

## NEW MEXICO ENVIRONMENT DEPARTMENT VOLUNTARY REMEDIATION AGREEMENT

### **I. Introduction**

This Voluntary Remediation Agreement (“Agreement”) is entered into voluntarily by **FJC, LLC**, represented by **Jeffrey and Francie Miles, Registered Agents for FJC, LLC**, who are duly authorized and appointed (“Participant”) and the secretary of the New Mexico Environment Department (“Department”), or his or her designee, pursuant to the Voluntary Remediation Act, Sections 74-4G-1 et seq. NMSA 1978, and the New Mexico Voluntary Remediation Regulations (20.6.3 NMAC). The purpose of this Agreement is to detail the obligations and functions of each party relevant to the remediation to be conducted at the **Edible Arrangements** (“Site”), located at 825 Cerrillos Rd. in Santa Fe, under the Voluntary Remediation Program (**VRP Site No. 53211002**). This Voluntary Remediation Agreement is issued pursuant to Section 20.6.3.300 NMAC and the Delegation Order dated February 19, 2024, through which the Cabinet Secretary has delegated signatory authority to the Chief of the Ground Water Quality Bureau.

The activities conducted by the Participant under this Agreement are subject to approval by the Department. The activities conducted by the Participant shall be consistent with this Agreement, all applicable laws and regulations, and any pertinent guidance documents. The Participant shall employ sound scientific, engineering, and construction practices in the voluntary remediation activities at this Site.

### **II. Statement of Eligibility**

The secretary or his designee has determined that the application, submitted by the Participant to the Department on March 7, 2024, is complete, and that the Participant is eligible to enter into this Agreement in accordance with Section 74-4G-5 NMSA 1978 and 20.6.3.200.A NMAC.

### **III. Parties Bound**

This Agreement shall apply to and be binding upon the Participant, its officers, managing agents, directors, principals, partners, employees, receivers, trustees, agents, parents, subsidiaries and affiliates, and upon the Department, its employees, and agents. The Participant has submitted with the application a signed Declaration of Ability and Intent as set forth in 20.6.3.200.B(2) NMAC. No change in ownership, corporate, or partnership status shall in any way alter the Participant’s status or responsibilities under this Agreement unless the Participant or Department terminates this Agreement in accordance with 20.6.3.300.H NMAC.

The Participant shall provide a copy of this Agreement to any subsequent owners or successors before ownership rights are transferred. The Participant shall provide a copy of this Agreement to all contractors, subcontractors, laboratories, and consultants or other parties, which are retained by the Participant, to conduct any work under this Agreement, within 14 days after the effective date of this Agreement or within 14 days of the date of retaining their services.

### **IV. Designated Project Manager**

On or before the effective date of this Agreement, the Department shall designate a project manager. The Primary Applicant specified on the Voluntary Remediation Program Application

will function as the project manager for the Participant. Each project manager shall be responsible for overseeing the implementation of this Agreement. The Department project manager will be the Department-designated representative at the site. To the maximum extent possible, communications between the Participant and Department and all documents (including reports, approvals, and other correspondence) concerning the activities performed pursuant to the terms and conditions of this Agreement shall be directed through the project managers. During implementation of this Agreement, the project managers shall, whenever possible, operate by consensus and shall attempt in good faith to resolve disputes informally through discussion of the issues. Each party has the right to change its respective project manager by notifying the other party in writing at least five days prior to the change.

**V. Definitions**

“Site” means the area described in the Voluntary Remediation Application. This description is attached and incorporated herein as Exhibit 1. All other terms used are defined in Section 74-4G-3 NMSA 1978 and 20.6.3.7 NMAC.

**VI. Addresses for All Correspondence**

Documents, including reports, approvals, notifications, disapprovals, and other correspondence to be submitted under this Agreement, may be sent by certified mail, first class mail, hand delivery, overnight mail, or by courier service to the following addresses or to such addresses as the Participant or Department designates in writing. Signatory documents, such as Voluntary Remediation Agreements, shall be sent via Electronic Signature software, such as DocuSign™. Please notify NMED if you are unable to sign the VRA electronically and NMED will provide a hard copy via mail.

Documents to be submitted to the Department should be sent to:

Mailing Address:

Tim Noger  
Ground Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 5469  
Santa Fe, NM 87502  
E-mail: [tim.noger@env.nm.gov](mailto:tim.noger@env.nm.gov)  
Phone number: (505) 629-8604  
Fax number: (505) 827-2965

Physical Address:

Tim Noger  
Ground Water Quality Bureau  
New Mexico Environment Department  
1190 St. Francis Drive  
Santa Fe, NM 87505

Documents to be submitted to the Participant should be sent to:

Mailing Address:

Jeffrey and Francie Miles  
FJC, LLC  
2206 Calle Cacique  
Santa Fe, NM 87505  
E-mail: [jeffreyhmiles@aol.com](mailto:jeffreyhmiles@aol.com)

Physical Address:

Same as mailing address

## **VII. Compliance with Applicable Laws**

All work undertaken by the Participant pursuant to this Agreement shall be performed in compliance with all applicable federal, state and local laws, ordinances and regulations, including, but not limited to all Occupational Safety and Health Administration, Department of Transportation, Resource Conservation and Recovery Act, New Mexico Water Quality Control Commission, and New Mexico Environmental Improvement Board Petroleum Storage Tank regulations. In the event of a conflict between federal, state, or local laws, ordinances, or regulations, the Participant shall comply with the most stringent of such laws, ordinances, or regulations, unless provided otherwise in writing by the Department or other appropriate regulatory personnel with jurisdiction over such laws, ordinances, and regulations. Where it is determined that a permit is required under federal, state or local laws, ordinances, or regulations, the Participant shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. The Participant shall be responsible for obtaining all permits that are necessary for the performance of the work hereunder, and for all ongoing or proposed Site activities, and for all ongoing or proposed facility operations.

## **VIII. Performance Standards and Associated Requirements**

The Participant has submitted with their application to the Department a preliminary work plan describing the proposed voluntary remediation activities as they are currently envisioned as being submitted in a final voluntary remediation work plan, which includes a description of the known and suspected contaminants to be addressed by the proposed voluntary remediation activities. This preliminary work plan was prepared pursuant to 20.6.3.200.B NMAC. A copy of the preliminary work plan is attached and incorporated herein as Exhibit 2.

### **The contaminants covered by this Agreement are described as follows:**

*Indoor Air, Soil Gas, Groundwater – Volatile organic compounds including the following: Tetrachloroethene (PCE), Trichloroethene (TCE), 1,1-Dichloroethene (1,1-DCE), Trans-1,2-Dichloroethene (trans-1,2-DCE), Cis-1,2-Dichloroethene (cis-1,2-DCE), and Vinyl Chloride*

### **Voluntary remediation activities undertaken pursuant to this Agreement shall achieve the following standards or risk-based levels:**

- *Standards for Ground Water as set forth in Section 20.6.2.3103 NMAC of the Ground and Surface Water Protection Regulations (20.6.2 NMAC);*
- *New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation, November 2022*

It is understood that the parties may wish to modify the list of contaminants and the media in which the contaminants are located, as covered by this Agreement, as additional information about the Site is developed. The Department may approve such changes through approval of work plans and other submittals provided by the Participant during the course of undertaking voluntary remediation activities.

## **IX. Access**

To the extent that the Site or other areas where work is to be performed hereunder are presently owned or controlled by parties other than those bound by this Agreement, the Participant shall obtain or shall use its best efforts to obtain access agreements from the present owners. Best efforts shall include, at a minimum, certified letters from Participant to the present owners of such properties requesting access agreements to permit the Participant, Department, and their authorized representatives' access to such property. Such agreements shall provide access for the Department and authorized representatives of the Department, as specified below. In the event that such access agreements are not obtained, the Participant shall so notify the Department, which may then, at its discretion, assist the Participant in gaining access.

The Participant shall provide authorized representatives of the Department access to the Site and other areas where work is to be performed at all reasonable times. Such access shall be related solely to the work being performed on the Site pursuant to this Agreement and may include, but is not limited to: inspecting and copying of Site and facility records; reviewing the progress of the Participant in carrying out the terms of this Agreement; conducting such tests, inspections, and sampling as the Department may deem necessary; using a camera, sound recording, or other documentary type equipment for field activities; and verifying the data submitted to the Department by the Participant hereunder. Prior to conducting remediation activities, the Participant shall provide a minimum of 72 hours' notice to the Department to allow observation of Site activities and to allow the Department's authorized representatives to collect split samples, at the Department's discretion. The Participant shall permit the Department's authorized representatives to inspect and copy all records, files, photographs, documents, and other writings, including all sampling and monitoring data, which pertain to this Agreement and over which the Participant exercises authority.

## **X. Deliverables and Submittal Schedule**

### **A. Final Voluntary Remediation Work Plan**

In accordance with 20.6.3.400 NMAC, the Participant shall submit to the Department a proposed final voluntary remediation work plan, detailing investigation and remediation activities to be undertaken to achieve the performance standards described in Section VIII of this Agreement. At a minimum, the final work plan must include the elements listed in 20.6.3.400.B NMAC.

#### **Submittal Schedule:**

The proposed final work plan shall be submitted by the Participant no later than 45 days after this Agreement has been signed.

If the work plan is to be prepared in phases, the work plan for the first phase shall be submitted no later than 45 days after this Agreement has been signed. Following completion, to the Department's satisfaction, of the work which is the subject of the final work plan for the first phase, the Department may require submission of one or more proposed final work plans for subsequent phases.



Department Review:

The secretary or his designee shall review and approve, approve with conditions, or disapprove a proposed final work plan within 45 days of receipt. Written notice shall be made of any conditions or deficiencies. If the secretary or his designee disapproves a final work plan, the Participant may be granted an opportunity to submit a revised version, as determined by the secretary or his designee.

Modification of Voluntary Remediation Work Plan:

The approved final voluntary remediation work plan may be modified at the request of the Participant and/or the Department, with both parties' approval, in accordance with 20.6.3.400.D NMAC.

**B. Periodic Status Reports**

The Participant shall submit periodic status reports, which detail activities completed for the reporting period and those planned for the upcoming reporting period, to the Department for the duration of this Agreement. The status report shall identify any proposed variances to the approved work plan and describe interim progress on implementation of the work plan, including analytical results of any sampling, water level measurements, Site maps or photos, as appropriate.

Submittal Schedule:

The first status report shall be submitted by the Participant no later than 90 days after this Agreement has been signed. Subsequent status reports shall be submitted on a quarterly basis until the completion report is submitted to the Department.

**C. Voluntary Remediation Completion Report**

In accordance with 20.6.3.500.B NMAC, following the completion of Site voluntary remediation activities, the Participant shall demonstrate to the Department that Site conditions meet the applicable standards specified in Section VIII of this Agreement by submitting to the Department a voluntary remediation completion report. The content of the completion report is detailed in 20.6.3.500.B NMAC. The report shall be submitted to the Department with the legal description of the affected property, and with an Affidavit of Completion of Voluntary Remediation signed by the Participant that indicates that remediation is complete, in accordance with this Agreement and applicable regulations and guidance.

Submittal Schedule:

The voluntary remediation completion report shall be submitted to the Department within 90 days following completion of voluntary remediation activities.

Department Review:

The Department shall review and determine the sufficiency of a completion report within 45 days of receipt. If the secretary or his designee does not approve the completion report, the secretary or his designee shall either issue a finding that the Participant is not in compliance with the Agreement and terminate the Agreement or advise the Participant in

writing of data gaps in the report. The Participant shall correct any identified data gaps and resubmit the completion report within 30 days of receipt of notice of data gaps.

#### **XI. Certificate of Completion**

If the secretary or his designee approves the voluntary remediation completion report, the secretary or his designee will issue either a Certificate of Completion or a Conditional Certificate of Completion, as appropriate, pursuant to Section 74-4G-7 NMSA 1978 and 20.6.3.500.B NMAC. If a Conditional Certificate of Completion is issued, the Department shall conduct audits to ensure that all engineering controls, remediation systems, post-closure care, and affirmations of future non-residential land use are being maintained appropriately. These audits shall be performed at least every other year for the first 10 years following the issuance of the Conditional Certificate of Completion, and every five years thereafter. If, during the course of such an audit, the Department finds that any of the monitoring requirements, engineering controls, remediation systems, post-closure care, or affirmations of future non-residential land use are not being properly maintained such that the performance standards described in Section VIII of this Agreement are no longer being met, the Department may revoke the Conditional Certificate of Completion and initiate an enforcement action.

No Certificate of Completion or Conditional Certificate of Completion shall be issued to a Participant who has not paid invoiced oversight costs in full to the Department.

#### **XII. Covenant Not to Sue**

Pursuant to Section 74-4G-8 NMSA 1978 and 20.6.3.600 NMAC, after the secretary or his designee issues the Certificate of Completion or Conditional Certificate of Completion, the secretary or his designee shall provide a covenant not to sue to a purchaser or prospective purchaser of the Site that did not contribute to the Site contamination, for any direct liability, including future liability, for claims based upon the contamination covered by the Agreement and over which the Department has authority. Except as may be provided under federal law or as may be agreed to by a federal government entity, the covenant not to sue shall not release or otherwise apply to claims by the federal government for claims based on federal law. Except as may be agreed to by another department or agency of the state, the covenant not to sue shall not release or otherwise apply to claims of any other office, department, or agency of the state. Except as may be agreed to by a third party, the covenant not to sue shall not release or otherwise affect a person's liability to third parties.

#### **XIII. Dispute Resolution**

This section shall apply to any dispute arising under any section of this Agreement, unless specifically excepted. Dispute resolution shall be conducted in accordance with 20.6.3.300.I NMAC).

#### **XIV. Reservation of Rights**

The Department and Participant reserve all rights and defenses they may have pursuant to any available legal authority unless expressly waived herein. The Department expressly reserves the right to take any action, including any enforcement action, to address any release not covered by this Agreement, including any release that occurs after issuance of the Certificate of Completion

or any release of a contaminant not covered by the voluntary remediation agreement. The secretary's covenant not to sue shall not apply to any such release.

Nothing herein is intended to release, discharge, or in any way affect any claims, causes of action or demands in law or equity which the parties may have against any person, firm, partnership or corporation not a party to this Agreement for any liability it may have arising out of, or relating in any way to the generation, storage, treatment, handling, transportation, release or disposal of any materials, hazardous substances, hazardous waste, contaminants or pollutants at, to, or from the Site. The parties to this Agreement expressly reserve all rights, claims, demands, and causes of action they have against any and all other persons and entities who are not parties to this Agreement, and as to each other for matters not covered hereby.

The Participant reserves the right to seek contribution, indemnity, or any other available remedy against any person other than the Department found to be responsible or liable for contribution, indemnity or otherwise for any amounts which have been or will be expended by the Participant in connection with the Site.

#### **XV. Enforcement Shield**

Pursuant to the provisions of 20.6.3.300.A NMAC, the secretary will not initiate any enforcement action, including an administrative or judicial action, against a Participant for the contamination or release thereof, or for the activity that results in the contamination or release thereof, if the contamination is the subject of an Agreement pursuant to 20.6.3 NMAC. However, this Section shall not be a bar to any enforcement action if the Agreement is not finalized, if the Agreement is terminated or rescinded, or if the Participant does not successfully initiate or implement the Agreement within a reasonable time under the schedules set forth in this Agreement and approved work plans.

#### **XVI. Oversight Costs**

The Participant agrees to reimburse the Department for all of its costs associated with oversight and implementation of this Agreement in accordance with 20.6.3.300.J NMAC. These costs shall include those described in 20.6.3.300.J NMAC, as well as long-term oversight performed by the Department, as described in 20.6.3.500.B(5) NMAC, if a Conditional Certificate of Completion is issued.

Oversight will be invoiced based on actual hours of staff oversight, at a variable rate beginning at \$125.00 per hour. The hourly rate is calculated and updated on November 1 of each year, following a 30 calendar day public comment period. The hourly rate was revised on November 1, 2023. Travel and per diem costs will be invoiced at state-designated rates. Sampling and analysis costs will be invoiced at actual cost plus indirect overhead rate.

The Department will track all costs to the Department for review and oversight activities related to the Site and provide quarterly (or more often at the discretion of the Department) invoices per this Agreement for said costs. The Participant shall pay these invoiced costs to the Department within 30 calendar days after the date that the Participant receives notice that these costs are due and owed. If payment is not made within 30 days, the Department may terminate this Agreement

and bring an action to collect the amount owed and the costs of bringing the collection action. If the Department prevails in such collection action, the Participant shall pay the Department's reasonable attorneys' fees and costs incurred in the collection action.

In the event that this Agreement is terminated for any reason, the Participant agrees to reimburse the Department for all costs incurred or obligated by the Department before the date of notice of termination of the Agreement.

#### **XVII. Notice of Bankruptcy**

As soon as Participant has knowledge of its intention to file bankruptcy, or no later than seven days prior to the actual filing of a voluntary bankruptcy petition, Participant shall notify the Department of its intention to file a bankruptcy petition. In the case of an involuntary bankruptcy petition, Participant shall give notice to the Department as soon as it acquires knowledge of such petition.

#### **XVIII. Indemnification**

The Participant shall defend, indemnify, and hold harmless the Department and the State of New Mexico from all actions, proceedings, claims, demands, costs, damages, attorneys' fees, and all other liabilities and expenses of any kind from any source which may arise out of the performance of this Agreement, caused by the negligent act or failure to act of the Participant, its officers, employees, servants, subcontractors or agents, or if caused by the actions of any client of the Participant resulting in injury or damage to persons or property during the time when the Participant or any officer, agent, employee, servant or subcontractor thereof has or is performing services pursuant to this Agreement.

#### **XIX. Effective Date and Subsequent Modification**

The Agreement shall become final and effective upon being signed by both the secretary or his designee and the Participant. The effective date of the Agreement shall be the later date of signature by either the secretary or his designee or the Participant. This Agreement may be amended only by mutual agreement of the Department and the Participant. Amendments shall be in writing and shall be effective upon being signed by both the secretary or his designee and the Participant.

#### **XX. Termination**

As provided for in 20.6.3.300.H NMAC, if an Agreement is not reached between an applicant and the secretary or his designee on or before the 30<sup>th</sup> calendar day after the secretary or his designee determines an applicant to be eligible pursuant 20.6.3.200 and 20.6.3.300 NMAC, the applicant or the secretary or his designee may withdraw from the negotiations. The Participant may terminate the voluntary remediation Agreement upon 60 calendar days' written notice via certified mail, return receipt requested to the Department. The secretary or his designee may terminate this Agreement upon finding that the Participant is not in compliance with this Agreement. Notice of termination will be made to the Participant via certified mail, return receipt requested, and facts supporting the rationale for termination shall be set forth in the notification. The Department's costs incurred or obligated before the date the notice of termination is received are recoverable by the Department under the Agreement if the Agreement is terminated.

**XXI. Complete Agreement**

This Agreement contains the entire Agreement of the parties.

**XXII. Applicable Law**

This Agreement shall be governed by and construed in accordance with the laws of the State of New Mexico.

The provisions of this Agreement shall be satisfied when the Department gives the Participant written notice in the form of a Certificate of Completion that the Participant has demonstrated to the secretary's satisfaction that the terms of this Agreement have been completed, including the selection and implementation of a remedial action, when appropriate.

Nothing in this Agreement shall restrict the State of New Mexico from seeking other appropriate relief to protect human health or the environment from contamination at or from this Site if not remediated in accordance with this Agreement.

**Signatures**

Participant(s):

By: \_\_\_\_\_  
(Signature of authorized representative)

Name: \_\_\_\_\_  
(Print or type)

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

New Mexico Environment Department:

By: \_\_\_\_\_  
(Secretary or designee)

Name: \_\_\_\_\_  
(Print or type)

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

Enclosures:    Exhibit 1: Legal Description of Property  
                     Exhibit 2: Preliminary Work Plan

NEW MEXICO ENVIRONMENT DEPARTMENT  
VOLUNTARY REMEDIATION AGREEMENT

**EXHIBIT 1**  
Legal Description of Property

Edible Arrangements  
VRP Site No. 53211002

The site is a 0.185 parcel located at 825 Cerrillos Rd, Santa Fe, New Mexico, more particularly described as Lot 3, Bain's Addition. The full legal description is included on the following survey.

# NOTES

1. REFER TO A "REPLAY OF BAIN'S BUSINESS ADDITION" PREPARED BY JAMES C. HARVEY, PG 44, DATED MAY 1998, FILED AT THE SANTA FE COUNTY CLERK'S OFFICE ON JULY 31-01, 1998 AS DOCUMENT NO. 208,038. DATA FROM SAID PLAT SHOWN IN SINGLE ( ) PARENTHESES BASED ON BEARINGS TAKEN FROM GPS OBSERVATION NOS 84.
2. REFER TO A "PLAT OF SURVEY FOR ALICE L. GOMEZ - BAIN'S BUSINESS ADDITION" PREPARED BY MORRIS A. ARAGONA, PG 3300, DATED 11/24/2005, RECORDED AT THE SANTA FE COUNTY CLERK'S OFFICE ON 11/28/2005 IN PLAT BOOK 488, PAGE 28, AS DOCUMENT NO. 3376, 892.

## FLOOD NOTE

LOT 3, LOT 4-A & LOT 5-A LIE WITHIN ZONE X.  
AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.  
REFER TO FEMA FIRM MAP NO. NO. 35048C0415E, DATED 12/4/2012

## OWNERS CONSENT

THE UNDERSIGNED OWNERS & PROPRIETORS OF LOT 3, LOT 4-A & LOT 5-A DO HEREBY CONSENT TO THE PLATTING OF LANDS AS SHOWN HEREON. THIS LOT LINE ADJUSTMENT AND BOUNDARY SURVEY IS BEING MADE WITH THE FREE CONSENT OF AND IS IN ACCORDANCE WITH THE DESIRES AND WISHES OF THE UNDERSIGNED. SHARED ACCESS TO PARKING IS HEREBY GRANTED ON AND FOR THE MUTUAL BENEFIT AND EXCLUSIVE USE OF LOT 3, LOT 4-A & LOT 5-A. THESE LANDS LIE WITHIN THE PLANNING AND PLATTING JURISDICTION OF THE CITY OF SANTA FE, NEW MEXICO.

FJC, LLC, A NEW MEXICO LIMITED LIABILITY COMPANY DATE \_\_\_\_\_  
OWNER OF LOT 4-A  
BY: FRANCIS WILSON, GENERAL PARTNER  
STATE OF NEW MEXICO \_\_\_\_\_  
COUNTY OF SANTA FE  
THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS  
DAY OF \_\_\_\_\_, 2017  
MY COMMISSION EXPIRES \_\_\_\_\_

NOTARY PUBLIC

SGV, LLC, A NEW MEXICO LIMITED LIABILITY COMPANY DATE \_\_\_\_\_  
OWNER OF LOT 5-A  
BY: \_\_\_\_\_  
STATE OF NEW MEXICO \_\_\_\_\_  
COUNTY OF SANTA FE  
THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS  
DAY OF \_\_\_\_\_, 2017  
MY COMMISSION EXPIRES \_\_\_\_\_

NOTARY PUBLIC

## CITY OF SANTA FE NOTES & CONDITIONS

ZONING DESIGNATION FOR THESE LOTS IS B-2000, "BUSINESS CAPITAL DISTRICT/CERRILLOS ROAD SUBDISTRICT" DISTRICT.

City of Santa Fe Review Case #2017-\_\_\_\_\_

CITY ENGINEER DATE \_\_\_\_\_

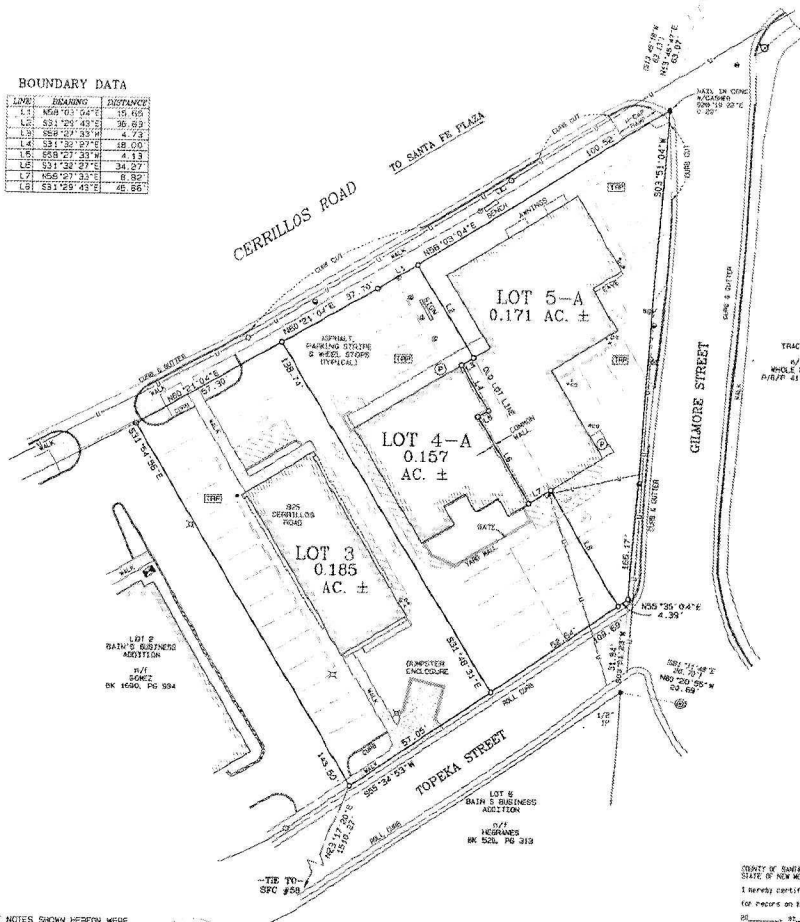
CITY PLANNER DATE \_\_\_\_\_

Santa Fe County Treasurer's Office

DATE \_\_\_\_\_

## BOUNDARY DATA

LINE	BEARING	DISTANCE
L1	M59°01'04"E	15.05
L2	S51°20'45"E	36.69
L3	S54°27'33"W	4.73
L4	S31°32'27"E	18.00
L5	S58°27'31"W	4.13
L6	S31°32'27"E	34.27
L7	N58°27'33"E	8.82
L8	S31°32'43"E	46.56

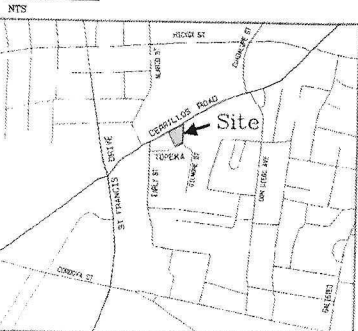


**LOT LINE ADJUSTMENT**  
**LOT 4-A & LOT 5-A**  
(formerly LOT 4 & LOT 5)  
**BAIN'S BUSINESS ADDITION**  
for  
SGV, LLC, a New Mexico  
Limited Liability Co. &  
FJC, LLC, a New Mexico  
Limited Liability Co.  
**AND BOUNDARY SURVEY OF**  
**LOT 3**  
**BAIN'S BUSINESS ADDITION**  
for  
FJC, LLC, a New Mexico  
Limited Liability Co.  
WITHIN PROJECTED SECTION 26, T 17 N, R 9 E.  
WITHIN THE SANTA FE GRANT, NMMP  
801, 807, 811 & 825 CERRILLOS ROAD  
SANTA FE, NEW MEXICO  
Lot 3 Containing 0.185 Acres ±  
Lot 4-A Containing 0.157 Acres ±  
Lot 5-A Containing 0.171 Acres ±

## LEGEND

- FOUND POINT
- SET POINT (DEBAR W/CAP)
- SH PK NATL W/SHINER & TAIL
- PS 18-4511
- MANHOLE
- STON
- DUG STOP SIGN
- ELECTRIC METER
- TRASH CAN
- CLEAN DUMP
- WATER METER
- PAINTED ARROW
- HANDICAP PARKING
- CONCRETE
- TELEPHONE PEDESTAL
- GAS METER
- MONITORING WELL
- BOLLARDS
- PORTAL
- ELECTRIC TRANSFORMER
- TENANT RESERVED PARKING
- FIRE HYDRANT
- UTILITY POLE, OVERHEAD LINES, AND ANCHOR GUY

## VICINITY MAP



## Surveyors Certificate

I HEREBY CERTIFY THAT THIS PLAT AND THE NOTES SHOWN HEREON WERE PREPARED BY ME OR UNDER MY PERSONAL DIRECTION AND ARE A TRUE AND ACCURATE REPRESENTATION OF A FIELD SURVEY WHICH WAS COMPLETED ON 4/28/2017, TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF, THIS PLAT MEETS OR EXCEEDS THE "MINIMUM STANDARDS FOR LAND SURVEYING IN NEW MEXICO."

## PRELIMINARY

DEAN L. SHRAIDER NEW MEXICO PROFESSIONAL SURVEYOR NO. 12451

PRELIMINARY  
FOR REVIEW

COUNTY OF SANTA FE  
STATE OF NEW MEXICO  
I hereby certify that this instrument was filed for records on the \_\_\_\_\_ day of \_\_\_\_\_, A.D. \_\_\_\_\_ at \_\_\_\_\_ o'clock \_\_\_\_\_ P.M. and was duly recorded in book \_\_\_\_\_ of the records at SANTA FE COUNTY.  
WITNESSES MY HAND AND SEAL AT OFFICE  
DEAN L. SHRAIDER  
County Clerk, Santa Fe County, N.M.  
\_\_\_\_\_  
Deputy

INDEXING INFORMATION FOR COUNTY CLERK			
EPC #1-053-068-167-169-900			
OWNER	SECTION	TOWNSHIP	RANGE
SGV, LLC & FJC, LLC	PHIL. S. 26	T 17 N	R 9 E
LOCATION			
CERRILLOS ROAD			
HIGH DESERT SURVEYING, INC.			
PROFESSIONAL SURVEYING			
1925 ASPEN DRIVE, SUITE 401			
SANTA FE, NM 87505			
PHONE: (505) 436-8094			
FAX: (505) 424-1709			
DWC NAME: LIA OF LOT 4-A & LOT 5-A BAIN'S BUSINESS ADDITION			
PROJECT NO. 15451-C LIA			



NEW MEXICO ENVIRONMENT DEPARTMENT  
VOLUNTARY REMEDIATION AGREEMENT

**EXHIBIT 2**  
Preliminary Voluntary Remediation Work Plan

Edible Arrangements Site  
VRP Site No. 53211002

DRAFT



GLORIETA GEOSCIENCE, INC.

P.O. Box 5727  
(505) 983-5446  
E-mail:  
Web Address:

Santa Fe, NM 87502  
Fax (505) 983-6482  
ggi@glorietageo.com  
www.glorietageo.com

**Preliminary Work Plan  
825 Cerrillos Rd.  
Santa Fe, New Mexico  
Prepared for NMED Voluntary Remediation Program  
Application for Determination of Eligibility**

**Revision 2  
April 8, 2022**

**1.0 Introduction**

At the request of the New Mexico Environment Department (“NMED”)<sup>1</sup> and on the behalf of FJC, LLC, Glorieta Geoscience, Inc. (“GGI”) has prepared this Revised Preliminary Work Plan (“PWP”) to satisfy the requirements of 20.6.3.200.B(4) NMAC and 20.6.3.400 NMAC, and to supplement the NMED Voluntary Remediation Program Application for Determination of Eligibility for the property located at 825 Cerrillos Rd (“the Site”). This work plan outlines the proposed investigation strategy for determining if a release of dry cleaner solvent, principally tetrachloroethylene (“PCE”) and its degradation by-products (collectively, “Contaminants of Potential Concern” or “COPCs”), has occurred and whether or not a release, if found, presents a risk to human health or the environment.

This revised work plan is based on our current knowledge of the Site’s history of use, present site conditions and follow-on communications and requirements recommended by the NMED’s review of the Preliminary Work Plan dated August 24, 2021. A brief discussion of the site background and the proposed investigation activities are presented below. More detail on the site background is provided in the accompanying Phase 1 Environmental Site Assessment (“ESA”) dated July 29, 2021.

**2.0 Background**

**2.1 Site Description and Physical Setting**

The Site is located within the City of Santa Fe in Santa Fe County approximately one mile southwest from the historic Santa Fe Plaza, across Cerrillos Road from the

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<sup>1</sup> see April 9, 2021 NMED letter (attached).

Santa Fe Railyard Park (Figure 1). The Site is surrounded by other commercial properties and a single-family residential area to the southeast, and is itself developed as a commercial food business catering to Santa Fe residents. The Site is approximately 0.185 acres in size, oriented with its long axis in an approximately northwest to southeast direction. Figure 1 is a vicinity map indicting the Site location. Figure 2 is an aerial view of the property. Figure 4 is a site map. Attached is a boundary survey of the property. The Site's legal description is Lot 3 of Bain's Business Addition within Projected Section 26, T17N R9E within the Santa Fe Grant, NMPM, 825 Cerrillos Road, Santa Fe, New Mexico.

The Site is approximately 6,956 feet above mean sea level ("amsl"); regional topography slopes to the west. The Santa Fe River is located approximately 0.7 miles to the north of the Site and flows from generally northeast to southwest through this area. The primary aquifer in the Site area is Santa Fe Group interbedded gravels, sands, and silt/clay units, with locally saturated alluvium in the Santa Fe River stream channel. It is also possible that the Ancha Formation is present and saturated near the Site. The local groundwater flow direction is generally to the west-southwest but may be to the north-northwest beneath the site based on previous NMED investigations performed in the area. The depth to groundwater is approximately 75 feet below ground surface ("bgs") at the Site, based on data obtained by NMED in 2000 from an onsite well.

The Site consists of a single one-story building and paved parking area that has been in existence since the 1960s. The Phase 1 Environmental Site Assessment ("Phase 1 ESA"; GGI, 2021) details past and present environmental management practices at the Site.

## 2.2 Site History and Land Use

The Site has had several commercial uses since its initial development in the 1960s. Most importantly for this PWP, from 1969 to approximately 1978 the Site was occupied by a dry-cleaning facility known as La Unica Drive-In Cleaners. To GGI's knowledge, no other occupants of the Site had operations with the potential to release COPCs to the environment. For a period of time between 1978 and 2000, the property was operational under the title Northern New Mexico Music, until it was purchased by FJC, LLC and occupied by Edible Arrangements from 2008-present. Edible Arrangements is known for its bouquets of fruits that are typically delivered for special occasions. It also operates as a restaurant with a small in-house seating space. The property consists of the single building and a small adjacent parking lot on the western/southwestern side of the building. There are two parking spaces in front of the building on the north side, and several more on the western side of the building, which are shared with adjacent commercial properties. There are no other structures within the Site boundaries. A

dumpster used for solid waste is located on the southern edge of the property and is surrounded by concrete walls on three sides.

The Site is bound on the east and west by properties that contain other commercial businesses, including Sal Hamdy Antiques to the east, and Chocolate Smith to the west. On the north, the Site is bordered by Cerrillos Rd., and is directly across from the Santa Fe Railyard Park. The Site is bordered on the south by Topeka St, and is situated across Topeka St. from Four Star Tattoo. Detailed descriptions of Site history and past and present land use are contained in the accompanying Phase 1 ESA.

### 2.3 Summary of Previous Assessments and Remediation

In 2002 and 2010, the NMED's Superfund Oversight Section conducted two site assessment investigations identified as the Alarid and Cerrillos PCE Plume. NMED's assessment included multiple properties, including the 825 Cerrillos property, over a large area along Cerrillos Road between Saint Francis Drive on the west and approximately Don Diego Avenue on the east. The investigations were performed in part because of petroleum and PCE contamination that was identified at the former Phillips 66 Bulk Plant located at 760 Cerrillos Road (across Cerrillos Road from the Site) as well as PCE/petroleum detections at lower concentrations at several of the other properties in the study area. NMED conducted shallow soil vapor sampling at 17 locations on and adjacent to and east of the Site and installed three groundwater monitoring wells at the Site.<sup>2</sup> The soil vapor sampling included two to three sample depths between 5 to 20 feet bgs with a total of 37 samples collected. All but two of the samples were non-detect for both PCE and trichloroethylene ("TCE"). Samples from the groundwater monitoring wells ranged from non-detect at the southernmost well (SFMW-3) to 470 µg/L just outside the property to the northwest (SFMW-1)<sup>3</sup>. Well locations are shown on Figure 4.

### 2.4 Suspected/Known Contaminants of Potential Concern

The suspected contaminants of potential concern ("COPCs") based on the prior use of the Site as a dry-cleaning facility and physical evidence provided by NMED's groundwater sampling results include the chlorinated solvent PCE and its degradation

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<sup>2</sup> Based on the boundary survey provided in the Phase 1 ESA, one of these monitoring wells (SFMW-1) is not located on the 825 Cerrillos Road property, and is in fact located on the adjacent 851 Cerrillos Road property.

<sup>3</sup> A comparison of these data to those of the second investigation performed by NMED in 2010 suggests the identification of these two wells may be reversed in NMED's reporting.

products TCE, cis- 1,2-dichloroethylene (“cis-DCE”), trans- 1,2-dichloroethylene (“trans-DCE”) and vinyl chloride (“VC”).

### 3.0 Proposed Performance Standard

GGI proposes to use Method 2 at 20.6.3.10.B.(2) NMAC to achieve the prescribed performance standard at subsection B.

### 4.0 Summary of Proposed Sampling and Analysis

The proposed Site investigation activities are designed to collect and evaluate sufficient information to support and develop conclusions regarding the source of contamination, if present, the on-site nature and extent of contamination, migration, fate and transport pathways in the environmental media at the site, and to allow the appropriate comparisons to achieve the performance standard in Section 3.0 above. These activities will consist of collection and analysis of sub-slab soil gas beneath the building, collection of indoor air samples from within the building (paired with the sub-slab sampling), and collection of soil gas within the Site boundaries. Groundwater samples will be collected from the two existing on-site monitoring wells and one off-site well, SFMW-1. GGI will prepare a site-specific Health and Safety Plan (HASP) in accordance with 29 CFR1910.120 that will include a discussion of the tasks to be performed, likely hazards, mitigation measures and appropriate personal protective equipment.

#### 4.1 Sub-slab Soil Gas and Indoor Air Sampling

GGI proposes to collect paired indoor air and sub-slab soil gas samples from two locations inside the Site building (Figure 3). The exact location of the paired indoor air and sub-slab samples will be determined after inspection and assessment of the building floor plans and ventilation systems. Indoor air samples will be collected using 6-liter Summa™ canisters placed at well-ventilated locations inside the structure away from exhaust fans, cleaning supplies, and other potential sources of organic vapors. The indoor air samples will be collected over an 8-hour period to match a typical work day. A regulator will be used to provide a continuous flow to the canisters for the 8-hour period. An outdoor ambient air sample will be collected in conjunction with the paired indoor/sub-slab samples to determine background air quality for comparison to the indoor air results. The Summa™ vacuum canisters will be prepared and deployed according to laboratory guidance.

Sub-slab soil gas samples will be collected adjacent to the paired indoor air sample locations inside the building to the extent practicable. Permanent soil gas sampling points will be installed using a hand-held rotary hammer drill and a Vapor-Pin™, or similar, sampling port. The permanent points will be used in order to obtain future samples as needed for remediation purposes, if necessary. The sub-slab soil gas samples will be collected and contained in laboratory-provided 1-liter stainless-steel canisters (Summa™ canister or similar). Sample ports will be installed according to the manufacturer's specifications and will provide an air-tight seal with the building slab to ensure representative sample and prevent short circuiting and dilution with indoor air. See attached manufacturer standard operating procedure (SOP). An air tight dome filled with helium gas will be emplaced over the monitoring point will be used to test for short circuiting during sample collection. The installations will be allowed to rest for a period of at least 48 hours to allow for re-equilibration to ambient sub-slab conditions. Each sample port will be purged for approximately 5 minutes to ensure collection of a representative sub-slab vapor sample. Purged air will be monitored for the presence of breakthrough helium gas.

Hall Environmental Analytical Laboratories ("HEAL") in Albuquerque New Mexico, or one of its subcontracted laboratories, will provide sampling equipment and perform all chemical analysis of the sub-slab and indoor air samples following its corporate quality assurance program. The indoor and sub-slab soil gas samples will be analyzed for volatile organic compounds ("VOCs") using U.S. Environmental Protection Agency ("EPA") method TO-15.

#### 4.2 Soil Gas Sampling

The soil gas investigation will consist of installation of fourteen (14) to sixteen (16) shallow passive soil gas (PSG) collection points installed at roughly 25 to 35 foot spacing (see Figure 4) based on the vendors recommended spacing. To the extent possible, PSG points will be installed at locations that had been sampled in the past by NMED to try and replicate results from the previous studies. Soil points will also be installed near the existing monitoring wells in order to compare soil gas to groundwater concentrations. GGI proposes to use Beacon Environmental's BeSure™ PSG samplers which utilize an adsorbent cartridge to collect volatile organic compounds (VOCs) at a constant uptake rate over a period time between 7 to 14 days. The resulting mass measurements are converted to quantitative concentrations for risk assessment comparison. The shallow PSG samplers will be installed using a roto-hammer type drill capable of installing the points to depths of one to three feet below grade as is typical for screening subsurface vapor intrusion related issues. The PSG samplers will be

prepared, deployed and recovered in accordance with the vendors guidance (see vendors attached sample collection kit instructions for details).

The PSG samples will be analyzed for VOCs including PCE, TCE, cis- and trans-DCE, and VC and will include one duplicate sample collected for quality assurance/quality control measures. Samples will be collected in vendor provided sample collection vials with hydrophobic material and analyzed by EPA Method 8260C with appropriate detection limits.

#### 4.3 Groundwater Sampling

A onetime groundwater sampling event will be conducted to collect updated groundwater analytical results to be used for determining future remediation requirements, if applicable. Groundwater samples will be collected from the two on-site monitoring wells identified as SFMW-2 and SFMW-3 from NMED's previous studies. In addition, a groundwater sample will be collected from SFMW-1 located on the adjacent property to the west provided access can be obtained from the property owner. Purging and sample collection will be performed by using either a new disposable bailer or a decontaminated electric pump. Prior to sample collection, the depth to water and total depth of the well will be measured and recorded. This information will be used to calculate the three casing volumes required to be removed prior to sample collection. However, due to the amount of time since these wells were last sampled additional purge volume is anticipated. Purge volume along with temperature, pH and electrical conductivity will be measured and recorded to ensure stabilization has been achieved. If the purge volume exceeds 5 gallons per well, the fluids will be considered Investigation Derived Waste (IDW) and will need to be containerized, sampled and disposed of based on the sampling results. See GGI's attached groundwater sampling SOP for specific details.

The samples will be collected in appropriate containers supplied by the laboratory and submitted to HEAL for analysis by EPA Methods 8260B and 8270C for volatile and semi-volatile compounds respectively.

#### 5.0 Summary of Proposed Remediation

GGI will complete a risk screening analysis for the indoor air vapor intrusion pathway and for groundwater based on the collected Site data using the NMED Risk Assessment Guidance for Site Investigations and Remediation (February 2019, Revision 2; 12/02/2021). Concentrations of COPCs in groundwater will also be compared to the New Mexico Water Quality Control Commission standards at 20.6.2 NMAC. If the initial

screening analysis indicates a potential risk, at least one additional round of site sampling will be completed to confirm the initial results. If an indoor air or soil gas risk is identified, additional remediation steps will be proposed for NMED review and approval to reduce the contaminant concentrations to below the risk levels. This may include upgrades to the building ventilation system to address indoor air, installation of a sub slab depressurization system to prevent soil gas from migrating through the building slab or a soil vapor extraction system to remove PCE from the soils.

## 6.0 How Proposed Activities Will Meet the VRP Performance Standards

The field investigation and sampling activities described herein will acquire the necessary data to determine the risk posed to human health and the environment, and whether or not the performance standards in Section 3.0 are achieved. If the standards are not achieved, the information will be of sufficient quality to inform additional characterization or remedial actions that may be required to address Site risks to human health and the environment.

## 7.0 References

Glorieta Geoscience, Inc., 2021. *Phase 1 Environmental Site Assessment, 825 Cerrillos Road, Santa Fe, NM.*

New Mexico Environment Department Ground Water Quality Bureau, Superfund Oversight Section, 2002. *Combined Preliminary Assessment and Site Inspection Report, Alarid and Cerrillos PCE Plume Site, CERCLIS ID NM0000605289, Santa Fe, New Mexico.*

New Mexico Environment Department Ground Water Quality Bureau, Superfund Oversight Section, 2010. *Site Reassessment Report – Alarid and Cerrillos PCE Plume Site, CERCLIS ID NM0000605289, Santa Fe, New Mexico.*

Attachments: Figures  
Boundary Survey  
NMED letter April 9, 2021

Appendices Vapor Pin SOP  
Beacon PSG Installation Instruction  
GGI Groundwater Sampling SOP



## Attachments

Figure 1. Site Location Map

Figure 2. Aerial View Site Location Map

Figure 3. Building Layout

Figure 4. Proposed Sample Location Map

Property Boundary Survey Plat

NMED letter dated April 9, 2021

## Appendices

Vapor Pin SOP  
Beacon PSG Installation Instruction  
GGI Groundwater Sampling SOP

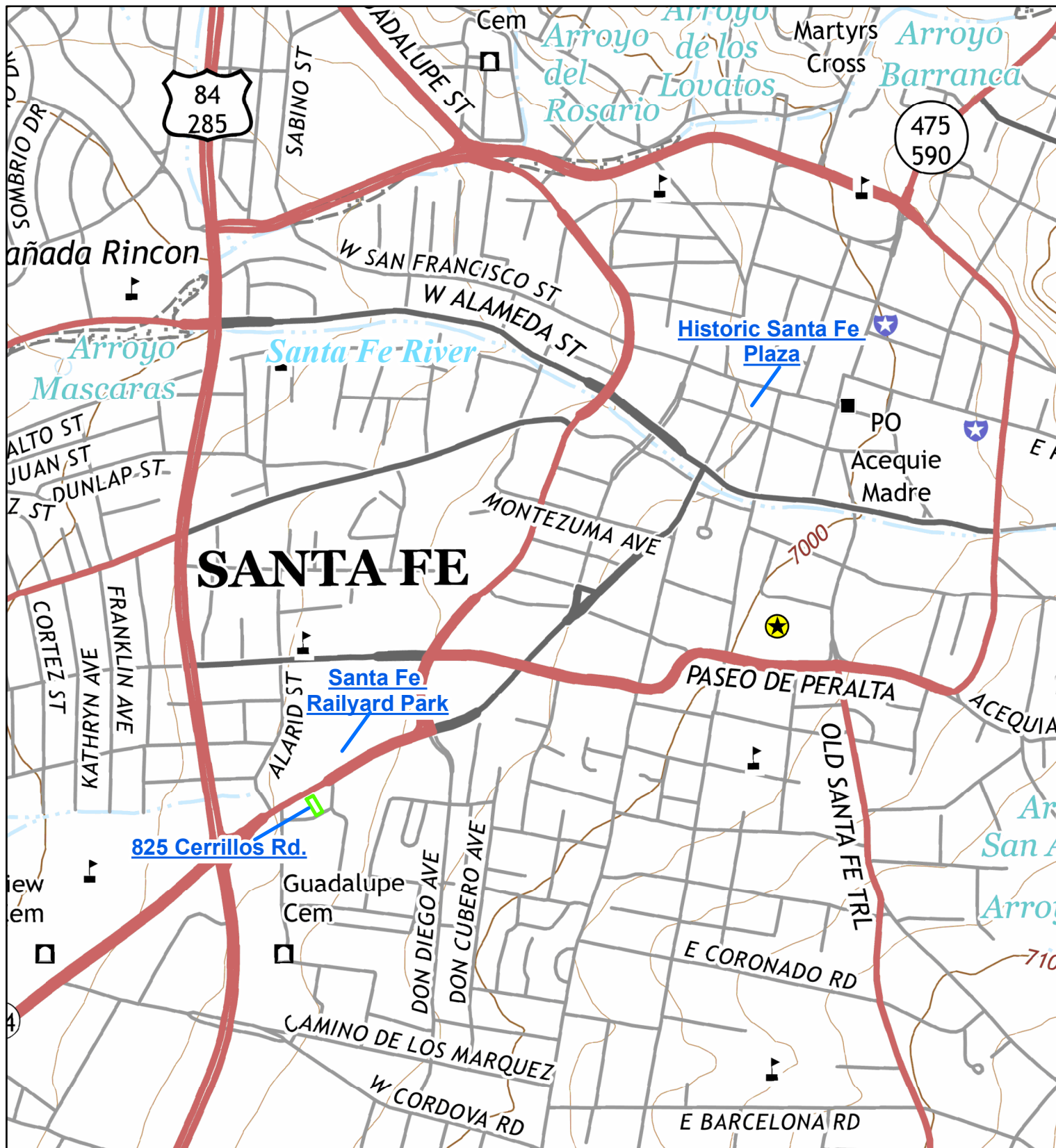
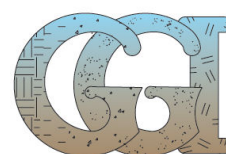


Figure 1. Topographic Map with Site Location  
825 Cerrillos Rd.

0 0.125 0.25 0.5  
Miles

Location of Subject Property



GLORIETA GEOSCIENCE, INC.



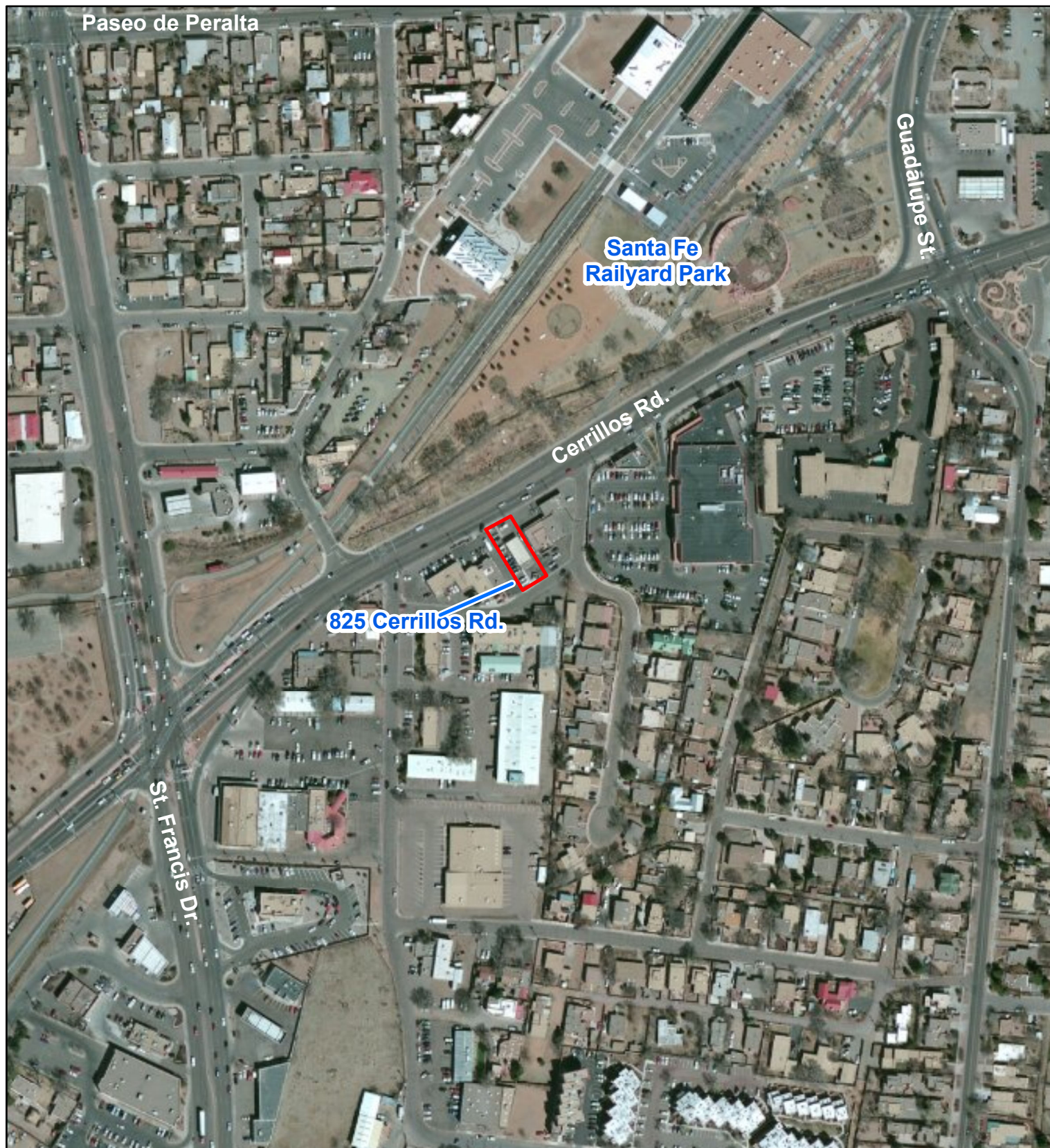

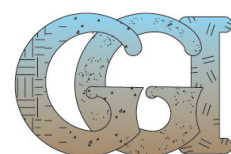


Figure 2. Aerial Map with Site Location  
825 Cerrillos Rd.

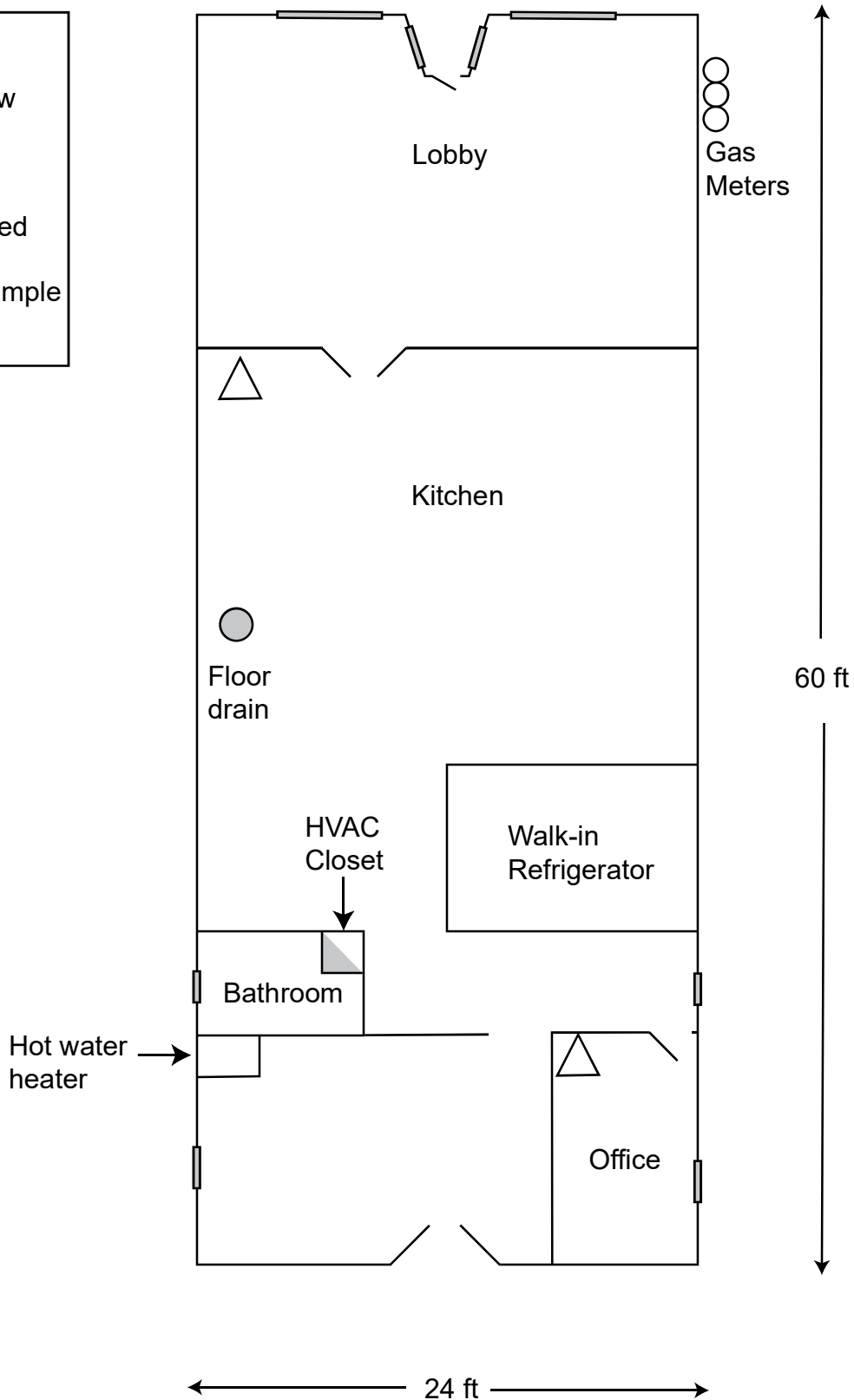
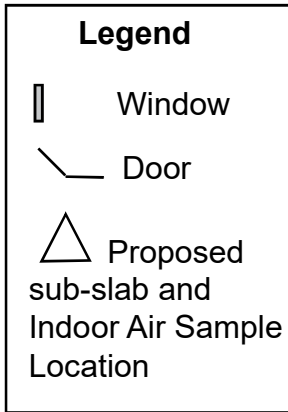
0 250 500 1,000  
Feet

 Location of Subject Property



GLORIETA GEOSCIENCE, INC.

# Figure 3: Edible Arrangements 825 Cerrillos Rd Building Layout





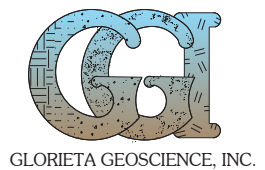


**Figure 4: Proposed Sampling Locations**  
**Preliminary Workplan: 825 Cerrillos Rd.**

0 25 50 100  
Feet



- |  |   |
|--|---|
|  Survey Property Boundary |  Proposed Soil Gas Samples |
|  Monitoring Wells         |  Proposed Sub-Slab Samples |







**Michelle Lujan Grisham**  
Governor

**Howie C. Morales**  
Lieutenant Governor

**NEW MEXICO  
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**Ground Water Quality Bureau**

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**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

April 9, 2021

Jeffrey H. Miles  
Registered Agent for FJC, LLC  
2206 Calle Cacique  
Santa Fe, NM 87505

Susan Varela  
1409 Miracerros Lane  
Santa Fe, NM 87505

Phillip Varela  
1526 Cerrillos Road  
Santa Fe, NM 87505

**Re: Submittal Required – The Former La Unica Drive In Cleaners and Tailoring, 825  
Cerrillos Road, Santa Fe, New Mexico**

Dear Mr. Miles, Ms. Varela, and Mr. Varela:

The New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) hereby requires you to submit a work plan to further assess chlorinated solvent (CVOC) contamination at the property referenced above (Site). According to the City of Santa Fe business directories, your property located at 825 Cerrillos Road was listed as a former dry cleaner throughout the 1970s. Dry cleaners pose particular environmental concern for communities due to the ubiquitous use, storage, and disposal of CVOCs.

GWQB first became aware of your property's potential environmental status in 1995 during an assessment of petroleum contamination at the former Phillips Petroleum Company Bulk Fuel Terminal (BFT) site located at 760 Cerrillos Rd. Groundwater data collected from wells on the former BFT property showed the presence of the CVOCs, tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-Dichloroethene (DCE), in excess of Environmental Protection Agency (EPA) Maximum Contaminant Levels (MCLs). At the time of discovery, GWQB did not

*got everything  
out  
of  
four  
clothes*



consider COVCs to be contaminants of concern (COCs) from the former BFT, suggesting that the COVCs were migrating onsite from an offsite source.

GWQB verified the presence of CVOCs in the Site subsurface in 1998. A groundwater monitoring well, installed at the Site in August 1998 by Dames and Moore, Inc., confirmed the presence of PCE in excess of the PCE groundwater quality standard in Subsection 3103 of the New Mexico Ground and Surface Water Protection regulations (20.6.2 NMAC). The reported PCE concentration was an order of magnitude greater than the PCE concentrations observed at the former BFT, imparting further evidence that the source of the CVOCs were likely originating near the Site.

Site soil vapor screening results further corroborated the groundwater results. Soil vapor readings obtained during advancement of the wellbore indicated vapors in mass in the vadose zone at approximately 53 to 55 feet below ground surface; however, the corresponding soil data did not quantify the individual vapor constituents.

In 2000, GWQB installed three additional groundwater monitoring wells at the Site as part of an EPA funded Comprehensive Environmental Response, Compensation, and Liability Act Integrated Assessment (CERCLA IA). GWQB hoped information from these additional wells would further characterize CVOCs in groundwater and conclusively pinpoint to a release. Soil collected during advancement of the wellbores reported PCE above analytical detection. The presence of residual PCE in Site soil in the vadose zone conclusively indicates one or more discharges of CVOCs occurred at the Site; however, due to the limited number and type of environmental samples collected during the CERCLA IA, GWQB was unable to determine an exact release point or the magnitude and extent of the COVC contamination.

Since 2000, GWQB has periodically collected groundwater samples at the Site to monitor the degree of continued CVOC groundwater impacts. GWQB completed the most recent groundwater sampling event in 2017. The 2017 results show PCE and DCE persist at concentrations in excess of applicable NM groundwater quality standards, and thus, GWQB requires further environmental assessment and possible remediation at the Site.

Pursuant to Section 74-6-9(D) of the Water Quality Act, NMED has the authority to make every reasonable effort to obtain voluntary cooperation in the prevention or abatement of water pollution. After careful review, GWQB concludes the CVOC impacts observed in groundwater in the vicinity of the Site are attributable to the Site. As the current or previous registered owners of land with documented impacts, pursuant to 20.6.2.1203(C) NMAC, GWQB requires you to initiate further Site assessment of soil vapor and groundwater and possible remediation. You may accomplish this through:

- Voluntary submittal of a Stage 1 Abatement Plan pursuant to 20.6.2.4106.B NMAC; or
- Application for a Voluntary Remediation Program (VRP) agreement pursuant to the Voluntary Remediation Regulations (20.6.3.200.B NMAC).

Mr. Miles, Ms. Varela, and Mr. Varela  
April 9, 2021  
Page 3 of 3

Please voluntarily submit a Stage 1 Abatement Plan or a VRP application within sixty (60) days of receipt of this letter. If NMED does not receive a submittal within the required timeframe as described above, NMED will require an Abatement Plan pursuant to Section 20.6.2.4104 NMAC.

If you have questions specific to abatement or you require any documentation of the information referenced herein, please contact Kate Herrell of the Remediation Oversight Section (ROS) at 505-670-1796 or [kate.herrell@state.nm.us](mailto:kate.herrell@state.nm.us) or Justin Ball, State Cleanup Team Leader, at 505-670-1428 or [justin.ball@state.nm.us](mailto:justin.ball@state.nm.us). If you have questions specific to the NM VRP, please contact Rebecca Cook, VRP Team Leader at (505) 670-2135. Furthermore, if you have information regarding additional entities who may be responsible for the CVOC contamination at the Site, GWQB will consider any submitted written documentation.

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Thank you for your prompt attention to this matter.

Sincerely,

Karen  
Menetrey

Digitally signed by  
Karen Menetrey  
Date: 2021.04.09  
16:20:02 -06'00'

Karen Menetrey, Program Manager  
Remediation Oversight Section  
Ground Water Quality Bureau

cc: Shannon Jones, City of Santa Fe, Public Utilities Director, [swjones@santafenm.gov](mailto:swjones@santafenm.gov)  
Chris Atencio, OGC, [Christopher.Atencio@state.nm.us](mailto:Christopher.Atencio@state.nm.us)  
Michelle Hunter, GWQB, [michelle.hunter@state.nm.us](mailto:michelle.hunter@state.nm.us)  
Justin Ball, ROS-SCP, [justin.ball@state.nm.us](mailto:justin.ball@state.nm.us)  
Rebecca Cook, ROS-VRP, [Rebecca.Cook@state.nm.us](mailto:Rebecca.Cook@state.nm.us)  
Kate Herrell, ROS-SCP, [kate.herrell@state.nm.us](mailto:kate.herrell@state.nm.us)  
ROS Reading File



## Standard Operating Procedure Installation and Extraction of the Vapor Pin®

Updated September 9, 2016

### Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® for use in sub-slab soil-gas sampling.

### Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® for the collection of sub-slab soil-gas samples or pressure readings.

### Equipment Needed:

- Assembled VAPOR PIN® [VAPOR PIN® and silicone sleeve(Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole must be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;

- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN®.



Figure 1. Assembled VAPOR PIN®

### Installation Procedure:

- 1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
- 2) Set up wet/dry vacuum to collect drill cuttings.
- 3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.
- 4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole must be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

VAPOR PIN® protected under US Patent # 8,220,347 B2, US 9,291,531 B2 and other patents pending

- 5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.
- 6) Place the lower end of VAPOR PIN® assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.



Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® shoulder. Place the protective cap on VAPOR PIN® to prevent vapor loss prior to sampling (Figure 3).



Figure 3. Installed VAPOR PIN®

- 7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).



Figure 4. Secure Cover Installed

- 8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.
- 9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN®. This connection can be made using a short piece of Tygon™ tubing to join the VAPOR PIN® with the Nylaflo tubing (Figure 5). Put the



Nylaflow tubing as close to the VAPOR PIN® as possible to minimize contact between soil gas and Tygon™ tubing.



Figure 5. VAPOR PIN® sample connection

- 10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.



Figure 6. Water dam used for leak detection

- 11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the protective cap and flush mount cover

until the next event. If the sampling is complete, extract the VAPOR PIN®.

#### Extraction Procedure:

- 1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.

- 2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.



Figure 7. Removing the VAPOR PIN®

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN® in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, STAINLESS – 1/2 hour, BRASS 8 minutes
- 3) Replacement parts and supplies are available online.



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www.glorietageo.com

## **Standard Operating Procedure (SOP) for COLLECTION OF GROUND WATER SAMPLES FROM DAIRY FACILITIES AND SIMILAR SITES**

**Author:** P. Goetze

**Reviewed by:** P. Drakos

**Date:** 02/09/09

**Modified:** 01/23/10 by P. Goetze

**Reviewed by:** J. Reisterer

### **Purpose and Scope**

The purpose of this SOP is to provide guidelines for collection of ground water samples from dairies and other facilities for regulatory compliance.

### **A. GROUND WATER SAMPLING PROCEDURE FOR DAIRY AND SIMILAR SITES**

**Pre-sampling Requirements:** Sample kits with proper containers and proper preservatives; field notebook; sampling equipment (pump, bailers, water level meter); access to monitoring wells (lock keys, gates, well locations, etc.); arrangements for shipping samples.

#### **General Health and Safety Directives:**

**Recommended PPE:** Appropriate work attire; nitrile or latex gloves

#### **1. Access Monitoring Well**

Unlock and open well vault. Remove the temporary plug at the top of the casing. Inspect the condition of well for damage or signs of tampering (staining/discoloration). Note the inside diameter of the well casing (typically either a two (2)-inch interior diameter (ID) or a four (4)-inch ID) and any marks that would indicate a measuring point on the well casing. Enter observations/comments in field notebook.

#### **2. Measurement of Static Water Level**

Measurement of static water levels should be conducted at all wells prior to sampling the wells. Monitoring wells should be measured starting with the least contaminated well and ending with the well with the highest contamination based on previous sampling results.

a. **Water Level Meter (Sounder):** Use a calibrated water level meter (sounder) to measure the depth to water in the well. Inspect the meter for the following conditions:

- a. any contamination that may affect the well water quality, especially on the probe tip and probe housing,
- b. any evidence of cracking in the meter tape that may cause false readings,
- c. any evidence of large kinks or bends of the meter tape that may affect the calibration.

Test the water level meter prior to first use for a sampling event to insure proper operation. Some meters have a self-test mode, others may require immersion into a clean container of water.

Lower the water level meter until an alarm indicates contact with the water surface. This may be a light or audible alarm, or both depending on the model of the water level meter. Make sure that the meter tape is free of any adhesion to the well casing that may occur on deeper wells (100 ft or greater). Note the depth to the static water level to a measuring point (MP) on the casing. The MP may be an existing mark (a mark by a marking pen or a cut in the casing), the highest point of an uneven cut at the top of the well casing, or the north side of the well casing. The measurement must be to the hundredth of a decimal place or 0.00 ft.

Lift the meter probe above the static water level and repeat the measurement using the same MP. Insure that the two measurements are within ( $\pm$ ) 0.05 feet (Note: NMOSE and USGS protocols require ( $\pm$ ) 0.02 feet) for an accurate reading. Repeat with a third measurement if the two previous measurements are greater than the acceptable margin of error.

If the total depth of the monitoring well is not known and the well is known to be less than 300 feet total depth, measure the total depth of the well with the meter, but with the alarm off. Use the same MP as the static water level measurement. The total depth of the well must be estimated based on feeling the weight of the meter probe as the bottom of the well is reached. This measurement will require several attempts before a consistent depth measurement can be made.

- b. **Graduated Steel Tape:** When access to the well is limited (such as the pump motor installation at the top of the surface casing) or a greater accuracy in measurement is required, use a steel survey tape to measure the depth to water in the well. The steel tape is a metal surveyor's tape that is usually stored on a metal reel with a collapsible hand crank. Inspect the steel tape for the following conditions:
- a. that the tape length is appropriate for the estimated depth to water and the tape end is complete (graduated marks with increments of 0.01 of a foot).
  - b. any contamination that may affect the well water quality.
  - c. any evidence of cracking or severe kinking/bending in the tape and that the end is properly attached to the reel housing.

In addition to the steel tape, blue carpenter's chalk will be required to mark the graduated end of the tape to be lowered into the well. Coat the lower three to four feet of the tape with the blue chalk.

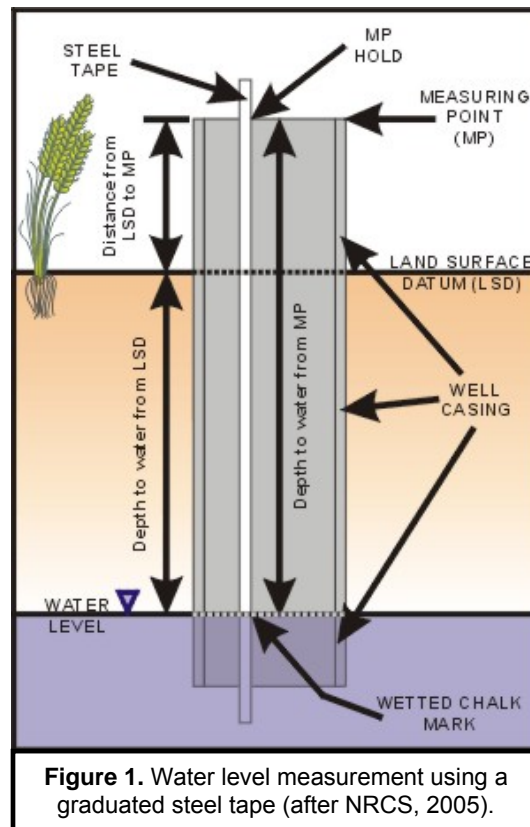
Lower the steel tape into the well until two to three feet of the tape's end is submerged in the water (see Figure 1). It may be necessary to make several measurement attempts to properly submerge the chalked length of the tape at a well where there is not approximate depth to water or recorded information. This will

provide a defined measurement range that the tape can be lowered to the top of casing and not have the chalked, graduated length of tape totally submerged. Make sure that the steel tape is free of any adhesion to the well casing that may occur on deeper wells (100 ft or greater).

Lower the tape to the estimated depth with the closest foot-marker adjacent to the MP. Record the tape foot-marker to a reference point or MP on the casing. Do not lower the tape and then raise the steel tape to the MP since this will provide an inaccurate depth on the chalked end of the tape. Remove the tape from well and record the wetted length of steel tape to the hundredth of a decimal place or 0.00 ft. To calculate the depth to water from the MP, subtract the wetted length measurement from the tape foot-marker at the MP.

Prepare the steel tape (clean end and apply chalk) and repeat the measurement using the same MP. Insure that the two measurements are within ( $\pm$ ) 0.05 feet (Note: NMOSE and USGS protocols require ( $\pm$ ) 0.02 feet) for an accurate reading. Repeat with a third measurement if the two previous measurements are greater than the acceptable margin of error.

As in the case of the sounder measurement, the MP may be an existing mark (a mark by a marking pen or a cut in the casing), the highest point of an uneven cut at the top of the well casing, or the north side of the well casing. If the MP is not established, measure the distance from the MP to the ground surface.





The total depth measurement of a well should be taken periodically since many monitoring wells will accumulate sediment in the bottom that will change the depth of the well. As a general rule, the total depth should be measured at least once per year.

Decontamination of the probe and lower portion of the water level meter wire/steel tape is to be done between wells with a solution of Alconox™ (or equivalent soap) and distilled water (or DI water). Any portion of the meter that comes in contact with the well and well water should be decontaminated.

### 3. Calculate Purge Volume

The accepted volume for successful purging of the well prior to sampling is three (3) bore volumes. There are 0.163 gallon per vertical foot of water in a well with 2-inch (ID) well casing and 0.653 gallon per vertical foot of water in a well with 4-inch (ID) well casing. If the monitoring well casing has an inner diameter other than the standard 2 or 4 inches, you will need to make a calculation of the volume per foot for that particular well ID based on the following equation for the column of a one-foot tall cylinder:

$$\text{Volume of a cylinder} = \pi \times r^2 \times h$$

Where  $r$  = inner radius of the casing in feet ( $\frac{1}{2} \times \text{ID} \div 12$  (inches per ft)),  $h$  = height of 1 ft,  $\pi = 3.1416$

Equation Becomes:

$$\text{Volume (gallons per ft)} = (3.1416 \times ((D \div 24)^2) \times 7.48$$

Where  $D$  = well casing inner ID in inches, and there are 7.48 gallons in 1 ft<sup>3</sup>

For Example:

Well casing ID = 4 inches

$$\text{Volume (gal/ft)} = 3.1416 \times ((4 \div 24)^2) \times 7.48$$

$$= 3.1416 \times 0.028 \times 7.48$$

$$= 0.653 \text{ (gal/ft)}$$

To calculate the purge volume, first multiply the height ( $h$ ) of the water column [total depth of well – depth to water in feet] by 0.653 (for a 4-inch well) or 0.163 (for a 2-inch well) to get the total volume of water in the well casing. Then multiply this calculation by three to get the required three well bore volumes for purging.

Use the following formulas:

Height of water column

( $h$ ) = total depth of well – depth to water

One Well Bore Volume

$$(\text{BV}) = (h) \times 0.653 \text{ (gal/ft)} = \text{Gallons (for 4-inch ID well casing)}$$

Or

$$(\text{BV}) = (h) \times 0.163 \text{ (gal/ft)} = \text{Gallons (for 2-inch ID well casing)}$$

Minimum purge amount:

$$\text{BV} \times 3 = 3 \text{ BV}$$

Complete a table similar to this example.

Monitoring Well ID	Total depth of well (in ft)  <b>A</b>	Depth to water (in ft)  <b>B</b>	Water column height (in ft)  <b>h = (A-B)</b>	One well bore volume (in gal)  <b>BV = (h x gal/ft)</b>	Total purge volume (in gal)  <b>3 x BV</b>	Actual volume purged (in gal) or Purge Time	Sample Time or Pump Depth
MW 1							
MW 2							
MW 3							
MW 4							

Calculate the required purge volume for each well prior to pumping. You will need to pump out three times the volume of water calculated to be in the casing.

#### 4. Well Purging Procedures

- a. **Purging with a bailer:** On shallow, small-diameter wells, or if equipment failure does not permit, a single-use (disposable) bailer can be used. Attach a single-use bailer to an unused, clean rope or strong string (white nylon braided mason's twine or equivalent) with an appropriate length to reach below the static water level and capable of suspending the full bailer's weight. A weighted bailer is preferred for purging. A recommended step is to wind the rope on a reel used for lawn hoses or extension cords. Make sure that the bailer rope is attached to the reel or some other surface feature prior to bailing. Try to keep the bailer rope from becoming contaminated by surface debris or other materials that could impact the sample.
- b. **Purging with a pump:** Place pump in well casing and lower to the water column. Placement of the pump should be below the middle of the screen and above the bottom of the well casing is critical for proper purging. The purge pump may be placed near the very bottom of the well if the observed conditions require this position (e.g. small water column, a history of poor recharge). Start the purging and monitor the pumping time and measure flow (gallons per minute) with a five-gallon bucket or other known volume container. Adjust the flow of the purge pump as needed to insure a steady rate of flow.

Divide required purge volume (gallons) by flow (gallons per minute) to figure time needed to pump three well bore volumes. Pump well until the required amount has been purged. Purging more than three well bore volumes is acceptable, but will not necessarily improve the quality of the sample.

- c. **Purging of domestic or production (irrigation) wells:** Domestic or irrigation wells usually have their own dedicated pump either submersed in the well or attached to the top of the well with piping and drive shaft extending down below

the ground water (turbine-shaft pump). The turbine shaft pumps are used in large production applications such as irrigation wells and municipal wells.

Arrange for access to the well and obtain a water level if possible following the procedures used in a monitoring well. Document the measuring point and other information regarding elevation of the measuring point and well conditions.

Purging times of domestic wells will vary based on pump size, depth to water, and the associated domestic pipe system. As a general rule, twenty minutes of active pumping and discharging of domestic wells is sufficient to purge the original well volume and additional bore volumes (Koterba et. al., 1995). Individual assessment of domestic wells may be required to determine if a sufficient purge volume has been completed.

Purging times of the larger wells will depend on schedules for irrigation or for production for storage in surface containers (tanks, lagoons, etc.). Contact the well operator (e.g. property owner, dairy manager, water system technician) and determine an appropriate time for sampling that conforms to the pumping schedule. These pumps may operate over significant periods and the ability to obtain a static water level may not be possible at the time of sampling.

Do not attempt to operate any pump or sample without a property owner or designated representative present.

**Safety Note: Be careful regarding sampling operations around turbine wells. The motors for this type of well run with high voltage and high revolutions. If there is a concern for personal safety or equipment safety, do not sample and arrange for another day for sampling. This is especially true in the vicinity of lightening storms during summer months.**

- d. **Special conditions:** If the well becomes dry during the purging for the minimum volume (three bore volumes), suspend the purging activity. Note the time in your field notebook. Wait a sufficient amount of time for the well to recharge, then obtain a sample with a disposable bailer. The recharge time varies from a few minutes to possibly an hour.

## 5. Ground Water Sample Preparation

After the three well bore volumes have been pumped, the monitoring well is ready to sample. Make sure you are wearing disposable protective gloves to prevent cross-contamination and provide protection from preservative, preferably non-latex (nitrile or polyvinyl are suitable). Also, change your gloves between samples at each monitoring well.

It is best to pull the pump after purging and use a bailer to sample the well. Tie string to bailer and drop into well, pull up the bailer and fill bottles. The submersible pump may be used for sampling if proper decontamination procedures have been followed and the pump flow was constant through the purging process. **Be sure to fill the unpreserved bottles first followed by the sample bottles with preservative last.**

Label sample bottles immediately so there will be no confusion between samples collected from each well. Typically, bottles with preservative will be analyzed for TKN

and nitrate-N. Unpreserved bottles will be analyzed for TDS and chloride. Note time of collection, the date, and the monitoring well number on sample bottle. Place the labeled sample bottles on ice as soon as they are filled and labeled.

Sample notes should have the minimum following information:

1. Site or Location (facility name)
2. Well name or number
3. Date of sample
4. Time of sample
5. Name of person performing sample
6. Preservation (such as acid type or “cold” for no preservation)
7. The type of analyses
8. Any noticeable odor, color, sediment amount in the sample

Custody-control tape may be applied to the individual bottles, or to the shipping container based upon the method of delivery to the laboratory.

**Lagoon Samples:** The same general procedures for ground water samples should be applied to lagoon samples. Special care should be used regarding personal safety when obtaining samples directly from the edge of lagoons as the footing in these areas can be dangerous causing falls into the lagoon. This sample should be obtained with a container that will provide a composite or mixed representative sample of the lagoon water. A sample “dipper” can be constructed by attaching a clean, plastic container with a wide opening to a length of light weight wooden pole or pipe, such as PVC. This dipper must either be a one-use sampling device that is disposed of after each sample location or must be decontaminated between sample locations as described below (Section 8) for the pump.

**Domestic or Production (Irrigation) Well Samples:** The same general procedures for ground water samples should be applied to domestic and production well samples. Be sure to select a sample location that will not include one of the following problems:

- *A sample location that may be at the end of a significant distance of piping.* Fine a sample location that is close to the pump source. This reduces the potential for stagnant water to be included in the sample.
- *On irrigation wells, be careful of lines and systems that add fertilizers to pipe systems.* Many irrigation wells combine green water and/or chemical fertilizers as part of the delivery system such as a center pivot. Again, the closer to the pump source, the reduction in possible contamination from sources outside the well.

Obtain the water sample, then complete the same labeling and chain of custody procedures as a ground water sample. Document the sample location and any other pertinent information about the sample.

## **6. Quality Control of Samples**

The base requirement for Quality Control (QC) for this procedure is compliance with the standard operating procedure (SOP). Requirements for QC samples are not necessary at this time due to the limited number of samples at each dairy or facility with a discharge permit. Standard practice by the United States Environmental Protection Agency requires QC samples such as duplicate samples for a facility with a number of samples equal to 10 or greater, or trip blanks and field blanks with a

sampling procedure that involves analyses for volatile organic compounds (e.g. solvents and gasoline).

There are specific “holding times” for the analytical procedure being performed on the samples. The holding time is the amount of time allowed between collecting the sample and analyzing the sample at the laboratory and is specific to the analytical method being used for the samples. The laboratory will provide guidance as to the limits of the holding times for the list of chemicals that are being sampled.

As part of the QC process, the scheduling of sampling events and the required time for delivery to the analytical laboratory must be estimated in order to be less than the shortest holding time for all of the chemicals being analyzed in the sample. This estimate must also permit an acceptable amount of time for the laboratory to perform their preparation work before analysis.

## **7. Sample Handling and Shipping**

Samples should be examined for accurate labeling for both the individual sample bottles and the Chain-of-Custody Document supplied by the analytical laboratory. The preservation of the sample includes the refrigeration with either clean ice in sealed bags or freezer packs such as Blue Ice™. The laboratory may provide freezer packs with a prepared sample kit. The laboratory will provide directions regarding shipping companies (FedEx or bus lines), and notify the laboratory of the shipment of the samples.

Packaging of the samples in a cooler must be completed so that the cooler will not be opened (such as wrapping with shipping tape and some tamper-proof tape). The samples have to be packed such that the bottles will not leak or break if the container is bumped during transit. Generally, it is recommended to seal sample bottles in Zip-lock™ (or similar) bags and pack clean newspaper or bubble-wrap around bottles and ice packs to prevent them from moving during transit.

## **8. Sampling Equipment Decontamination**

First submerge pump in a clean PVC tube (or clean bucket) filled with a solution of Alconox™ (or equivalent non-phosphate cleaning product) and clean water. The Alconox™ solution should be prepared as directed on the label, preferably mixed/dissolved in a clean one-gallon container. Place the concentration of the Alconox™ solution in a clean decontamination tube. Run the pump with the Alconox™ solution adding clean water as the decontamination tube is drained by the pump. Run the pump for five minutes or longer if there are solids in the pump tubing and inspect the pump tubing for any residual solids.

Clean water is defined as water from a proven source with a known quality. This may include a source at a facility where there is a demonstrated analysis that no contaminants of concern are found in the water source.

*Volume Calculation Note:* The volume of ½-inch ID tubing is 0.00136 cubic feet per linear foot. For a 180-foot pump the single volume is approximately 1.8 gallons; three volumes would be approximately 5.4 gallons.

The volume of one linear foot of ½” ID tubing is .01 gallon; 100 feet of tubing has a volume of 1 gallon.

The volume of one linear foot of 3/8" ID tubing is 0.006 gallon; 100 feet is 0.6 gallon.

A rinse consisting of three volumes of the pump tubing is conducted with clean water following the initial pumping with the Liquinox™ (or Alconox™) solution. Inspect the pump discharge for evidence of any residual cleaning solution and repeat the second rinse procedure if necessary. A final rinse of the pump tubing (one volume of the tubing) is to be completed with distilled water or deionized water. Rinse the exterior of pump tubing with clean water and inspect for condition.

Discharge of the solution should be at a location that will not impact the monitoring well or dairy operations **Decontaminate the purge pump after completion of the sampling event at each monitoring well.** Move to next monitoring well and repeat all steps as listed above for purging and sample preparation.

## 9. References For Guidance

American Society for Testing and Materials, 1999, *ASTM Standards on Ground Water and Vadose Zone Investigations: Drilling, Sampling, Geophysical Logging, Well Installation and Decommissioning*, Second Edition.

Barcelona, M.J., Gibbs, J. P., Helfrich, J. A., and Garske, E. E., 1985, *Practical Guide for Ground-Water Sampling*, ISWS Contract Report 374, Illinois State Water Survey.

Koterba, M. T., Wilde, F. D. , and Lapham, W. W., 1995, *Ground-Water Data-Collection Protocols and Procedures for the National Water-Quality Assessment Program: Collection and Documentation of Water-Quality Samples and Related Data*; United States Geological Survey Open File Report

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United States Environmental Protection Agency, 2003, *Index to EPA Test Methods, April 2003 Revised Edition*, EPA 901/3-88-001 Revised.

**Example of Sampling Records: Happy Cow Dairy**

**Readings recorded on February 27, 2008:**

Monitoring Well ID	Total depth of well (in ft) <b>A</b>	Depth to water (in ft) <b>B</b>	Water column height (in ft) <b>h = (A-B)</b>	One well bore volume (in gal) <b>BV = (h x gal/lf)</b>	Total purge volume (in gal) <b>3 x BV</b>	Estimated Purging Time	Pump Intake Depth (ft)
MW #1	84.23	53.58	30.65	20.1	60.0	<b>10-15 min</b>	<b>70 feet</b> (5 feet after MW#3 mark)
MW #2	61.00	44.80	16.20	10.6	31.7	<b>10-15 min</b>	<b>50 feet</b> (15 ft before MW#3 mark)
MW #3	75.35	47.03	28.32	18.5	55.4	<b>10-15 min</b>	<b>65 feet</b>
MW #4	70.13	46.98	23.15	15.1	45.4	<b>30 min</b>	<b>60 feet</b> (5 ft before MW#3 mark)

**End of Document**