe Handling: Avoid breathing dust. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep out of reach of children. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities:

Storage: Store locked up. Keep in tightly closed container, store in a cool, dry, ventilated place.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There are no OSHA PEL's, NIOSH REL's, or ACGIH TLV's applicable to this material.

Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment:

Eye Protection: Wear appropriate eye protection/face protection.

Hand Protection: Wear appropriate protective gloves.

Skin and Body Protection: Wear appropriate protective clothing to prevent skin exposure. Take off contaminated clothing and wash before reuse.

Respiratory Protection: Use only in a well-ventilated area. Avoid breathing dust. Wear appropriate NIOSH approved respirator if exposure limits are exceeded or irritation occurs.

Hygiene Measures: Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Appearance/Physical State:	Crystals
Color:	White to Yellow
Odor:	Not Available
Odor Threshold:	Not Available
pH:	Not Applicable
Melting/Freezing Point:	Not Available
Initial Boiling Point:	Not Available
Flash Point:	Not Available
Evaporation Rate:	Not Applicable
Flammability (solid, gas):	Not Available
Lower Explosive Limit:	Not Available
Upper Explosive Limit:	Not Available
Vapor Pressure:	Not Available
Vapor Density:	Not Applicable
Relative Density:	1.00
Solubility:	Completely soluble in water
Partition Coefficient:	Not Available
Autoignition Temperature:	Not Available
Decomposition Temperature:	Not Available

Section 10: Stability and Reactivity

Reactivity: No information available.

Stability: Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions: No information available.

Conditions to Avoid: Extremes in temperature and direct sunlight.

Incompatible Materials: Strong oxidizing agents, strong acids, strong bases, Magnesium.

Hazardous Decomposition Products: Other decomposition products - No data available. In case of fire: see section 5.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Information on Likely Routes of Exposure:

Inhalation: May cause respiratory irritation if inhaled.
Ingestion: No information available.
Skin Contact: Causes skin irritation.
Eye Contact: Causes eye irritation.

Toxicity Data:

Chemical Name	LD50 ORAL	LD50 DERMAL	LC50 INHALATION
Trade Secret	6500 mg/kg (Rat)	7950 mg/kg (Rabbit)	No data

Symptoms: No information available.

Delayed and Immediate Effects, Chronic Effects from Short and Long Term Exposure:

Sensitization: No information available.
Mutagenic Effects: No information available.
Reproductive Toxicity: No information available.
STOT – Single Exposure: Respiratory system.
STOT – Repeated Exposure: No information available.
Aspiration Hazard: No information available.
Chronic Exposure: No information available.
Aggravation of Pre-existing Conditions: Asthma

Carcinogenicity:

Component	CAS	NTP	IARC	OSHA
Trade Secret	N/A	Not listed	Not listed	Not listed

Additional Information: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information**Ecotoxicity:**

This product is safe for the environment at the concentrations predicted under normal use conditions.

Persistence and Degradability: No information available.

Bioaccumulative Potential: No information available.

Mobility in Soil: No information available.

Other Adverse Effects: No information available.

Section 13: Disposal Considerations

Dispose of contents/container in accordance with all applicable local, state and federal regulations.

Section 14: Transport Information

For Transportation Emergencies Involving This Material, Call:
ChemTrec 1-800-424-9300 Company Code: E419

DOT (LAND): Not regulated.

Section 15: Regulatory Information

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazard Categories:

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313: The Trade Secret component is subject to reporting levels (>1.0%) established by SARA Title III, Section 313:

State Right-to-Know:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Trade Secret	-	X	X	-	-

TSCA: Not Applicable

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

NFPA Rating:

Health Hazard:	2
Fire:	0
Reactivity Hazard:	1

Legend:

ACGIH: American Conference of Governmental & Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL/NDL: Domestic Substances List/Non-Domestic Substances List
IARC: International Agency for the Research of Cancer
IATA: International Air Traffic Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organizations

NFPA: National Fire Protection Association Health, Flammability & Reactivity; Hazard Scale 0
=minimal/none 4= significant

NTP: National Toxicology Program

OSHA: Occupational Safety & Health Administration

PEL: Permissible Exposure Limits

RCRA: Resource Conservation & Recovery Act

RQ: Reportable Quantity

RTK: Right-To-Know

SARA: Superfund Amendments & Reauthorization Act

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TSCA: Toxic Substances Control Act

TWA: Time Weighted Average

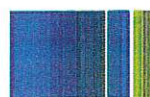
TCLP: Toxicity Characteristic Leaching Procedure

VOC: Volatile Organic Compounds

Disclaimer: The information contained in this SDS is presented in good faith and believed to be accurate based on the information provided. The SDS does not purport to be all inclusive, and shall be used only as a guide. While ETEC, LLC believes that the data contained herein comply with 29 CFR 1910.1200, they are not to be taken as a warranty or representation for which ETEC, LLC assumes legal responsibility. ETEC, LLC shall not be held liable or accountable for any loss or damage associated with the use of this material and information. The recommended industrial hygiene and safe use, handling, storage, and disposal procedures are believed to be generally applicable. However, since the use, handling, storage, and disposal are beyond ETEC, LLC control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability of loss, damage, or expense arising out of the material's improper use.

APPENDIX D

Monitor Well Logs



Haller & Associates, Inc.

Environmental Services & Geoscience

PO Box 1667, 12220 N Hwy 14, Suite C, Cedar Crest, NM 87008

WELL LOG: MW-1

COMPLETION DATE: DECEMBER 9-10, 2021

TOTAL WELL DEPTH: 63 FT BGS

PROJECT INFORMATION

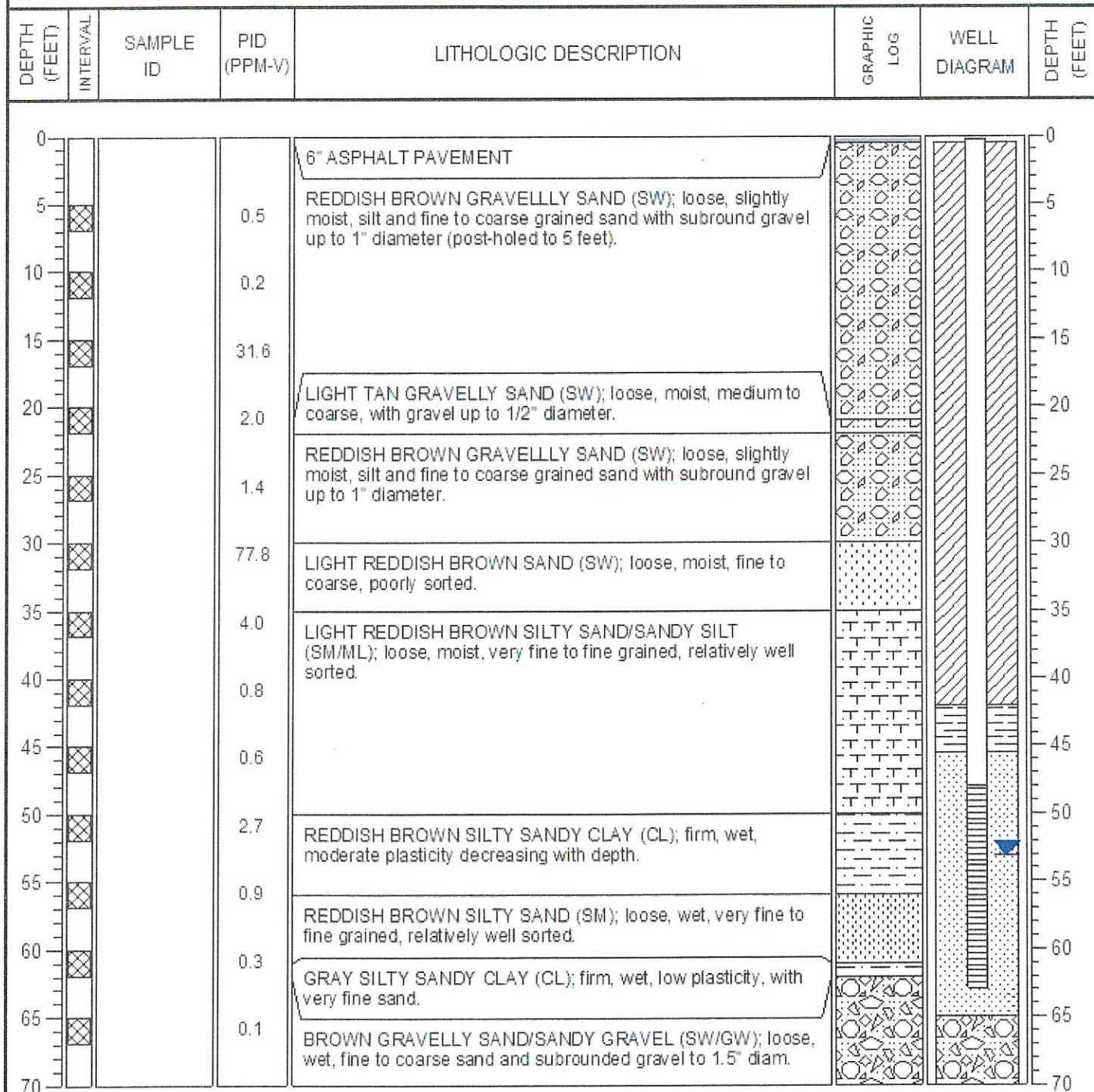
LOCATION: ROUTE 66 CLEANERS
ADDRESS: 300-312 CENTRAL AVE SE, ABQ, NM
GEOLOGIST: MICAH NAUCK - HAI
DRILLER: RYAN BEGAY - EDI
DRILL METHOD: 8" OD HOLLOW-STEM AUGERS
SAMPLE TYPE: 24" SPLIT SPOONS

CONSTRUCTION DETAILS

CASING ELEVATION: XXXXX FT MSL
SCREEN INTERVAL: 48-63 FT BGS
BENTONITE INTERVAL: 42-45.5 FT BGS
SANDPACK INTERVAL: 45.5- 65 FT BGS
CASING TYPE: 2" SCH 40 PVC
SCREEN SIZE: 0.010-INCH SLOTS

NOTES: MW-1 DRILLED ON SOUTH SIDE OF 306 CENTRAL SE

Page 1 of 1





Haller & Associates, Inc.

Environmental Services & Geoscience

PO Box 1667, 12220 N Hwy 14, Suite C, Cedar Crest, NM 87008

WELL LOG: MW-2

COMPLETION DATE: NOVEMBER 16, 2021

TOTAL WELL DEPTH: 66 FT BGS

PROJECT INFORMATION

LOCATION: ROUTE 66 CLEANERS
ADDRESS: 300-312 CENTRAL AVE SE, ABQ, NM
GEOLOGIST: MICAH NAUCK - HAI
DRILLER: RYAN BEGAY - EDI
DRILL METHOD: 8" OD HOLLOW-STEM AUGERS
SAMPLE TYPE: 24" SPLIT SPOONS

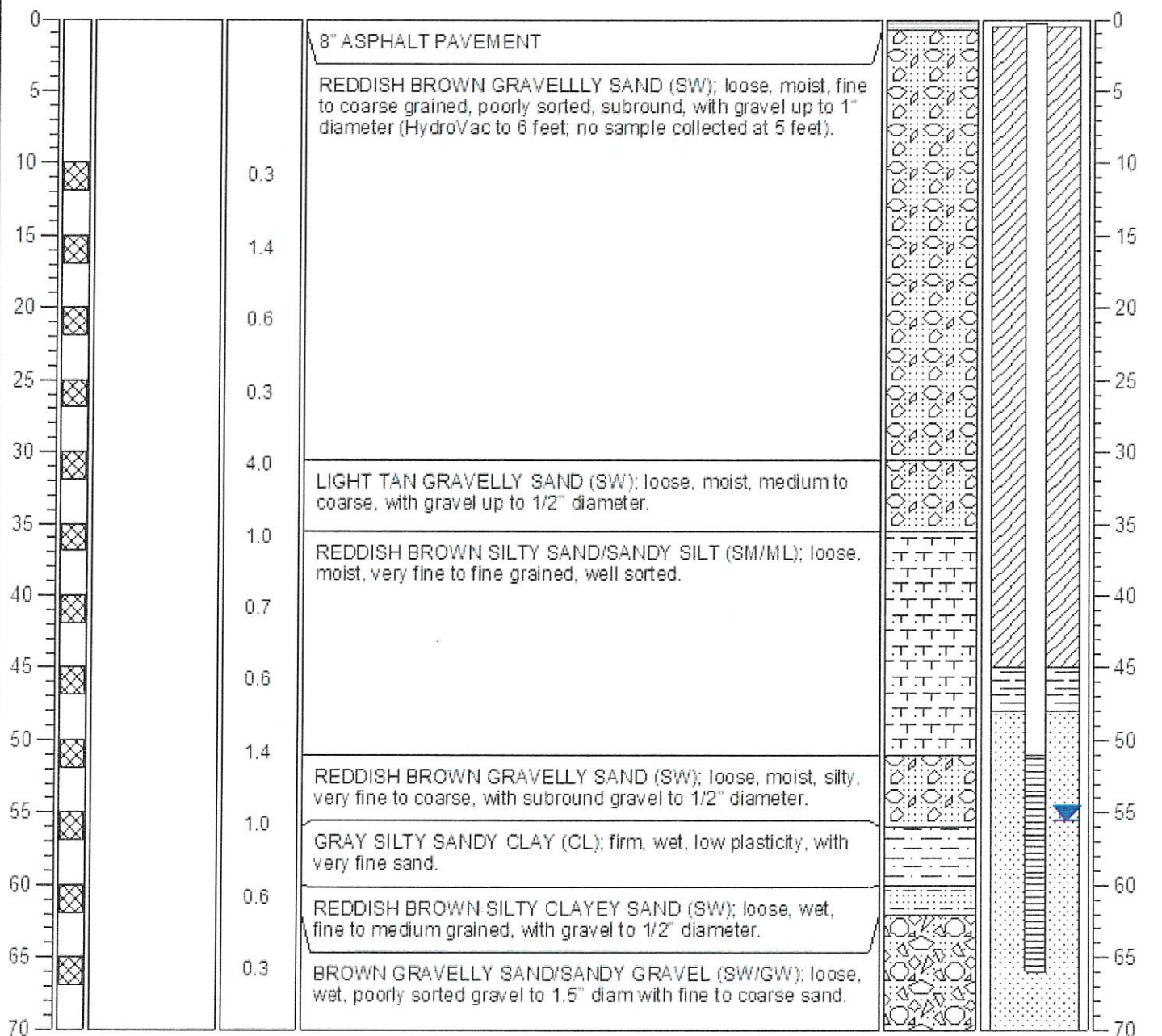
CONSTRUCTION DETAILS

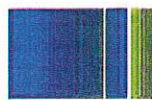
CASING ELEVATION: XXXXX FT MSL
SCREEN INTERVAL: 51-66 FT BGS
BENTONITE INTERVAL: 45-48 FT BGS
SANDPACK INTERVAL: 48-70 FT BGS
CASING TYPE: 2" SCH 40 PVC
SCREEN SIZE: 0.010-INCH SLOTS

NOTES: MW-2 DRILLED IN ALLEY BETWEEN 312 AND 316 CENTRAL SE

Page 1 of 1

DEPTH (FEET)	INTERVAL	SAMPLE ID	PID (PPM-V)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	WELL DIAGRAM	DEPTH (FEET)
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Haller & Associates, Inc.

Environmental Services & Geoscience

PO Box 1667, 12220 N Hwy 14, Suite C, Cedar Crest, NM 87008

WELL LOG: MW-3

COMPLETION DATE: NOVEMBER 15, 2021

TOTAL WELL DEPTH: 66.5 FT BGS

PROJECT INFORMATION

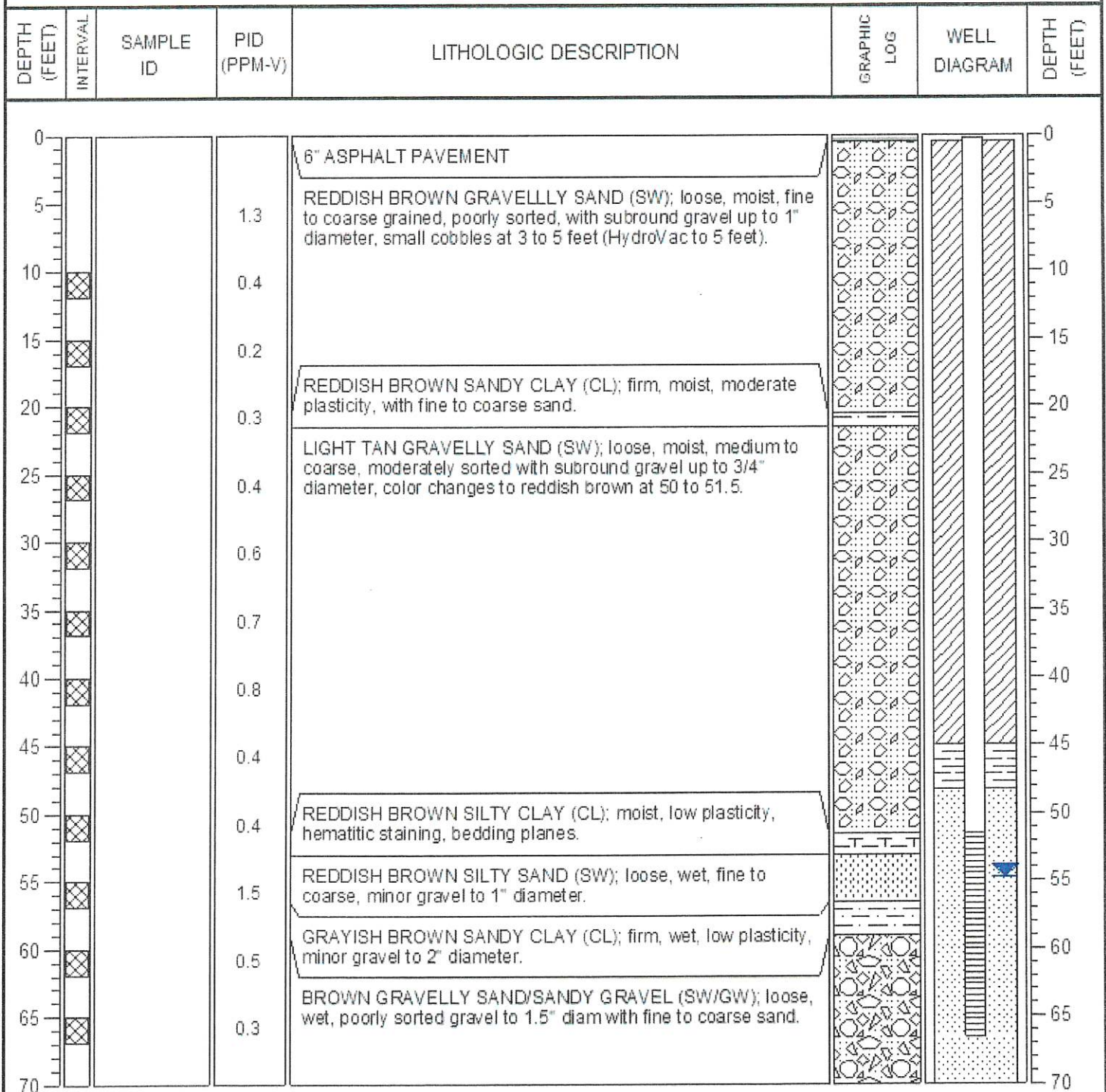
LOCATION: ROUTE 66 CLEANERS
 ADDRESS: 300-312 CENTRAL AVE SE, ABQ, NM
 GEOLOGIST: MICAH NAUCK - HAI
 DRILLER: RYAN BEGAY - EDI
 DRILL METHOD: 8" OD HOLLOW-STEM AUGERS
 SAMPLE TYPE: 24" SPLIT SPOONS

CONSTRUCTION DETAILS

CASING ELEVATION: XXXXX FT MSL
 SCREEN INTERVAL: 51.5-66.5 FT BGS
 BENTONITE INTERVAL: 45-48.2 FT BGS
 SANDPACK INTERVAL: 48.2-70 FT BGS
 CASING TYPE: 2" SCH 40 PVC
 SCREEN SIZE: 0.010-INCH SLOTS

NOTES: MW-3 DRILLED IN PARKING AREA SOUTH OF 316 CENTRAL SE

Page 1 of 1



WELL LOG: MW-4

COMPLETION DATE: JULY 7, 2023

TOTAL WELL DEPTH: 60 FT BGS

PROJECT INFORMATION

CONSTRUCTION DETAILS

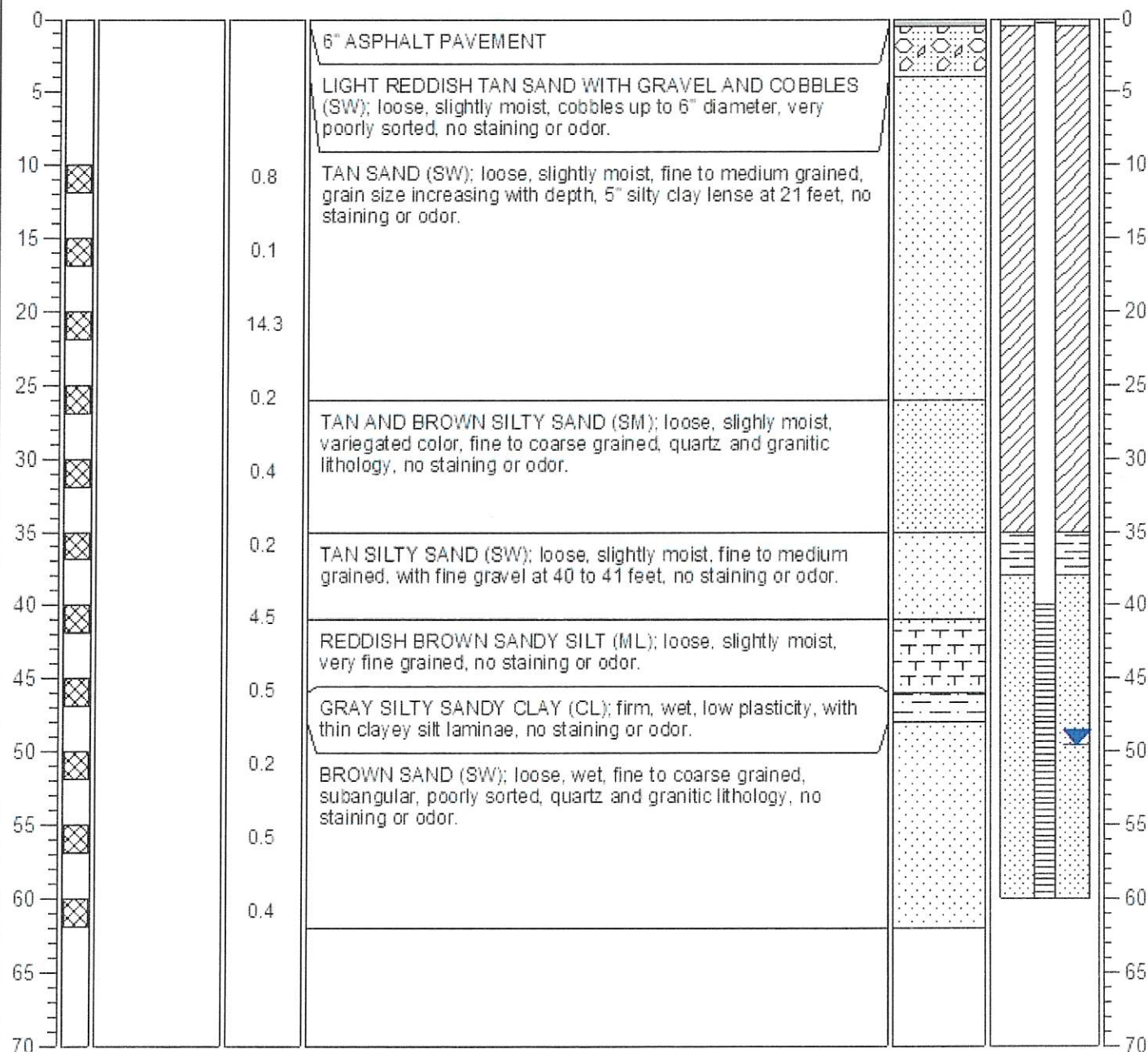
LOCATION: ROUTE 66 CLEANERS
 ADDRESS: 300-312 CENTRAL AVE SE, ABQ, NM
 GEOLOGIST: MICAH NAUCK - HAI
 DRILLER: J BARRAZA - ENVIRO-DRILL, INC.
 DRILL METHOD: 8" OD HOLLOW-STEM AUGERS
 SAMPLE TYPE: 24" SPLIT SPOONS

CASING ELEVATION: 4,971.55 FT MSL
 SCREEN INTERVAL: 40-60 FT BGS
 BENTONITE INTERVAL: 35-38 FT BGS
 SANDPACK INTERVAL: 38-60 FT BGS
 CASING TYPE: 2" SCH 40 PVC
 SCREEN SIZE: 0.020-INCH SLOTS

NOTES: MW-4 DRILLED IN ALLEY ON SOUTH SIDE OF 300 CENTRAL SE

Page 1 of 1

DEPTH (FEET)	INTERVAL	SAMPLE ID	PID (PPM-V)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	WELL DIAGRAM	DEPTH (FEET)
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Haller & Associates, Inc.

Environmental Services & Geoscience

PO Box 1667, 12220 N Hwy 14, Suite C, Cedar Crest, NM 87006

WELL LOG: MW-5

COMPLETION DATE: JULY 6, 2023

TOTAL WELL DEPTH: 65 FT BGS

PROJECT INFORMATION

LOCATION: ROUTE 66 CLEANERS
ADDRESS: 300-312 CENTRAL AVE SE, ABQ, NM
GEOLOGIST: MICAH NAUCK - HAI
DRILLER: J BARRAZA - ENVIRO-DRILL, INC.
DRILL METHOD: 8" OD HOLLOW-STEM AUGERS
SAMPLE TYPE: 24" SPLIT SPOONS

CONSTRUCTION DETAILS

CASING ELEVATION: 4,975.86 FT MSL
SCREEN INTERVAL: 45-65 FT BGS
BENTONITE INTERVAL: 40-43 FT BGS
SANDPACK INTERVAL: 43-65 FT BGS
CASING TYPE: 2" SCH 40 PVC
SCREEN SIZE: 0.020-INCH SLOTS

NOTES: MW-5 DRILLED 75 FEET SOUTH OF 316 CENTRAL SE

Page 1 of 1

DEPTH (FEET)	INTERVAL	SAMPLE ID	PID (PPM-V)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	WELL DIAGRAM	DEPTH (FEET)
0				4" ASPHALT PAVEMENT			0
5				REDDISH BROWN SILTY SAND WITH GRAVEL (SM/SW); loose, dry, fine grained silty sand with angular gravel less than 1/2" diameter, no staining or odor.			5
10			0.7				10
15			0.3				15
20			12.3	TAN SILTY SAND WITH GRAVEL (SM/SW); loose, slightly moist, fine to coarse grained silty sand with angular gravel less than 1/2" diameter, no staining or odor.			20
25			0.7				25
30			0.5	REDDISH TAN SANDY SILT (ML); loose, slightly moist, silt with very fine sand, 3" sandy clay lense at 25 feet, no staining or odor.			30
35			0.4	TAN AND BROWN SAND (SW); loose, slightly moist, fine to coarse grained, angular, quartz and granitic lithology, rounded gravel up to 3/4" at 34 feet, no staining or odor.			35
40			0.5				40
45			0.3	TAN AND REDDISH TAN SILTY SAND (SM/SW); loose, slightly moist, fine to medium grained, minor rounded gravel up to 1/2" diameter starting at 46 feet, no staining or odor.			45
50			0.6				50
55			3.0				55
60			0.5	GRAY SILTY SANDY CLAY (CL); firm, very moist, low plasticity, with clayey silt laminae, 2" sand lense at 55.5 feet, no staining or odor.			60
65			0.6	BROWN AND TAN SAND (SW); loose, wet, fine to coarse grained, subangular, poorly sorted, quartz and granitic lithology, no staining or odor.			65
70							70

APPENDIX E

Cost Quotes

Product Quote

1025-080

29 August 2025

ETEC, Inc.

3307 Evergreen Way

STE 707, PMB 133

Washougal, WA 98671

Bill to:

Haller & Associates

12220 N Hwy 14

Suite C

Cedar Crest, NM 87008

Ship to:

312 Central SE

Albuquerque, NM 87102

Project Reference

312 Central SE

Prices Valid For

120 Days

Standard Terms

NET30

ITEM & DESCRIPTION	QTY	COST
CarBstrate (lbs)	15,750.00	\$85,995.00
SDC-9 (L)	53	\$8,120.00
Shipping Fee (sales)	Lump	\$15,000.00
Subtotal		\$109,115.00
Sales Tax 7.75%		\$8,456.41
TOTAL		\$117,571.41

CERTERRA SUBSURFACE IMAGING/ENVIRO DRILL

8340 Washington Street NE Suite B, Albuquerque, NM 87113
505-857-9876

QUOTATION FOR DRILLING SERVICES

Ref. No. 23-825477-P

To: HALLER & ASSOCIATES

Page 1 of 2

Attn: TIM HALLER

Timhaller@vcimail.com

Re: 312 CENTRAL INJECTION
ALBUQUERQUE, NM

O: 505 281 9333

M: 505 259 4733

CERTERRA SUBSURFACE is pleased to present the enclosed Proposal/Contract for providing ENVIROMENTAL drilling services for the referenced project. This Proposal/Contract consists of our estimate of time and material quantities and Standard Terms and Conditions.

This estimate is provided for budgeting purposes and the total costs will be based upon the unit rates and the actual services provided. Please review the proposal and enclosed Terms and Conditions, and sign where provided below. We understand that acceptance of our proposal will constitute permission by the owner for our entry onto the site.

ENVIROMENTAL Drilling Services:

ENVIROMENTAL INJECTION SERVICES CONSISTING OF (35) INJECTION LOCATIONS. THE LOCATIONS WILL VARY IN DEPTH FROM 65' TO 70' BGS. 500 GALLONS OF CARBSTRATE SOLUTION WILL BE INJECTED INTO EACH BORING. BORINGS WILL BE BACKFILLED W/NEAT CEMENT GROUT FROM THE BOTTOM UP. LOCATIONS WILL BE PATCHED TO

Estimated Fees for this Service:

Qty	Unit	Description	Rate, \$	Extension, \$
1	EA	MOBE/DEMOBE/PREP	5,500.00	5,500.00
19	DAY	GEOPROBE/PUMP UNIT DAILY RATE	2,750.00	52,250.00
19	DAY	SUPPORT TRUCK	200.00	3,800.00
2870	LF	NEAT CEMENT GROUT(TREMMIE FROM BOTTOM UP)	8.00	22,960.00
	EA	Standy By	275.00	-
SUBTOTAL				84,510.00

*****Please note any equipment requested by client but not used will result in 1 day charge for loading and transporting to site.*****

*****Should crew be unable to access site mobilization fees will still be charged*****

*****Any other services outside of ths scope, and if applicable, taxes willl be added to the invoice.*****

312 CENTRAL INJECTION**Notes:**

- Nothing within this agreement shall be construed or interpreted as requiring CERTERRA to assume the status of a generator, transporter, storage, treater, or disposal facility; as those terms appear within the Resource Conservation and Recovery Act, 43 USCA, Section 6901 et seq., as amended, or within any state
- CERTERRA will sample to requested depths or refusal, whichever comes first.
- The site locations are to be accessible to conventional truck mounted drill rigs. Client will provide access and egress to the site locations.
- Client will provide applicable permits.
- Client will contact NM811 and local utility companies to locate local utilities (i.e. gas, electric, water, telephone, cable, etc.) for the site. CERTERRA will be listed on the order ticket as the digger or excavator
- CERTERRA will undertake no subsurface investigation until utility markings have been completed and are visible to the driller
- No boreholes can be drilled within 20 feet of overhead lines and five feet from underground utilities without CERTERRA management approval.
- CERTERRA accepts no liability for damages caused to any structures or utilities which are not or are incorrectly marked or located.
- Expendables/rentals not listed will be invoiced at CERTERRA cost plus 20% service charge, F.O.B. the job site. Job supplies purchased and not used will be returned to the Vendor and Client will be invoiced for Vendor's restocking charge at 25% of credited items.

CERTERRA will provide drilling services at your field representative's direction. We understand that he/she is authorized by your firm to make changes to the referenced Scope of Services.

The "STANDARD TERMS AND CONDITIONS" included herewith is an integral part of this Proposal/Agreement. Should the proposal be accepted, it is intended that the resulting Agreement would supersede any other Agreement there may be between us and that any/all services provided thereafter will be only as set forth in this agreement or subsequent addenda signed by both parties.

After you have reviewed our proposal, please call us to discuss any questions you may have. We appreciate your consideration of CERTERRA for this project and look forward to working with you.

This proposal is valid for 90 calendar days, after which time a review by CERTERRA will be required.

Respectfully Submitted,

CERTERRA will provide drilling services at your field representative's direction. We understand that he/she is autho

EXECUTED BY CERTERRA:		EXECUTED BY CLIENT:
CERTERRA's Authorized Representative		Client's Authorized Representative
John Aguirre		
Typed or Printed Name		Typed or Printed Name
Managing Director		
Title		Title
09/03/25		
Date		Date

ATTACHMENT 2

NMED Workplan Approval Letter



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

October 20, 2025

Hayman Properties, LLC
Attn: Tammy Hayman
7615 Indian School Road
Albuquerque, NM 87110
tdhayman123@gmail.com

RE: Approval of the Groundwater Remediation Work Plan for the 300-312 Central Avenue SE Properties Site in Albuquerque, NM, VRP Site No. 53211004

Dear Tammy Hayman:

The Groundwater Remediation Work Plan for the above referenced site, received by the New Mexico Environment Department (NMED) from Haller & Associates, Inc. on September 29, 2025, is hereby approved, pursuant to Section 20.6.3.400 NMAC of the Voluntary Remediation Regulations. Pursuant to the NMED Delegation Order dated June 23, 2025, the Cabinet Secretary has delegated the authority to sign a VRP Workplan approvals under the New Mexico Water Quality Act to the Chief of the Ground Water Quality Bureau.

Evaluation of the results of the investigation described in the work plan will determine whether additional investigation and/or remediation will be needed. Please be aware that any additional phases of work or modifications to the work plan must be approved by NMED.

NMED appreciates your participation in the Voluntary Remediation Program and looks forward to the successful completion of this project. If you have any questions or concerns, please contact Tim Noger, VRP Project Manager, at (505) 629-8604 or tim.noger@env.nm.gov or ros.general@env.nm.gov, or George Schuman, Program Manager of the Remediation Oversight Section, at (505) 670-1143.

Sincerely,

Justin Ball
Digitally signed by Justin Ball
Date: 2025.10.19 10:33:32
-06'00'

Justin Ball, Chief
Ground Water Quality Bureau

cc: Tim Haller, Haller & Associates, Inc. (tim.haller@vcimail.com)
George Schuman, Program Manager, ROS
Savannah Richards, Team Leader, ROS-VRP
Tim Noger, Project Manager, ROS-VRP
ROS Reading File

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469
Telephone (505) 827-2900 | www.env.nm.gov/gwqb/