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## **FINAL REMEDIATION PLAN**

**HALSELL'S GROCERY STATE-LEAD SITE**

**112 SCHOOL STREET**

**HATCH, NM**

**FACILITY #6053      RID #287**



**MARCH 24, 2022**



**Souder, Miller & Associates**  
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## FINAL REMEDIATION PLAN HALSELL'S GROCERY STATE-LEAD SITE

112 SCHOOL STREET  
HATCH, NEW MEXICO

FACILITY #6053      RID #287      WPID #4222-3

March 24, 2022

### 1.0 INTRODUCTION

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This Final Remediation Plan (FRP) has been prepared by Souder, Miller & Associates (SMA) for the Halsell's Grocery State-Lead site located at 112 School Street, Hatch, New Mexico. This FRP is pursuant to the New Mexico Petroleum Storage Tank Regulations, 20.5.119.1923 NMAC and was written in accordance with the SMA workplan dated October 14, 2021. The New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) approved the workplan on October 26, 2021, and issued it workplan ID (WPID) #4222 and Contract #22 667 3200 0002.

#### **1.1 Site Background**

According to a 1991 *Inspection Report* from the former Underground Storage Tank Bureau, now PSTB, Halsell's Grocery was an underground storage tank (UST) site. The system was installed in 1997 and consisted of two 3,000-gallon steel tanks, associated piping, and dispensers. Product stored in the tanks included regular and unleaded gasoline. An *On-Site Investigation Report* from ENCON International (1992) states that in January 1991, hydrocarbon odors were observed during a nearby street reconditioning project. In September 1991, the tanks were exposed and confirmed as the source of the release.

An on-site investigation occurred in 1992, which included drilling of seven soil borings, installation of three monitoring wells, and laboratory analyses of soil and groundwater samples. The investigation verified soil and groundwater were impacted by petroleum hydrocarbons from the UST system.

Though the fueling system has been decommissioned and removed, an active grocery store with small restaurant remain on site. A Site Map (Figure 1) showing the general site layout, existing monitoring wells, and approximate contamination area is attached.

## **1.2 Site Geology and Hydrology**

Soil boring logs from the 1992 *On-Site Investigation Report* indicate the site is characterized by near surface clayey sand (0-3 ft bgs), underlain by clays and interbedded sands (3 – 9 ft bgs), followed by a clayey fine sand (9-25 ft bgs). Currently, the site is capped by an asphalt parking lot and concrete sidewalks. A copy of the boring logs is included in Appendix A.

Groundwater at the site averages approximately 9.6 feet below ground surface (bgs), with a general trend of decreasing depths since 2000. The groundwater gradient flows to the south-southeast at approximately 0.0007 ft/ft.

A Hydrogeologic Cross Section (Figure 2) showing soil lithology and groundwater depths is attached.

## **1.3 Site Contamination**

Monitoring well MW-1 is located in the vicinity of the release source and has historically contained contaminants of concern (COCs) above New Mexico Water Quality Control Commission (NMWQCC) standards, particularly for dissolved-phase benzene and total naphthalenes. MW-1 has also exhibited measurable non-aqueous phase liquid (NAPL) between 2011-2017 when groundwater was deeper (13-16 feet bgs). The most recent sampling event, which occurred in December 2021, indicated COCs below NMWQCC standards, though hydrocarbon odors were noted from the well during groundwater sampling activities.

Monitoring well MW-2 is located approximately 115 feet southeast and downgradient of the source area. This well typically has not demonstrated COCs above NMWQCC standards, with the exception of dissolved-phase benzene in 2006, 2012, and 2019. The last sampling event in December 2021 showed COCs concentrations below standards.

Monitoring well MW-3 is located approximately 110 feet north and upgradient of the source area. This well has been below NMWQCC standards for COCs since it was first sampled in 1992.

The extent of known dissolved-phase contamination is estimated at approximately 2,000 square feet and as deep at 16 feet bgs.

## **2.0 REMEDIATION GOALS AND APPROACH**

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The remediation goal for the site is focused on the reduction of contaminant levels to acceptable regulatory standards. The site-specific threats to public health and/or environment include:

1. The presence of dissolved phase contaminant concentrations in excess of the NMWQCC Standard (20.5.119.1929.A(3) NMAC).

The target concentrations protective of groundwater for volatile contaminants of concern in groundwater are based on the NMWQCC standards:

**Table 2.1 Groundwater Remediation Target Concentrations**

Site-Specific Contaminant of Concern	Groundwater Concentration (mg/L)*
Benzene	0.005
Toluene	1
Ethylbenzene	0.7
Total Xylenes	0.62
Total Naphthalenes	0.03
MTBE	0.1
EDB	0.00005
EDC	0.005

\*Per 20.6.2.3103.A NMAC, effective December 2018.

Monitoring well MW-1 had detectable NAPL between 2011 – 2017, ranging in thickness from a sheen (~0.1 inch) to 1.69 ft. When NAPL was not detected, groundwater concentrations in monitoring well MW-1 were consistently above standards for benzene and total naphthalene, and concentrations in monitoring well MW-2 were reported above the standard for benzene as recently as September 2019.

The remedial goal is to reduce petroleum hydrocarbon contaminant concentrations to below NMWQCC groundwater standards and facilitate a No Further Action (NFA) status for the site. For the Halsell's Grocery site, this primarily means reducing the benzene and total naphthalene concentrations in MW-1 to less than the NMWQCC benzene standard of 5 µg/L and total naphthalene standard of 30 µg/L. Remedial actions within the vicinity of the source area are expected to reduce COC concentrations in MW-1 and MW-2 to below standards.

## **2.1 Rationale**

Per consultation with Remington Technologies, Inc. (Remington), a standard COGAC™ solution was selected for this site to achieve the remedial goals. COGAC™ (chemically oxygenated granular activated carbon) is a high carbon content chemically oxygenated granular activated carbon. Remington provides six different activated carbon products to target differing site conditions. Based on available groundwater data, the standard COGAC™ was deemed most appropriate for use at the site. Field measured dissolved oxygen (DO) and oxidation-reduction potential (ORP) data suggest that oxygen is being consumed to some degree by biodegradation or other natural attenuation mechanisms. Additionally, the groundwater pH was measured within the neutral range.

COGAC™ is a combination of sodium persulfate, calcium peroxide, and activated carbon product that provides for three methods of contaminant concentration reduction: sorption of the contaminants for reduced flux into the groundwater, initial in-situ chemical oxidation (ISCO), and a transition to biological stimulation of indigenous microbes. A benefit of COGAC™ is that it can enhance biodegradation under both aerobic and anaerobic conditions.

A copy of the COGAC™ safety data sheets is included in Appendix B.

## **2.2 Remediation Approach**

The injection will be performed using a Geoprobe 7822DT direct push rig with injection tips. The rig is equipped with four 300-gallon mixing/injection tanks and four diaphragm pumps for injection. Given the relatively shallow nature of the groundwater at this site, injection will be set at approximately 20 gallons per minute (gpm) to minimize the potential for surfacing of injectate.

Multiparameter meters will be used to monitor water quality parameters, including DO, pH, temperature, and ORP before, during, and after injection in existing monitoring wells. In addition, a water level meter will be used to monitor groundwater levels at the site.

Historical site maps indicate there are buried utilities south of MW-1. This utility corridor must be located and researched with a New Mexico One Call and the Town of Hatch to understand the depth and type of utilities prior to injections. Injection points will target the northern, upgradient portion of the contaminant plume, and with careful locating, additional injection points may be selected south of the utilities. Approximate injection point locations are shown on Figure 3.

The injection will consist of 28 injection points, spaced on a 7.5-foot grid. Based on the site hydrogeology, and NAPL observed as recently as 2017, the proposed injection interval is set between 10-16 feet bgs. Approximately 3,360 pounds of COGAC™ injectate at 12% concentration will be injected evenly over the 2,000 square foot area. The calculated volume of injectate to be used was determined to provide maximum oxidation without disrupting the native bacterial population in the injection area.

Upon completion of the injection, each borehole will be abandoned by placing bentonite from the bottom of the excavated point to approximately 1.5 feet bgs. Clean sand will be placed from 1.5 feet to 0.5 ft bgs, and native material, asphalt, or concrete will be placed in the remaining portion to ground surface to match surrounding grade.

Deviations from the planned injection strategy and this FRP will be noted and included in the FRP Implementation Report.

## **2.3 Potential Current and Future Receptors**

The Halsell's Grocery property is currently commercial development which includes one large building and an asphalt parking lot. The properties along adjacent side streets are a mix of

commercial and residential. The structures currently on the site property will likely remain in place for the foreseeable future.

The nearest receiving water body to the site is the Colorado Drain, an earthen irrigation ditch located approximately 860 feet and downgradient of the site. The nearest registered active water well (LRG-13049), as noted in the New Mexico Office of the State Engineer (NMOSE) Water Rights Database, is approximately 680 feet northeast and cross-gradient to the site. The nearest down-gradient well (LRG-08899) is located approximately 900 feet southeast of the site.

According to the U.S. Environmental Protection Agency (EPA), sensitive receptors are areas where occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. Sensitive receptors include hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. The nearest sensitive receptor is All Aboard Preschool located 560 feet west and cross-gradient of the site.

Based on historical groundwater sampling data, groundwater contamination at the site is confined to the vicinity of MW-1 and should not pose a threat to nearby water bodies, water wells, or sensitive receptors.

A topographic map showing nearby waters, wells, and sensitive receptors is shown on Figure 4.

### **3.0 PRE AND POST INJECTION GROUNDWATER MONITORING**

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#### **3.1 Pre-Injection Groundwater Monitoring**

On December 6, 2021, SMA gauged and sample groundwater from the three site monitoring wells (MW-1, MW-2, and MW-3) in accordance with the approved workplan. Field data collected included depth to groundwater, temperature, pH, electrical conductivity, DO, and ORP. The samples were laboratory analyzed for EPA Method 8260B for volatile organic compounds (VOC), including total naphthalenes.

Average depth to groundwater was measured at 12.59 feet bgs, down approximately two feet since the wells were last measured in November 2019. The groundwater gradient was to the southeast at approximately 0.0018. NAPL was not observed in any of the monitoring wells.

COCs were not detected in any of the wells above their applicable standards. VOCs were not detected in MW-2 and MW-3. Two VOCs were present at detectable concentrations in MW-1;



ethylbenzene was detected at 24 µg/l and 1,2,4-trimethylbenzene was detected at 3.3 µg/L. This was the first sampling event since November 2002 that benzene was reported below its respective standard, however MW-1 was noted to have a hydrocarbon odor during the December 6, 2021 sampling event.

A summary letter of the pre-injection sampling event was submitted to PSTB on January 3, 2022. A copy of the letter is included in Appendix C.

### **3.2 Post-Injection Groundwater Monitoring**

A post-injection sampling event will be performed after the injection activities have occurred. At the recommendation of Remington, the post-injection sampling event should be conducted no sooner than 3-4 weeks after injection to allow for contact time and bioremediation to occur. Monitoring and sampling will be done in a manner consistent with the pre-injection sampling event.

## **4.0 REQUIRED PERMITS AND NOTIFICATIONS**

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### **4.1 Property Access**

A copy of the signed property access agreement is included in Appendix E.

### **4.2 Underground Injection Control Permit**

SMA obtained an Underground Injection Control (UIC) General Discharge Permit from the NMED Groundwater Quality Bureau (GWQB) for the injection of COGAC™ solution at the Halsell's Grocery site. A copy of the permit, DP-1937 is included in Appendix E.

### **4.3 Traffic Control Permit**

A Traffic Control Plan will not be required since all site activity will remain on private land and there will be no impacts to nearby streets or rights-of-way (ROW).

### **4.4 Air Permit**

With the exception of operating vehicles and a Geoprobe rig, no emissions will be generated during injection of the wells. Therefore, no air permit is required.

#### **4.5 Other Permits**

No permits are required by the New Mexico State Engineer (NMOSE), per Chapter 72 Articles 12-1 and 12-12.

Village of Hatch was emailed on January 31, 2022 regarding the need for additional permits and compliance with local ordinances. Included in the email was a brief description of the project and figures of the site and treatment area. Per a phone call with Mr. Dave Sment, Planning and Codes Officer on February 3, 2022, the email had been received and reviewed. Per the phone conversation, no additional permits are required by Village of Hatch.

#### **4.6 Public Notices**

Per NMAC 20.5.119 Part 1923 B(10), public notices regarding this FRP are to be displayed at the site property and submitted to the local newspaper, local NMED office, and adjacent property owners. Proofs of the public notices will be submitted to PSTB within 21 days of the FRP submission and included in Appendix E of the final FRP.

## 5.0 IMPLEMENTATION SCHEDULE

A schedule for implementation is provided in Table 5.1 below.

**Table 5.1. Implementation Schedule**

WPID / Task	Start Date	End Date	Duration	Notes
4222-1 Pre-Injection Monitoring Event & Summary Letter	12/6/2021	01/03/2022	28 days	Property access, field sampling, summary letter. <b>Completed</b>
4222-2 Obtain NMED GWQB Discharge Permit	12/01/2021	03/01/2022	90 days	NOI, UIC General DP form and filing fees, public notices <b>Completed</b>
4222-3 Prepare FRP	01/03/2022	03/24/2022	80 days	<b>Completed</b>
4222-4 FRP Implementation and Report	04/01/2022	05/15/2022	45 days	Injection tentatively scheduled for April 19-21, 2022.
4222-5 Post Injection Monitoring Event & Summary Letter	6/01/2022	06/29/2022	30 days	Approximately $\geq 3$ weeks post-injection.

## 6.0 ENGINEERED PLANS AND SPECIFICATIONS

The in-situ injection does not constitute an engineered system (i.e. a mechanical, electrical, or constructed system) as described in 20.5.119.1923(B) NMAC. As such, engineered plans and specification are not included with this FRP.

## 7.0 CONTINGENCY PLAN

No deviations from the FRP that will threaten public health, safety and welfare, or the environment are anticipated for this project. However, should changes to the site conditions or injection implementation occur, the PSTB Project Manager will be notified immediately. If public health, safety, and environment have potential to be affected, site work will be shut down until the threat is alleviated.

## 8.0 SITE RESTORATION

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Following the completion of remediation activities, the site will be restored to conditions similar to those found prior to beginning remediation activities. Property that is found to be damaged or destroyed by the remediation activities will be returned to original conditions within 30 days after the damage or destruction has been identified. Injection of COGAC™ solution will occur in areas that are currently covered with asphalt. Once injection is complete, each borehole will be properly abandoned with a bentonite seal and patched over with asphalt to match the surrounding grade.

## 9.0 HEALTH AND SAFETY PLAN

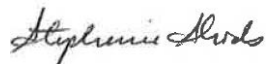
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All field and construction activities will be conducted under a site-specific health and safety plan (HASP). The HASP was developed in accordance with OSHA regulations and the SMA Corporate Health and Safety program. A copy of the Health and Safety Plan is included as Appendix F. The health and safety plan includes general field site safety, contaminated soil and groundwater exposure safety, and COVID-19 safety.

## 10.0 STATEMENT OF FAMILIARITY

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This report was prepared by SMA on behalf of the New Mexico Environment Department Petroleum Storage Tank Bureau. The undersigned hereby acknowledges personal knowledge of the information submitted in this FRP and the attached documents.



Stephanie Hinds, P.E.  
Project Engineer

March 24, 2022

Date

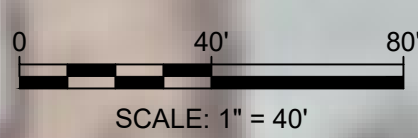


Scott McKittrick, P.G.  
Vice President/Environmental Technical Sector Director

March 24, 2022

Date

## Figures

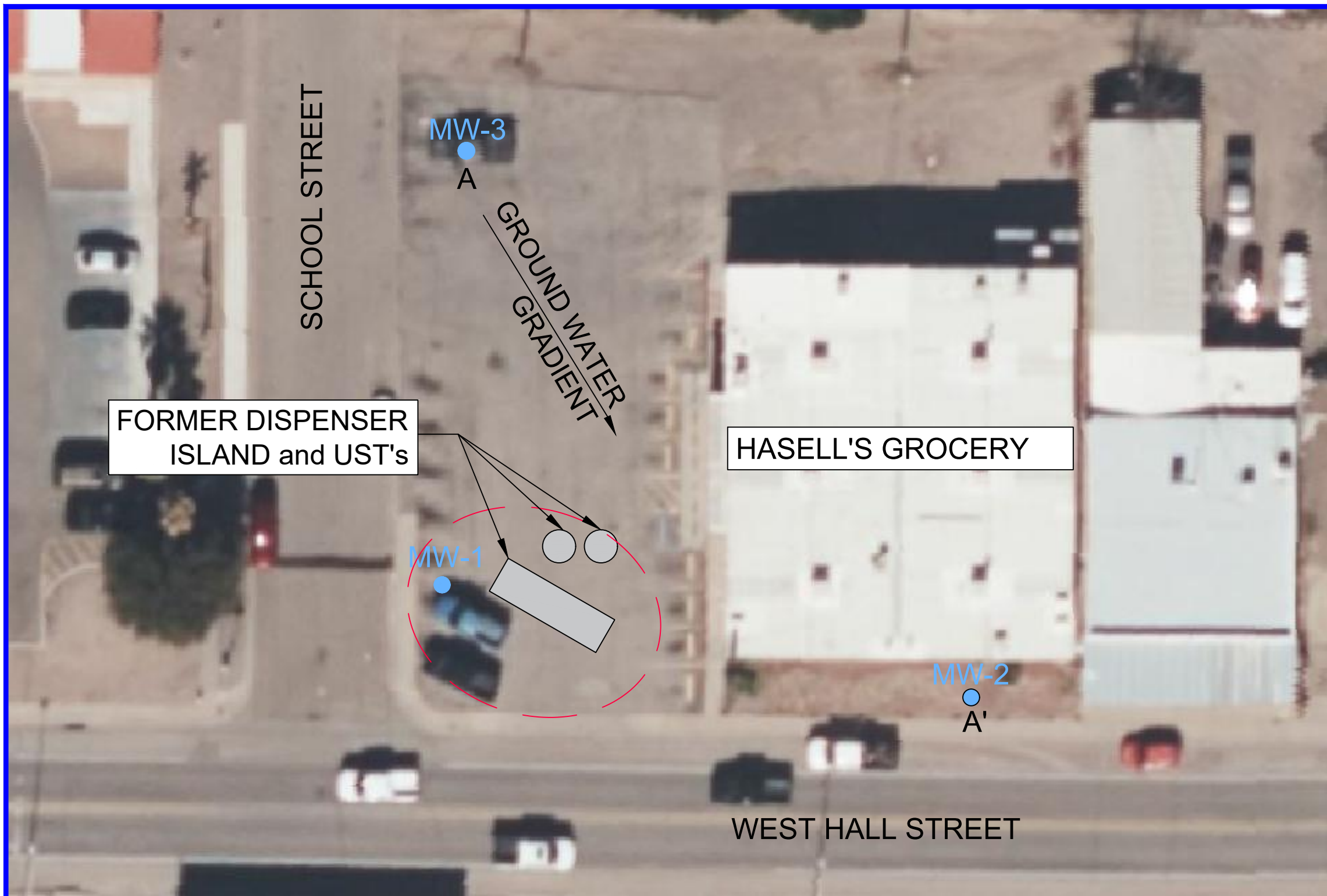


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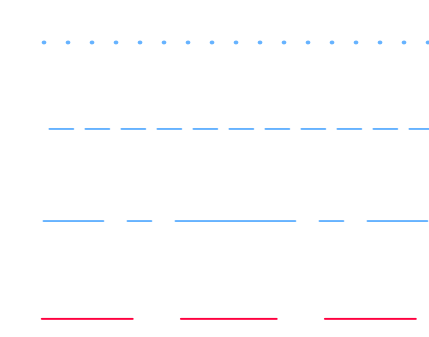
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HATCH, NM  
 NMED PETROLEUM STORAGE TANK BUREAU  
**SITE MAP**  
**HALSELL'S GROCERY STATE-LEAD SITE**  
 112 SCHOOL ST  
 HATCH, NM

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HISTORICALLY HIGH POTENTIOMETRIC SURFACE ELEVATION  
 AVERAGE POTENTIOMETRIC SURFACE ELEVATION  
 HISTORICALLY LOW POTENTIOMETRIC SURFACE ELEVATION  
 APPROXIMATE EXTENT OF CONTAMINATION



LITHOLOGY

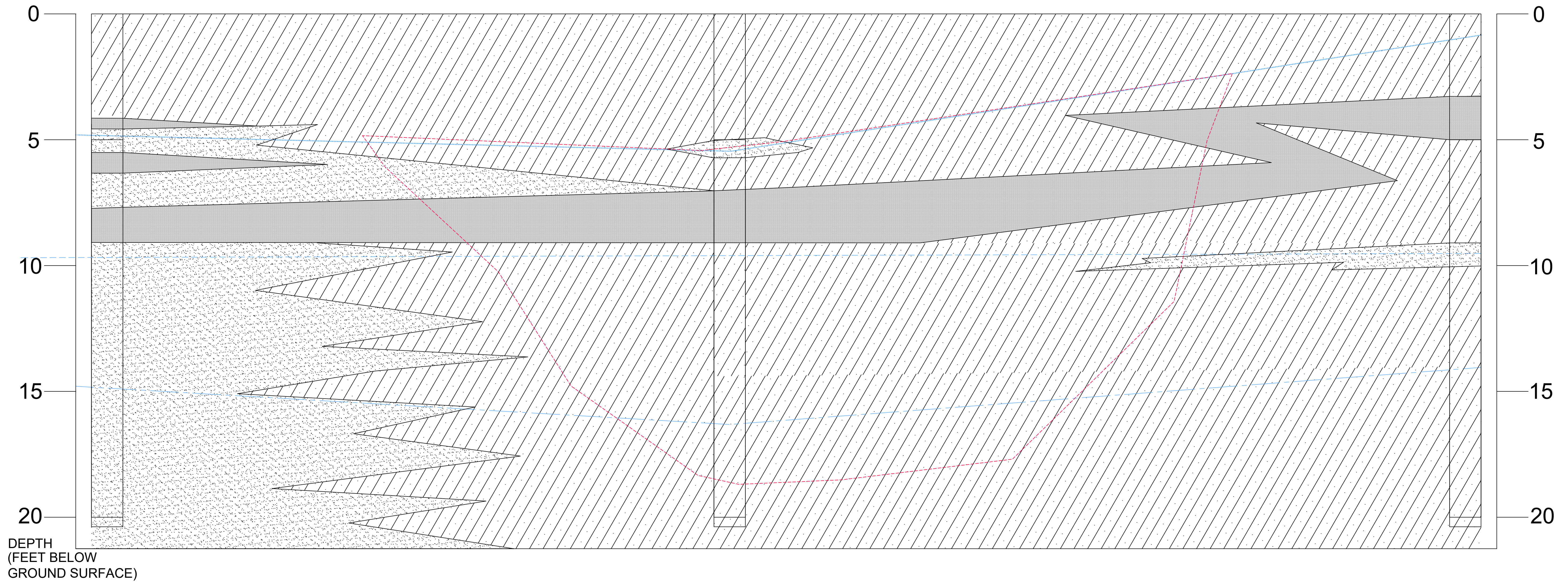


NOTE: SOIL LITHOLOGY OF MONITORING WELLS OBTAINED FROM 1992 ENCON INTERNATIONAL ON-SITE INVESTIGATION REPORT. LITHOLOGY BETWEEN WELLS IS INFERRED.

A  
MW-3

MW-1

A'  
MW-2



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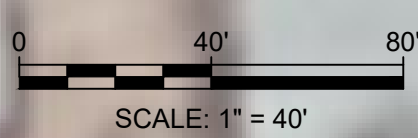
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CITY, STATE  
 CLIENT  
 HYDROGEOLOGIC CROSS-SECTION  
 HASELL'S GROCERY STATE-LEAD SITE  
 112 SCHOOL STREET  
 HATCH, NM

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INJECTION LOCATION (APPROXIMATE)

FORMER DISPENSER ISLAND and UST's

HALSELL'S GROCERY

MW-1

MW-2

MW-3

APPROXIMATE AREA OF CONTAMINATION

STORM SEWER DRAIN

FIRE HYDRANT

STORM SEWER DRAINAGE

STORM SEWER MANHOLE

STORM DRAINAGE

STORM SEWER MANHOLE

WATER LINE

STORM SEWER LINE

OVERHEAD ELECTRIC

WEST HALL STREET

SCHOOL STREET

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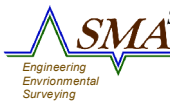
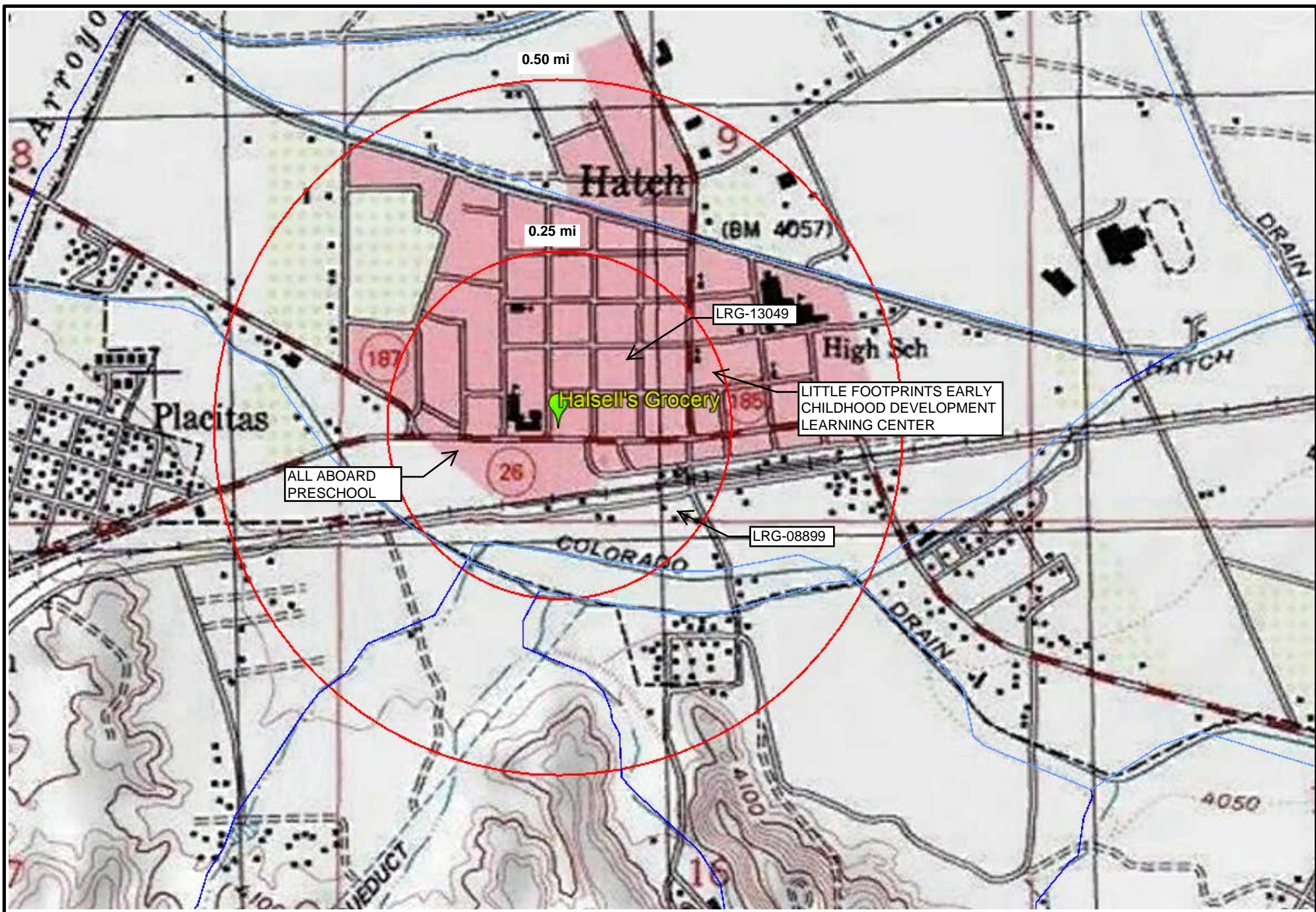
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**INJECTION LOCATIONS**  
**HALSELL'S GROCERY 112**  
**SCHOOL ST HATCH, NM**

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POTENTIAL CURRENT AND FUTURE RECEPTORS  
 HALSELL'S GROCERY STATE-LEAD SITE  
 112 SCHOOL ROAD  
 HATCH, NM

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## Appendix A

Historical Soil Boring Logs and Well Construction Details

# SOIL BORING LOG

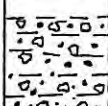

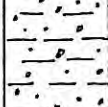
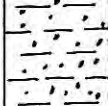

PROJECT NO: 258

DATE: 5/18/92

BORING NO: MW - 1

LOCATION: Sharp/Hatch

PAGE: 1 of 1

DEPTH (ft)	PROFILE SKETCH	ODOR (Y/N)	PID FIELD DATA (ppm)	LAB DATA TPH (ppm)	DESCRIPTION
0		N			0'-2.5' Clayey sand with some medium size pebbles, black stained
5		Y			2.5'-6' Clayey sand (fine to medium) with some fine to medium sized pebbles, dark brown
10	* 	Y	61.2		6'-7.5' Clay and medium silty sand with scarce, large pebbles, dark brown
15	* 	Y	16.8		7.5'-9' Clay, very plastic, dark brown
20	* 	Y	40.8		9'-25' Medium to fine clayey sand, dark brown
25					
30					
35					
40					
45					
50					
55					
60					
65					

\*FIELD MONITORING POINT

WATER TABLE: 7.5'

COMPLETION DEPTH: 25'

# SOIL BORING LOG


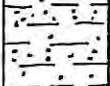



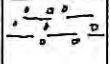
PROJECT NO: 258

DATE: 5/18/92

BORING NO: MW - 2

LOCATION: Sharp/Hatch

PAGE: 1 of 1

DEPTH (ft)	PROFILE SKETCH	ODOR (Y/N)	PID FIELD DATA (ppm)	LAB DATA TPH (ppm)	DESCRIPTION
0		N			0'-3' Medium clayey sand with some small pebbles, dark brown
5	* 	N	8.4		3'-5' Clay, very plastic, brown
10	* 	Slight	9.8		5'-9' Clayey fine sand, moist, interbedded with sandy clay, brown
15					9'-10' Medium silty sand with some small pebbles, black stained
20					10'-25' Medium to fine clayey sand, wet, brown
25	* 	Y	15.2		
30					
35					
40					
45					
50					
55					
60					
65					

\*FIELD MONITORING POINT

WATER TABLE: 7.5'

COMPLETION DEPTH: 25'

# SOIL BORING LOG










PROJECT NO: 258

DATE: 5/18/92

BORING NO: MW - 3

LOCATION: Sharp/Hatch

PAGE: 1 of 1

DEPT H (ft)	PROFILE SKETCH	ODOR (Y/N)	PID FIELD DATA (ppm)	LAB DATA TPH (ppm)	DESCRIPTION
0		N			0'-1" Asphalt
5	* 	N	29.6		1"-3' Clayey sand (medium) with large pebbles, dark brown
10	* 	N	8.6		3'-3.5' Clay, very plastic, yellow brown
15					3.5'-6' Very fine to fine sand with silt, yellow brown
20					6'-7' Clay, dark brown
25					7'-7.5' Very fine to fine sand with silt, yellow brown
30					7'-9' Clayey, fine sand, brown
35					9'-10' Medium sand, black stained
40					10'-25' Medium to fine sand with minor silt, black stained
45					
50					
55					
60					
65					

\*FIELD MONITORING POINT

WATER TABLE: 8'

COMPLETION DEPTH: 25'

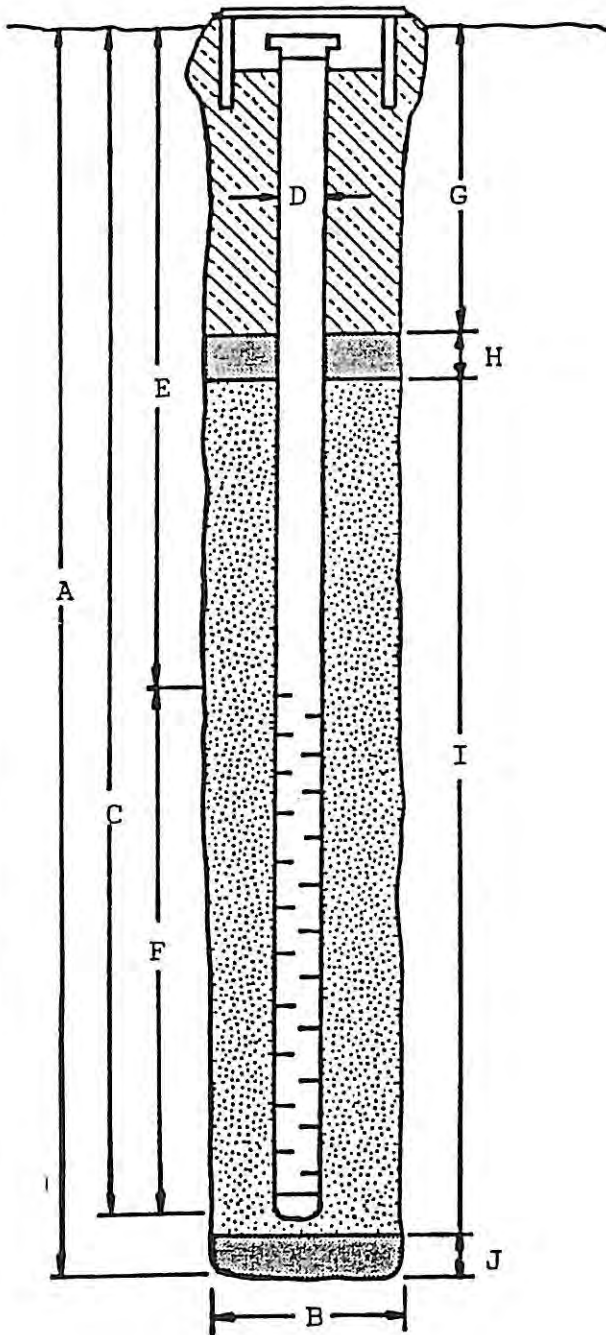
# WELL DETAILS

PROJECT NAME: Halsell's Supermarket (Sharp Oil Co. Inc.) BORING/WELL NO. MW-1

PROJECT NUMBER: 258 CASING ELEVATION: 93.75

WELL PERMIT NO.: \_\_\_\_\_ SURFACE ELEVATION: \_\_\_\_\_

G-5 Vault Box

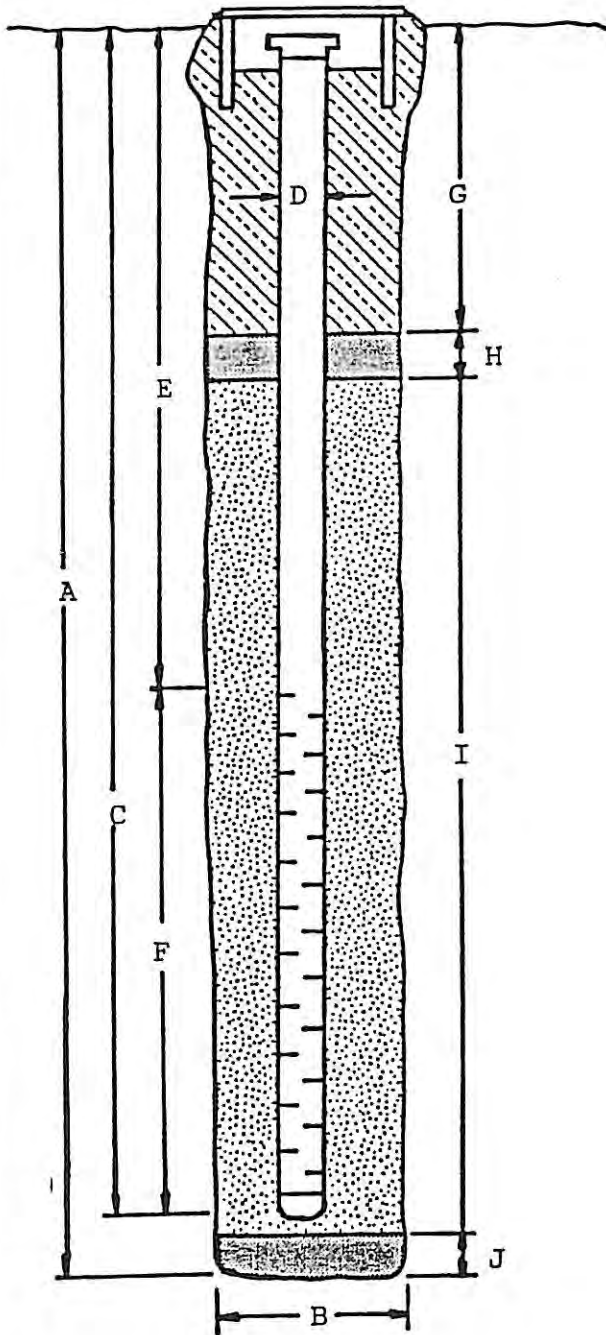


- A. Total Depth: 21 ft
- B. Boring Diameter: 6 1/8 inches  
Drilling method: Hollow Stem Auger
- C. Casing Length: 20 ft  
Material: 40 schedule PVC
- D. Casing Diameter: 2 inches
- E. Depth to Perforations: 5 ft
- F. Perforated Length: 15 ft  
Perforated Interval: 5 to 20 ft  
Perforation Type: Slotted  
Perforation Size: 0.010 inches
- G. Surface Seal: 2 ft  
Seal Material: Sackrete
- H. Seal: 1 ft  
Seal Material: Bentonite
- I. Gravel Pack: 17 ft  
Pack Material: Silica Sand  
Size: 10-20
- J. Bottom Seal: None  
Seal Material: N/A

# WELL DETAILS

PROJECT NAME: Halsell's Supermarket (Sharp Oil Co. Inc.) BORING/WELL NO. MW-2  
 PROJECT NUMBER: 258 CASING ELEVATION: 94.6  
 WELL PERMIT NO.: \_\_\_\_\_ SURFACE ELEVATION: \_\_\_\_\_

G-5 Vault Box



- A. Total Depth: 21 ft
- B. Boring Diameter: 6 1/8 inches  
Drilling method: Hollow Stem Auger
- C. Casing Length: 20 ft  
Material: 40 schedule PVC
- D. Casing Diameter: 2 inches
- E. Depth to Perforations: 5 ft
- F. Perforated Length: 15 ft  
Perforated Interval: 5 to 20 ft  
Perforation Type: Slotted  
Perforation Size: 0.010 inches
- G. Surface Seal: 2 ft  
Seal Material: Sackrete
- H. Seal: 1 ft  
Seal Material: Bentonite
- I. Gravel Pack: 17 ft  
Pack Material: Silica Sand  
Size: 10-20
- J. Bottom Seal: None  
Seal Material: N/A

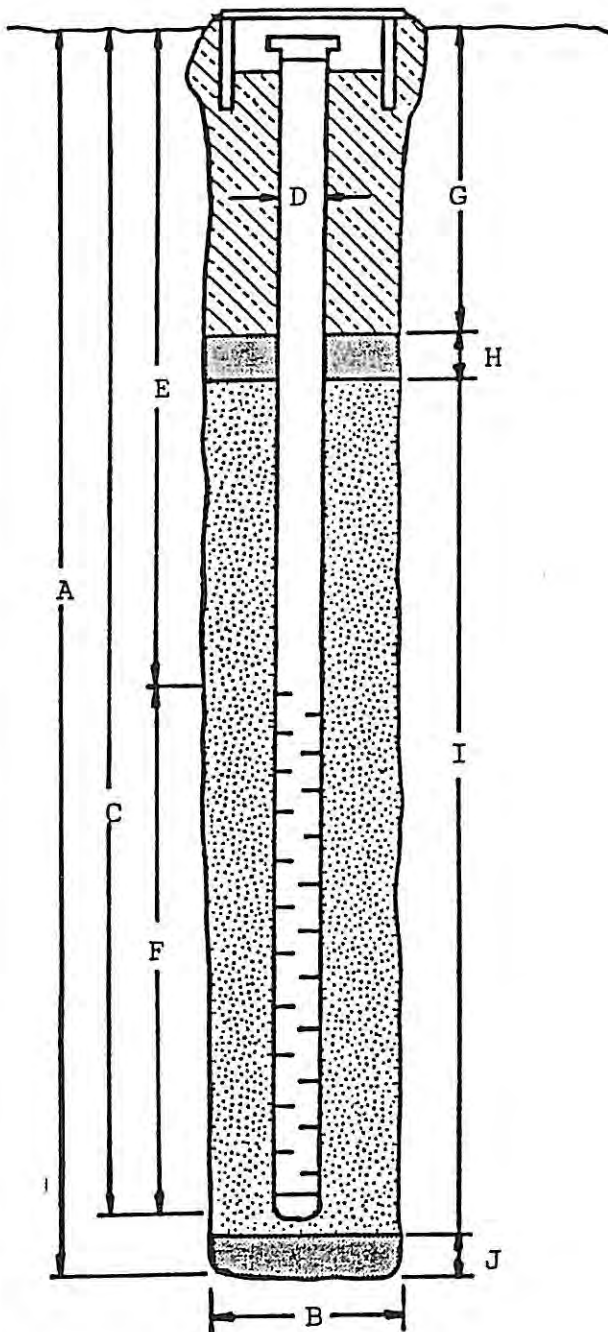
# WELL DETAILS

PROJECT NAME: Halsell's Supermarker (Sharp Oil Co. Inc.) BORING/WELL NO. MW-3

PROJECT NUMBER: 258 CASING ELEVATION: 94.1

WELL PERMIT NO.: \_\_\_\_\_ SURFACE ELEVATION: \_\_\_\_\_

G-5 Vault Box



- A. Total Depth: 21 ft
- B. Boring Diameter: 6 1/8 inches  
Drilling method: Hollow Stem Auger
- C. Casing Length: 20 ft  
Material: 40 schedule PVC
- D. Casing Diameter: 2 inches
- E. Depth to Perforations: 5 ft
- F. Perforated Length: 15 ft  
Perforated Interval: 5 to 20 ft  
Perforation Type: Slotted  
Perforation Size: 0.010 inches
- G. Surface Seal: 2 ft  
Seal Material: Sackrete
- H. Seal: 1 ft  
Seal Material: Bentonite
- I. Gravel Pack: 17 ft  
Pack Material: Silica Sand  
Size: 10-20
- J. Bottom Seal: None  
Seal Material: N/A



## Appendix B

COGAC™ Safety Data Sheets



## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

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### 1. PRODUCT AND COMPANY IDENTIFICATION:

Product Identifier: Chemically Oxygenated Granular Activated Carbon

**COGAC™**

Description: Fine Black Powder or Course Granules

Product Use: Water Treatment

Usage Restrictions: For subsurface applications

Manufacturers / Suppliers Name: Remington Technologies LLC,  
8100 Arkins Court  
Loveland, Colorado 80538  
[www.remingtontech.net](http://www.remingtontech.net)

Emergency Phone: (970) 278-1646  
Poison Control Center 1(800) 222-1222

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### 2. HAZARDS (S) IDENTIFICATION:

80% of this material is composed of powdered activated carbon. The remaining 20% includes oxidizers and nutrients. These additives are neutralized by the carbon in solid form. Once the package is opened, dust will be present and an adequate dust mask or respirator is required for handling.

Hazard Classification: Combustible Dust

Signal Word: **Danger**

Potential Health Effects:

Inhalation: Irritation of respiratory system

Skin: Not a primary irritant

Ingestion: Non-toxic through ingestion

Eyes: Irritation

Hazard Statements :

H320- Causes eye irritation :

H335- May cause respiratory irritation

## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

Precautionary statements (GHS-US) :

P261- Avoid breathing dust :

P264- Wash thoroughly after handling :

P271- Use in well-ventilated area :

P280- Wear protective gloves/clothing/eye & face protect :

P304&340: IF INHALED: Remove person to fresh air

P305&351&P338: If in eyes, Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing. :

P312- Call Poison Control Center/Doctor if you feel sick.

P403& P233- Store in well-ventilated place. Keep container tightly closed :

P405- Store locked up : P501- Dispose of container to appropriate receptacle

**Hazards not otherwise classified:** Combustible dust. May form combustible dust concentrations in air. All powdered activated carbons are classified as weakly explosive (Dust explosion class St1): Given the necessary conditions of a strong ignition source, right concentrations of airborne carbon dust, adequate oxygen levels, and confinement, the potential for a deflagration event exists.



### 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredients:	Percentage (W/W):	LD50's and LC50s Route & Species:
Activated Carbon - 7440-44-0	60-100	Oral LD50 (Rat) > 10000 mg/kg

Ingredients:	Percentage (W/W):	EC No:	EC Class:
Sodium Persulfate - 7775-27-1	>99	231-892-1	Xn-O; R8-R22-R36/37/38-R42/43



## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

Ingredients:	Percentage (W/W):	LD50's and LC50s Route & Species:
Calcium Peroxide – 1305-79-9	100	Oral LD50: Acute (Rat) > 5000 mg/kg DERMAL LD50: Acute (Rat) > 10000 mg/kg DUST LC50: Acute (Rat) 23066 ppm 4 hour(s)

---

#### 4. FIRST AID MEASURES:

Effects of Overexposure:

Inhalation: Irritation of respiratory system  
Skin: Not a primary irritant  
Ingestion: Non-toxic through ingestion  
Eyes: Irritation

First Aid:

First aid after inhalation Remove person to fresh air. If not breathing, administer CPR or artificial respiration. Get immediate medical attention.

First aid after skin contact If skin reddening or irritation develops, seek medical attention  
First aid after eye contact Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.

First aid after ingestion If the material is swallowed, get immediate medical attention or advice. DO NOT induce vomiting unless directed to do so by medical personnel.

---

#### 5. FIRE FIGHTING MEASURES:

Extinguishing Media: Water, Foam, CO2

Fire & Explosion Hazards: Contact with strong oxidizing catalysts may result in heat generation.

Firefighting procedures: None. Does not support a flame may generate heat as above.

Flash Point: N/A

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#### 6. ACCIDENTAL RELEASE MEASURES:

Spilled or released material may be swept up and discarded at a landfill or reused.

Waste disposal at a landfill as non-toxic, non-hazardous material.



## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

Shovel or sweep up and put in closed container for disposal

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### 7. HANDLING AND STORAGE:

Handling: Store (unopened) in a cool, clean, dry place and away from point source, i.e., radiant heaters or steam pipes. Use first in first out storage system. Avoid contamination of opened product. Avoid prolonged or repeated skin contact using good personal hygiene. In case of fire or decomposition (smoking) use self-contained breathing apparatus with full face piece, acid resistant clothing, and deluge with plenty of water to control decomposition.

Storage: Refer to NFPA 430 Storage of Liquid and Solid Oxidizing Materials.

---

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION:

Airborne Exposure Limits: - OSHA Permissible Exposure Limits (PELs) - For Activated Carbon (graphite, synthetic): total particulate = 15 mg/m<sup>3</sup> (TWA), respirable fraction = 5 mg/m<sup>3</sup> (TWA).

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

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### 9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical State	Solid
Appearance:	Black Powder particulate
Odor:	No data available
pH	6.0-9.0
Melting point	3652 C / 6606 F
Freezing point	3697 C /-6687 F
Boiling Point:	2150 C [decomposes]
Evaporation rate	No data available
Explosion Limit Upper/lower	No Data available
Incompatibility:	Strong catalyts
Solubility in water:	Not Soluble in water
Flash Point:	No data available
Specific Gravity:	0.35
Stability:	Stable
Vapor Pressure	No data available
Vapor density @ 20 deg C :	No data available
Relative Density	28-33 lb/ cubic foot
Viscosity, kinematic	No data available

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### 10. STABILITY AND REACTIVITY:

Stability:	Stable
Incompatibility:	Oxidizing catalyts, metals, nitric acid, hydrogen peroxide
Polymerization:	N/A
Decomposition:	N/A
Hazardous decomposition	Carbon monoxide may be generate in the vent of a fire



## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

products

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### 11. TOXICOLOGICAL INFORMATION:

Inhalation: Irritation of respiratory system

Skin: Not a primary irritant

Ingestion: Non-Toxic through ingestion

Eyes: Irritation

Acute toxicity: Not classified

Carbon (7440-44-0) LD50 oral rat : >10000 mg/kg Skin corrosion/irritation : Not classified Serious eye damage/irritation : Causes eye irritation Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified Specific target organ toxicity : May cause respiratory irritation (single exposure) Specific target organ toxicity : Not classified (repeated exposure) Aspiration hazard : Not classified

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### 12. ECOLOGICAL INFORMATION (non-mandatory):

No information available for the product. However, ecotoxicity is expected to be minimal.

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### 13. DISPOSAL CONSIDERATIONS (non-mandatory):

Waste Disposal recommendations : Dispose of contents/container in accordance with local/regional/ international regulations

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### 14. TRANSPORTING INFORMATION (non-mandatory):

Note 1: Under the UN classification for activated carbon, all activated carbons have been identified as a class 4.2 product. However, This product has been tested according to the United Nations Transport of Dangerous Goods test protocol for a “self-heating substance” (United Nations Transportation of Dangerous Goods, Manual of Tests and Criteria, Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self Heating Substances) and it has been specifically determined that this product does not meet the definition of a self heating substance (class 4.2)



## Safety Data Sheet

# COGAC™

Updated: 10/09/2017

or any other hazard class, and therefore should not be listed as a hazardous material. This information is applicable only for the Activated Carbon Product identified in this document.

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### 15. REGULATORY INFORMATION (non-mandatory)

15.1 US Federal regulations Carbon (7440-44-0)

Listed on the United States TSCA inventory 15.3

US State regulations : No additional information available

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### 16. ADDITIONAL INFORMATION:

NFPA Rating Health: 1 Fire: 1 Reactivity: 0

HMIS Rating Health: 0 Fire: 0 Reactivity: 0 Personal Protection: B

Prepared by: Remington Technologies, LLC

Address: 8100 Arkins Court, Loveland, CO 80538

Telephone: (970) 278-1646

**REVISION DATE: OCTOBER 2017**



## Appendix C

Pre-Injection Groundwater Monitoring Summary Letter



January 3, 2022

#3330252

Michael Boulay  
New Mexico Environment Department  
Petroleum Storage Tank Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505  
*michael.boulay@state.nm.us*

**RE: WPID 4222-1 Pre-Injection Groundwater Sampling Summary Letter  
Halsell's Grocery State-Lead Site, 112 School Road, Hatch, New Mexico  
Facility # 6053 Release ID # 287**

Dear Mr. Boulay:

This letter summarizes the pre-injection groundwater sampling described in the workplan dated October 14, 2021. Included with this letter are field and laboratory summary tables, a graph showing the relationship between groundwater elevations and benzene concentrations for MW-1, field notes, the Hall Environmental Analysis Laboratory report, health and safety plan, and signed property access form. Historical sampling data can be found in the December 2019 Groundwater Monitoring Report by Haller & Associates, Inc.

On December 6, 2021, Souder, Miller & Associates (SMA) completed the sampling in accordance with the approved workplan. There were no significant deviations from the workplan or the standards of practice that typically govern groundwater sampling.

#### *Depth to Water and NAPL Measurements*

Average depth to groundwater was measured at 12.59 feet below ground surface, down approximately two feet since the wells were last measured in November 2019. The groundwater gradient was to the southeast at approximately 0.0018. Non-aqueous phase liquids (NAPL) were not observed in any of the monitoring wells.

#### *Analytical Data*

Key volatile organic compounds (VOCs) were not detected in any of the wells above their applicable standards (NMAC<sup>1</sup> 20.6.2.3103). VOCs were not detected in MW-2 and MW-3. Two VOCs were present at detectable concentrations in MW-1; ethylbenzene was detected at 24 µg/l and 1,2,4-trimethylbenzene was detected at 3.3 µg/L. This was the first sampling event since November 2002 that benzene was reported below its respective standard, however MW-1 was observed to have a hydrocarbon odor during the December 6, 2021 sampling event.

---

<sup>1</sup> NMAC-New Mexico Administrative Code

Physical and Chemical Trends

Water levels generally appear to be decreasing from 2000 to 2021. Over the same time frame there is significant variability in the water levels, which may be explained by the proximity to the Rio Grande River and river valley geology (unconsolidated, fluvially deposited, silts, sands and gravel). The combination of distance to the river and geology is likely to result in relatively rapid response times between flow in the river and water levels in the wells. However, it is important to note that the NAPL was detected in MW-1 from 2011 to 2017 when the water level was at its lowest point in 21 years.

Dissolved phase VOC concentrations do not show a clear correlation to water levels at the site.



If you have any questions with the results or site conditions, please contact Stephanie or Jay.

Sincerely,

**MILLER ENGINEERS, INC. D.B.A.**  
**SOUDER, MILLER AND ASSOCIATES**

Handwritten signature of Stephanie Hinds in blue ink.

Stephanie Hinds, P.E.  
Project Engineer  
[Stephanie.hinds@soudermiller.com](mailto:Stephanie.hinds@soudermiller.com)

Handwritten signature of R. Jay Vanlandingham in blue ink.

R. Jay Vanlandingham, R.G.  
Senior Geoscientist  
[jay.vanlandingham@soudermiller.com](mailto:jay.vanlandingham@soudermiller.com)

*Enc:* Table 1. Groundwater Elevations  
Table 2. Key VOC Concentrations  
Table 3. Groundwater Field Parameters  
MW-1 Groundwater Elevations and Benzene Concentrations Graph  
Field Notes  
Hall Environmental Analysis Laboratory Report  
Health and Safety Plan  
Property Access

**Table 1. Groundwater Elevations**

Well ID	Date	Top of Casing (ft)	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	Relative Water Elevation (ft)
MW-1	12/6/2021	4054.98	--	12.67	0.00	4042.31
MW-2	12/6/2021	4054.54	--	12.60	0.00	4041.94
MW-3	12/6/2021	4054.85	--	12.50	0.00	4042.35

-- NAPL not detected

Top of casing elevation data obtained from Haller & Associates, Inc. Groundwater Monitoring Report (December 13, 2019)

**Table 2. Key VOC Concentrations**

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total Naphthalenes (µg/L)	1,3,5-TMB (µg/L)	1,2,4-TMB (µg/L)	MTBE (µg/L)	EDC (µg/L)	EDB (µg/L)
Laboratory Testing Method		EPA Method 8260B									
NMAC 20.6.2.3103 Standard		5	1000	700	620	30	No std.	No std.	100	5	0.05
MW-1	12/6/2021	<2.0	<2.0	24	<5.0	<27	<2.0	3.3	<5.0	<2.0	<2.0
MW-2	12/6/2021	<1.0	<1.0	<1.0	<1.5	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-3	12/6/2021	<1.0	<1.0	<1.0	<1.5	<10.0	<1.0	<1.0	<1.0	<1.0	<1.0

TMB: Trimethylbenzene

MTBE: Methyl tert-butyl ether

EDC: 1,2-Dichloroethane

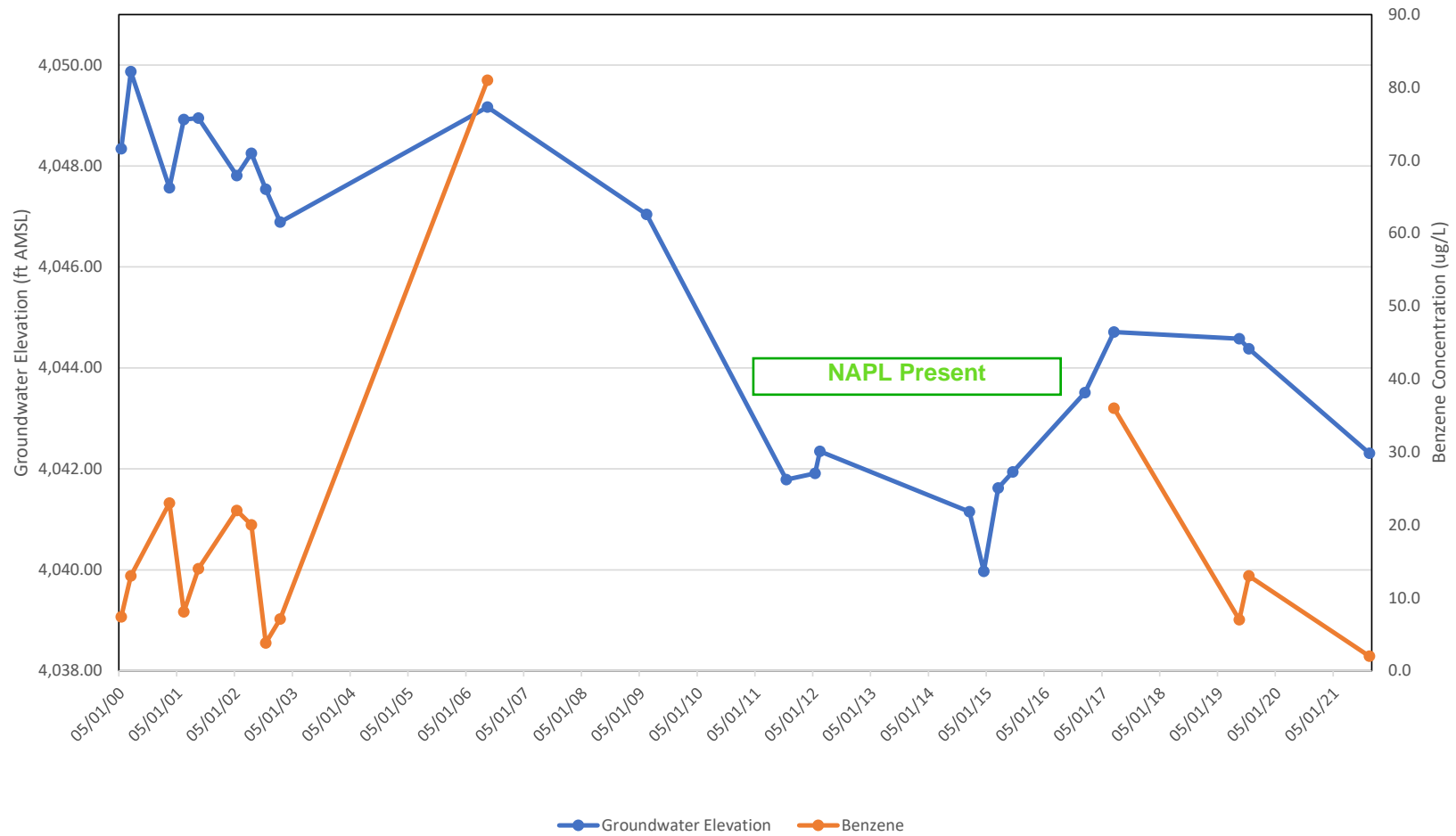
EDB: 1,2-Dibromoethane

**Table 3. Groundwater Field Parameters**

Well ID	Date	Final Purge Volume (gal)	Temperature (°C)	pH	Specific Conductance (µS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Color/Clarity	Other
MW-1	12/6/2021	4	23.33	7.56	1534	-252.40	1.63	clear	hydrocarbon odor
MW-2	12/6/2021	4	23.20	7.5	1555	-111.70	1.61	yellow	no odor
MW-3	12/6/2021	4	22.50	7.58	1927	-14.40	1.66	cloudy/black	no odor

Data prior to collecting sample. For additional field parameters, refer to Monitoring Well Sampling Field Form.

MW-1 Groundwater Elevations and Benzene Concentrations



Note: Benzene not analyzed during 6/02/2009 or 5/31/2012 sampling events. NAPL detected in MW-1 between 11/22/2011-1/18/2017.

# Halsell's Grocery

12/6/21

Pre-injection Groundwater Monitoring  
PO: 33309.52 Task 1

## Personel:

Alicia A Lopez

## Equipment:

Interface probe

Disposable bailer (3)

YSI multi parameter meter

## Analysis:

Method 8260B - VOCs

## Location:

112 School St. Hatch, NM

Facility #6053, RID #287

## Safety:

Electronic JHA completed

07:00 arrive at office; gather equipment  
and paperwork; mobilize to site

08:30 arrive on site; completed JHA  
Began gauging wells

### MW-1

DTW = 12.67

DTN = No NAPL Detected

TD = 19.68

### MW-3

DTW = 12.50

No NAPL Detected

TD = 19.92

MW-2 is covered by concrete. Began  
using chisel tool + hammer to uncover  
well

10:30 I was able to uncover MW-2

### MW-2

DTW = 12.60

No NAPL Detected

TD = 20.0

10:45 Began purging + monitoring MW-2  
(See Field sheet for multiparameter readings)

-Purged a total of 4 gallons from MW-2

11:45 sample time for MW-2

-replaced missing well plug  
-Samples placed in cooler with ice until shipment  
-decon equipment before moving to next well  
-purged water dumped on concrete in plume area

12:00 began purging + monitoring MW-3  
(see field sheet)

-Purged a total of 4 gallons

1:00 sample time for MW-3

-Samples placed in cooler  
-purged water disposed of on concrete away from storm drains  
-decon equipment

1:30 began purging + monitoring MW-1  
(see field sheet)

-purged 4 gallons  
-purged water disposed of on concrete

2:20 Sample time for MW-1

-Samples placed in cooler  
-Decon all equipment  
-mobilize back to Las Cruces

3:15 packed cooler + filled out COC for shipment to Hall Environmental Lab

3:45 shipped cooler to HEAL via FedEx overnight.

returned to office  
-upload A&E notes + meet w/PM

5:00 End of day

AAE 12/6/21



### MONITORING WELL SAMPLING FIELD FORM

Well I.D.: MW-1

Project Number: 3330252 Task 1

Site: Halsell's Grocery

Time & Date gauged: 8:30 AM 12/6/21

Depth to NAPL: N/A

Depth to Water: 12.67

Height of Fluid Column: 7.01

Total Depth: 19.68

Volume in Well: 1.14

Well Diameter: 2"

3 Casing Volumes 3.42

Water Quality Measurements								
Time	Volume Purged (gal)	Temp. (°C)	pH	Conductivity (µS)	ORP (mV)	DO (mg/L)	Color / Clarity or NTU	Other
1:30	0	23.52	7.20	1529	-235.4	1.64	clear	HC odor
1:35	0.5	23.80	7.27	1535	-294.1	1.62	clear	HC odor
1:40	1	23.26	7.50	1549	-282.0	1.66	clear	HC odor
1:45	1.5	23.65	7.45	1531	-271.5	1.63	clear	HC odor
1:50	2	23.54	7.48	1527	-258.1	1.63	clear	HC odor
1:55	2.5	23.52	7.56	1536	-255.8	1.62	clear	HC odor
2:00	3	23.36	7.46	1540	-254.0	1.62	clear	HC odor
2:05	3.5	23.53	7.49	1544	-255.1	1.61	clear	HC odor
2:10	4	23.33	7.56	1534	-252.4	1.63	clear	HC odor

Sample Date/Time 2:20 12/6/21

Sampler Name Alicia Lopez

Analytes/Methods: 8260B

Equipment used: Interface probe, multiparameter DO meter, disposable bailer, mason jar

Table 1: Volume of Casing or Hole per ft (K)								
Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft
1	0.041	0.0055	4	0.653	0.0873	8	2.611	0.3491
1 ½	0.092	0.0123	4 ½	0.826	0.1104	9	3.305	0.4418
2	0.163	0.0218	5	1.02	0.1364	10	4.08	0.5454
2 ½	0.255	0.0341	5 ½	1.234	0.165	11	4.937	0.66
3	0.367	0.0491	6	1.469	0.1963	12	5.875	0.7854
3 ½	0.5	0.0668	7	2	0.2673	14	8	1.069

1 gal = 3.785 L

1 m = 3.281 ft

1 gal = 8.33 lbs = 3.785 kg

1 ft Water = .433 psi

1 gal/ft = 12.419 L/ft

1 gal/m = 12.419 x 10<sup>-3</sup> m<sup>3</sup>/m

1 yd<sup>3</sup> soil = 1.5 tons

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

Loose soil volume = 1.4 x borehole volume

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

Loose soil volume = 1.4 x borehole volume





### MONITORING WELL SAMPLING FIELD FORM

Well I.D.: MW-2

Project Number: 3330252 Task 1

Site: Halsell's Grocery

Time & Date gauged: 10:30 am 12/6/21

Depth to NAPL: N/A

Depth to Water: 12.60

Height of Fluid Column: 7.40

Total Depth: 20.00

Volume in Well: 1.20

Well Diameter: 2"

3 Casing Volumes 3.60

Water Quality Measurements								
Time	Volume Purged (gal)	Temp. (°C)	pH	Conductivity (µS)	ORP (mV)	DO (mg/L)	Color / Clarity or NTU	Other
11:00	0	22.89	7.17	1588	34.3	1.62	Yellow	No odor
11:05	.5	23.32	7.28	1568	-45.4	1.60	Yellow	No odor
11:10	1	23.39	7.45	1559	-90.0	1.60	Yellow	No odor
11:15	1.5	23.50	7.48	1558	-106.5	1.60	Yellow	No odor
11:20	2	23.17	7.50	1558	-104.6	1.60	Yellow	No odor
11:25	2.5	23.03	7.47	1558	-102.8	1.60	Yellow	No odor
11:30	3	23.39	7.48	1558	-109.0	1.59	Yellow	No odor
11:35	3.5	23.28	7.51	1560	-111.1	1.60	Yellow	No odor
11:40	4	23.20	7.50	1555	-111.7	1.61	Yellow	No odor

Sample Date/Time: 11:45 am 12/6/21

Sampler Name: Alicia A. Lopez

Analytes/Methods: 8260B (VOCs)

Equipment used: interface probe, disposable bailer, mason jar, multi-parameter meter

Table 1: Volume of Casing or Hole per ft (K)								
Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft
1	0.041	0.0055	4	0.653	0.0873	8	2.611	0.3491
1 ½	0.092	0.0123	4 ½	0.826	0.1104	9	3.305	0.4418
2	0.163	0.0218	5	1.02	0.1364	10	4.08	0.5454
2 ½	0.255	0.0341	5 ½	1.234	0.165	11	4.937	0.66
3	0.367	0.0491	6	1.469	0.1963	12	5.875	0.7854
3 ½	0.5	0.0668	7	2	0.2673	14	8	1.069

1 gal = 3.785 L

1 yd<sup>3</sup> soil = 1.5 tons

1 m = 3.281 ft

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

1 gal = 8.33 lbs = 3.785 kg

Loose soil volume = 1.4 x borehole volume

1 ft Water = .433 psi

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

1 gal/ft = 12.419 L/ft

Loose soil volume = 1.4 x borehole volume

1 gal/m = 12.419 x 10<sup>-3</sup> m<sup>3</sup>/m



### MONITORING WELL SAMPLING FIELD FORM

Well I.D.: MW-3

Project Number: 3330252 Task 1

Site: Halsell's Grocery

Time & Date gauged: 8:30am 12/6/21

Depth to NAPL: N/A

Depth to Water: 12.50

Height of Fluid Column: 7.42

Total Depth: 19.92

Volume in Well: 1.20

Well Diameter: 2"

3 Casing Volumes 3.60

Water Quality Measurements								
Time	Volume Purged (gal)	Temp. (°C)	pH	Conductivity (µS)	ORP (mV)	DO (mg/L)	Color / Clarity or NTU	Other
12:10	0	23.10	7.47	1876	40.5	1.64	clear	No odor
12:15	.5	22.80	7.64	1874	19.1	1.68	cloudy / Black	No odor
12:20	1	22.75	7.74	1872	39.6	1.73	cloudy / Black	No odor
12:25	1.5	23.04	7.53	1911	7.3	1.65	cloudy / Black	No odor
12:30	2	23.03	7.65	1903	-25.9	1.67	cloudy / Black	No odor
12:35	2.5	22.27	7.63	1907	-2.6	1.67	cloudy / Black	No odor
12:40	3	22.72	7.60	1899	-16.6	1.65	cloudy / Black	No odor
12:45	3.5	22.71	7.67	1903	-16.7	1.66	cloudy / Black	No odor
12:50	4	22.50	7.58	1927	-14.4	1.66	cloudy / Black	No odor

Sample Date/Time: 1:00 12/6/21

Sampler Name: Alicia Lopez

Analytes/Methods: 8260B

Equipment used: Interface probe, disposable bailer, Multi parameter meter

Table 1: Volume of Casing or Hole per ft (K)								
Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft	Diameter (Inches)	Gallons per ft	ft <sup>3</sup> per ft
1	0.041	0.0055	4	0.653	0.0873	8	2.611	0.3491
1½	0.092	0.0123	4½	0.826	0.1104	9	3.305	0.4418
2	0.163	0.0218	5	1.02	0.1364	10	4.08	0.5454
2½	0.255	0.0341	5½	1.234	0.165	11	4.937	0.66
3	0.367	0.0491	6	1.469	0.1963	12	5.875	0.7854
3½	0.5	0.0668	7	2	0.2673	14	8	1.069

1 gal = 3.785 L

1 yd<sup>3</sup> soil = 1.5 tons

1 m = 3.281 ft

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

1 gal = 8.33 lbs = 3.785 kg

Loose soil volume = 1.4 x borehole volume

1 ft Water = .433 psi

55-gal drum loose soil = 7.26 ft<sup>3</sup> = .27 yd<sup>3</sup> = 0.4 tons

1 gal/ft = 12.419 L/ft

Loose soil volume = 1.4 x borehole volume

1 gal/m = 12.419 x 10<sup>-3</sup> m<sup>3</sup>/m



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

December 14, 2021

Jay Vanlandingham  
Souder, Miller & Associates  
3500 Sedona Hills Parkway  
Las Cruces, NM 88011-4344  
TEL: (575) 647-0799  
FAX: (575) 647-0680

RE: Halsells Grocery

OrderNo.: 2112456

Dear Jay Vanlandingham:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/7/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

CLIENT: Souder, Miller & Associates

Client Sample ID: MW-1

Project: Halsells Grocery

Collection Date: 12/6/2021 2:20:00 PM

Lab ID: 2112456-001

Matrix: AQUEOUS

Received Date: 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
Benzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Toluene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Ethylbenzene	24	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2,4-Trimethylbenzene	3.3	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,3,5-Trimethylbenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Naphthalene	7.0	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1-Methylnaphthalene	ND	10		µg/L	5	12/10/2021 4:30:34 AM	R84427
2-Methylnaphthalene	ND	10		µg/L	5	12/10/2021 4:30:34 AM	R84427
Acetone	ND	25		µg/L	5	12/10/2021 4:30:34 AM	R84427
Bromobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Bromodichloromethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Bromoform	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Bromomethane	ND	7.5		µg/L	5	12/10/2021 4:30:34 AM	R84427
2-Butanone	ND	25		µg/L	5	12/10/2021 4:30:34 AM	R84427
Carbon disulfide	ND	25		µg/L	5	12/10/2021 4:30:34 AM	R84427
Carbon Tetrachloride	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Chlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Chloroethane	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Chloroform	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Chloromethane	ND	7.5		µg/L	5	12/10/2021 4:30:34 AM	R84427
2-Chlorotoluene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
4-Chlorotoluene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
cis-1,2-DCE	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
cis-1,3-Dichloropropene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Dibromochloromethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Dibromomethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2-Dichlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,3-Dichlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,4-Dichlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Dichlorodifluoromethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1-Dichloroethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1-Dichloroethene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2-Dichloropropane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,3-Dichloropropane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
2,2-Dichloropropane	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** MW-1

**Project:** Halsells Grocery

**Collection Date:** 12/6/2021 2:20:00 PM

**Lab ID:** 2112456-001

**Matrix:** AQUEOUS

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
1,1-Dichloropropene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Hexachlorobutadiene	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
2-Hexanone	ND	25		µg/L	5	12/10/2021 4:30:34 AM	R84427
Isopropylbenzene	14	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
4-Isopropyltoluene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
4-Methyl-2-pentanone	ND	25		µg/L	5	12/10/2021 4:30:34 AM	R84427
Methylene Chloride	ND	7.5		µg/L	5	12/10/2021 4:30:34 AM	R84427
n-Butylbenzene	ND	7.5		µg/L	5	12/10/2021 4:30:34 AM	R84427
n-Propylbenzene	28	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
sec-Butylbenzene	4.4	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Styrene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
tert-Butylbenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Tetrachloroethene (PCE)	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
trans-1,2-DCE	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
trans-1,3-Dichloropropene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2,3-Trichlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2,4-Trichlorobenzene	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1,1-Trichloroethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,1,2-Trichloroethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Trichloroethene (TCE)	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Trichlorofluoromethane	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
1,2,3-Trichloropropane	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Vinyl chloride	ND	2.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Xylenes, Total	ND	5.0		µg/L	5	12/10/2021 4:30:34 AM	R84427
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	5	12/10/2021 4:30:34 AM	R84427
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	5	12/10/2021 4:30:34 AM	R84427
Surr: Dibromofluoromethane	94.4	70-130		%Rec	5	12/10/2021 4:30:34 AM	R84427
Surr: Toluene-d8	102	70-130		%Rec	5	12/10/2021 4:30:34 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** MW-2

**Project:** Halsells Grocery

**Collection Date:** 12/6/2021 11:45:00 AM

**Lab ID:** 2112456-002

**Matrix:** AQUEOUS

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
Benzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Toluene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Ethylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Naphthalene	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
2-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Acetone	ND	10		µg/L	1	12/10/2021 5:56:37 AM	R84427
Bromobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Bromodichloromethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Bromoform	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Bromomethane	ND	3.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
2-Butanone	ND	10		µg/L	1	12/10/2021 5:56:37 AM	R84427
Carbon disulfide	ND	10		µg/L	1	12/10/2021 5:56:37 AM	R84427
Carbon Tetrachloride	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Chlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Chloroethane	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Chloroform	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Chloromethane	ND	3.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
2-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
4-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
cis-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Dibromochloromethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Dibromomethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1-Dichloroethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1-Dichloroethene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,3-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
2,2-Dichloropropane	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** MW-2

**Project:** Halsells Grocery

**Collection Date:** 12/6/2021 11:45:00 AM

**Lab ID:** 2112456-002

**Matrix:** AQUEOUS

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Hexachlorobutadiene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
2-Hexanone	ND	10		µg/L	1	12/10/2021 5:56:37 AM	R84427
Isopropylbenzene	4.2	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
4-Isopropyltoluene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
4-Methyl-2-pentanone	ND	10		µg/L	1	12/10/2021 5:56:37 AM	R84427
Methylene Chloride	ND	3.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
n-Butylbenzene	ND	3.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
n-Propylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
sec-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Styrene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
tert-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
trans-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Trichlorofluoromethane	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Vinyl chloride	ND	1.0		µg/L	1	12/10/2021 5:56:37 AM	R84427
Xylenes, Total	ND	1.5		µg/L	1	12/10/2021 5:56:37 AM	R84427
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	12/10/2021 5:56:37 AM	R84427
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/10/2021 5:56:37 AM	R84427
Surr: Dibromofluoromethane	98.5	70-130		%Rec	1	12/10/2021 5:56:37 AM	R84427
Surr: Toluene-d8	100	70-130		%Rec	1	12/10/2021 5:56:37 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

CLIENT: Souder, Miller & Associates

Client Sample ID: MW-3

Project: Halsells Grocery

Collection Date: 12/6/2021 1:00:00 PM

Lab ID: 2112456-003

Matrix: AQUEOUS

Received Date: 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
Benzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Toluene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Ethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Naphthalene	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
2-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Acetone	ND	10		µg/L	1	12/10/2021 6:25:14 AM	R84427
Bromobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Bromodichloromethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Bromoform	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Bromomethane	ND	3.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
2-Butanone	ND	10		µg/L	1	12/10/2021 6:25:14 AM	R84427
Carbon disulfide	ND	10		µg/L	1	12/10/2021 6:25:14 AM	R84427
Carbon Tetrachloride	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Chlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Chloroethane	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Chloroform	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Chloromethane	ND	3.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
2-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
4-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
cis-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Dibromochloromethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Dibromomethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1-Dichloroethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1-Dichloroethene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,3-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
2,2-Dichloropropane	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** MW-3

**Project:** Halsells Grocery

**Collection Date:** 12/6/2021 1:00:00 PM

**Lab ID:** 2112456-003

**Matrix:** AQUEOUS

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Hexachlorobutadiene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
2-Hexanone	ND	10		µg/L	1	12/10/2021 6:25:14 AM	R84427
Isopropylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
4-Isopropyltoluene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
4-Methyl-2-pentanone	ND	10		µg/L	1	12/10/2021 6:25:14 AM	R84427
Methylene Chloride	ND	3.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
n-Butylbenzene	ND	3.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
n-Propylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
sec-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Styrene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
tert-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
trans-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Trichlorofluoromethane	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Vinyl chloride	ND	1.0		µg/L	1	12/10/2021 6:25:14 AM	R84427
Xylenes, Total	ND	1.5		µg/L	1	12/10/2021 6:25:14 AM	R84427
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/10/2021 6:25:14 AM	R84427
Surr: 4-Bromofluorobenzene	98.1	70-130		%Rec	1	12/10/2021 6:25:14 AM	R84427
Surr: Dibromofluoromethane	97.6	70-130		%Rec	1	12/10/2021 6:25:14 AM	R84427
Surr: Toluene-d8	98.6	70-130		%Rec	1	12/10/2021 6:25:14 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** Trip Blank

**Project:** Halsells Grocery

**Collection Date:**

**Lab ID:** 2112456-004

**Matrix:** TRIP BLANK

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
Benzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Toluene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Ethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Naphthalene	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
2-Methylnaphthalene	ND	4.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Acetone	ND	10		µg/L	1	12/10/2021 6:53:52 AM	R84427
Bromobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Bromodichloromethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Bromoform	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Bromomethane	ND	3.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
2-Butanone	ND	10		µg/L	1	12/10/2021 6:53:52 AM	R84427
Carbon disulfide	ND	10		µg/L	1	12/10/2021 6:53:52 AM	R84427
Carbon Tetrachloride	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Chlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Chloroethane	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Chloroform	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Chloromethane	ND	3.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
2-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
4-Chlorotoluene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
cis-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Dibromochloromethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Dibromomethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,3-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,4-Dichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Dichlorodifluoromethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1-Dichloroethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1-Dichloroethene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,3-Dichloropropane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
2,2-Dichloropropane	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2112456

Date Reported: 12/14/2021

**CLIENT:** Souder, Miller & Associates

**Client Sample ID:** Trip Blank

**Project:** Halsells Grocery

**Collection Date:**

**Lab ID:** 2112456-004

**Matrix:** TRIP BLANK

**Received Date:** 12/7/2021 10:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: JR
1,1-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Hexachlorobutadiene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
2-Hexanone	ND	10		µg/L	1	12/10/2021 6:53:52 AM	R84427
Isopropylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
4-Isopropyltoluene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
4-Methyl-2-pentanone	ND	10		µg/L	1	12/10/2021 6:53:52 AM	R84427
Methylene Chloride	ND	3.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
n-Butylbenzene	ND	3.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
n-Propylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
sec-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Styrene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
tert-Butylbenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
trans-1,2-DCE	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1,1-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,1,2-Trichloroethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Trichloroethene (TCE)	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Trichlorofluoromethane	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
1,2,3-Trichloropropane	ND	2.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Vinyl chloride	ND	1.0		µg/L	1	12/10/2021 6:53:52 AM	R84427
Xylenes, Total	ND	1.5		µg/L	1	12/10/2021 6:53:52 AM	R84427
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/10/2021 6:53:52 AM	R84427
Surr: 4-Bromofluorobenzene	94.3	70-130		%Rec	1	12/10/2021 6:53:52 AM	R84427
Surr: Dibromofluoromethane	95.8	70-130		%Rec	1	12/10/2021 6:53:52 AM	R84427
Surr: Toluene-d8	98.8	70-130		%Rec	1	12/10/2021 6:53:52 AM	R84427

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

Client: Souder, Miller &amp; Associates

Project: Halsells Grocery

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R84427	RunNo: 84427								
Prep Date:	Analysis Date: 12/9/2021	SeqNo: 2965783			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.2	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R84427	RunNo: 84427								
Prep Date:	Analysis Date: 12/9/2021	SeqNo: 2965808			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

Client: Souder, Miller &amp; Associates

Project: Halsells Grocery

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/9/2021</b>	SeqNo: <b>2965808</b> Units: <b>µg/L</b>								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

**Client:** Souder, Miller & Associates

**Project:** Halsells Grocery

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/9/2021</b>	SeqNo: <b>2965808</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>100ng lcs2</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>LCSW</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/10/2021</b>	SeqNo: <b>2965810</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: <b>2112456-001a ms</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>MW-1</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/10/2021</b>	SeqNo: <b>2965817</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	100	5.0	100.0	1.237	102	70	130			
Toluene	100	5.0	100.0	0	101	70	130			
Chlorobenzene	100	5.0	100.0	0	102	70	130			
1,1-Dichloroethene	97	5.0	100.0	0	96.9	70	130			
Trichloroethene (TCE)	93	5.0	100.0	0	92.8	70	130			
Surr: 1,2-Dichloroethane-d4	49		50.00		98.3	70	130			
Surr: 4-Bromofluorobenzene	49		50.00		97.7	70	130			
Surr: Dibromofluoromethane	48		50.00		96.0	70	130			
Surr: Toluene-d8	51		50.00		103	70	130			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

**Client:** Souder, Miller & Associates

**Project:** Halsells Grocery

Sample ID: 2112456-001a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: MW-1		Batch ID: R84427		RunNo: 84427						
Prep Date:		Analysis Date: 12/10/2021		SeqNo: 2965818		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	97	5.0	100.0	1.237	95.4	70	130	6.74	20	
Toluene	95	5.0	100.0	0	95.1	70	130	5.80	20	
Chlorobenzene	94	5.0	100.0	0	93.7	70	130	8.79	20	
1,1-Dichloroethene	92	5.0	100.0	0	92.4	70	130	4.67	20	
Trichloroethene (TCE)	89	5.0	100.0	0	88.9	70	130	4.28	20	
Surr: 1,2-Dichloroethane-d4	49		50.00		97.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	47		50.00		94.5	70	130	0	0	
Surr: Dibromofluoromethane	50		50.00		99.3	70	130	0	0	
Surr: Toluene-d8	50		50.00		99.1	70	130	0	0	

Sample ID: mb2		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R84427		RunNo: 84427						
Prep Date:		Analysis Date: 12/10/2021		SeqNo: 2965822		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

Client: Souder, Miller &amp; Associates

Project: Halsells Grocery

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/10/2021</b>	SeqNo: <b>2965822</b>	Units: <b>µg/L</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2112456

14-Dec-21

Client: Souder, Miller &amp; Associates

Project: Halsells Grocery

Sample ID: <b>mb2</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: VOLATILES</b>								
Client ID: <b>PBW</b>	Batch ID: <b>R84427</b>	RunNo: <b>84427</b>								
Prep Date:	Analysis Date: <b>12/10/2021</b>	SeqNo: <b>2965822</b> Units: <b>µg/L</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.0	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

### Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

**Sample Log-In Check List**

Client Name: **Souder, Miller & Associates**

Work Order Number: **2112456**

RcptNo: **1**

Received By: **Sean Livingston** 12/7/2021 10:10:00 AM

Completed By: **Desiree Dominguez** 12/8/2021 7:55:24 AM

Reviewed By: *jr 12/8/21*

*Sean Livingston*  
*DD*

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? FedEx

**Log In**

3. Was an attempt made to cool the samples? Yes  No  NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
5. Sample(s) in proper container(s)? Samples not frozen  
Yes  No
6. Sufficient sample volume for indicated test(s)? Yes  No
7. Are samples (except VOA and ONG) properly preserved? Yes  No
8. Was preservative added to bottles? Yes  No  NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes  No  NA
10. Were any sample containers received broken? Yes  No
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
12. Are matrices correctly identified on Chain of Custody? Yes  No
13. Is it clear what analyses were requested? Yes  No
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes  No

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: *CD 12/8/21*

**Special Handling (if applicable)**

15. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-2.0	Good				



**SOUDER, MILLER & ASSOCIATES  
SITE-SPECIFIC HEALTH & SAFETY PLAN  
29 CFR 1910.120 (b)(2)(4)**

**1.0 INTRODUCTION**

This document is the site-specific health and safety plan for Souder, Miller & Associates (SMA) with specific reference to the Halsell's Grocery State-Lead petroleum storage tank (PST) release site, located at 112 School Road, Hatch, New Mexico. This document cannot list all hazardous activities or materials that may be encountered at the work site, however it does provide a framework for operating under generally accepted health and safety methods.

**2.0 OBJECTIVES**

It is the intention of this plan to itemize the minimum health and safety requirements for SMA personnel, for subcontractors under direct supervision by SMA, and for site visitors. This plan is devised with due consideration of regulations and performance requirements of various state agencies regarding the health and safety of the surrounding population. It is also the purpose of this plan to reduce or eliminate the potential for injury.

**2.1 Work Tasks and Objectives**

**29 CFR 1910.120 (b)(3)(ii)**

SMA will be conducting investigative and/or remedial activities related to a release of hydrocarbons from an underground storage tank (UST) system. These activities include groundwater sampling from monitoring wells and observation of in-situ treatment (injection) of an activated carbon-based solution (COGAC™).

**2.2 Effectiveness**

**29 CFR 1910.120 (b)(2)(4)(iv)**

Inspections shall be conducted by the SMA site health and safety supervisor, or his/her representative, to determine the effectiveness of the site health and safety plan. Any deficiencies in the effectiveness of the site health and safety plan shall be corrected by SMA.

**2.3 Location of Health and Safety Plan**

**29 CFR 1910.120 (b)(2)(4)(i)**

The site health and safety plan will be kept on site accessible to personnel in the SMA vehicle at all times, unless a specific centralized location is designated by the employees, contractors, and subcontractors working on site.

**2.4 Pre-Entry Briefing**

**29 CFR 1910.120 (b)(2)(4)(iii)**

A health and safety briefing will be conducted for all site personnel prior to initiating site activity, and at such other times as necessary to ensure that SMA employees, contractors, and subcontractors are apprised of the site health and safety plan.

The information contained in this site health and safety plan is compiled from data obtained from site

characterization and analysis work.

### **3.0 PROJECT ORGANIZATION**

SMA Project Manager: Ms. Stephanie Hinds, Project Engineer, (505) 793-7079  
SMA Senior Manager: Mr. Jay Vanlandingham, P.G. (575) 449-2966

### **4.0 AGENCY COORDINATION**

NMED Project Manager: Mr. Michael Boulay, Geoscientist, (505) 372-8331

### **5.0 SITE DESCRIPTION**

**29 CFR 1910.120 (c)(4)**

SITE NAME: Halsell's Grocery State-Lead Site

LOCATION: 112 School Road, Hatch, NM 87937

CURRENT ON-SITE ACTIVITIES: Grocery store with parking lot

TOPOGRAPHY: flat, paved parking lot with sidewalks and roadways along property perimeter

SURROUNDING POPULATION: within Town of Hatch town limits, mix of commercial, residential, and light industrial properties

EXPECTED WEATHER CONDITIONS: TBD but potentially (likely) cool/cold, breezy (winter time-frame)

ACCESSIBILITY OF SITE: easily accessible, no fencing or gates

### **6.0 SITE WORK PLAN**

#### **6.1 Description of Job Tasks**

**29 CFR 1910.120 (c)(4)(ii)**

SMA will sample from three groundwater monitoring wells using disposable bailers. SMA will also be on site to observe injection of a chemically oxygenated active carbon solution, performed by Remington Technologies, Inc. Heavy equipment, including a Geoprobe 7822DT direct push rig and mixing tanks will be on site. Hydrocarbon impacted groundwater may be encountered.

#### **6.2 Site Cleanup**

**29 CFR 1910.120 (b)(3)(i)**

The site will be cleared of hazards and injection debris and restored to pre-injection site conditions.

### **7.0 SITE CONTROL**

Site control will consist of traffic cones, flagging, safety vests, and consultation with Town of Hatch for a

traffic control plan. These measures are meant to prevent non-essential personnel from getting inside of the work area. The size of the work area will be determined by site specific parameters but will encompass an area of no greater than 5,000 square feet.

### **7.1 Pre-Emergency Planning**

**29 CFR 1910.120 (I)(2)(i)**

All on-site personnel and visitors will be required to attend a safety meeting discussing elements of this site-specific health and safety plan. The plan will be discussed with all personnel involved with site work prior to work initiation. Site characterization, expected hazards, and emergency response actions will be covered in the pre-emergency meeting. Additional safety meetings will be held when conditions such as weather, scope of work, or unanticipated hazards change substantially.

Monitoring for possible exposure to hazardous substances or health and safety hazards will be performed by the site health and safety officer during the execution of work tasks.

All site personnel must be aware of anticipated potential hazards and actively take steps to avoid or reduce the risk of such potential hazards. The site health and safety officer must be informed if unanticipated health and safety hazards are observed.

## **8.0 SITE CHARACTERIZATION 29 CFR 1910.120 (c)**

### **8.1 Preliminary Evaluation**

**29 CFR 1910.120 (c)(2)**

A preliminary evaluation of site characteristics has been performed prior to site entry by the project manager.

**EMPLOYEE PROTECTION** Level D personal protective equipment (PPE), including steel-toed boots, gloves, eye protection, ear protection (as applicable), and hard hats (as applicable) must be worn by all personnel within the work area.

**ENGINEERING CONTROLS** Personnel should, whenever possible, work on the upwind side of injection points. Subsurface contamination should not be encountered during system construction, however, should air quality monitoring indicate elevated levels of hazardous vapors, the work area will be evacuated and reassessed prior to re-entrance. An evaluation of increased level of protection (e.g., respiratory protection) will be performed prior to work area re-entry.

### **8.2 Anticipated Safety and Health Hazards**

**29 CFR 1910.120 (c)(4)(v)**

**SAFETY HAZARDS:** Traffic, noise, heavy equipment operation, heat or cold stress, slips/trips/falls, pinch points, sharp tools.

**HEALTH HAZARDS:** Soil and/or groundwater contaminated with petroleum hydrocarbons (benzene) and elevated dissolved metals (iron, manganese), volatile organic vapors, possible free phase petroleum hydrocarbons.

8.3 Hazard Identification

29 CFR 1910.120 (c)(3)

Chemical Hazard	Pathways for Exposure Risk Identification 29 CFR 1910.120 (c)(4)(vi) 29 CFR 1910.120 (c)(7)			Exposure Limits
Petroleum Hydrocarbons	Skin Contact, Eye Irritation	Inhalation	Ingestion	Cal/ OSHA PEL
Engineering Controls for Exposure Minimization	<p>Wear protective gloves and clothing while handling soils and water.</p> <p>Petroleum hydrocarbon is an eye and throat irritant at levels around the PEL.</p>	<p>Stay upwind whenever possible while working with or near equipment. If engineering control is insufficient to minimize risk of inhalation, respirators will be worn.</p>	<p>No eating, drinking, or application of cosmetics in the work zone. Decontaminate prior to leaving work area. Wash hands prior to eating, drinking or the application of cosmetics.</p>	300 ppm
Effects of Contaminant	<p>Petroleum hydrocarbons are an eye and throat irritant at levels around the Permissible Exposure Limit (PEL), and causes narcotic effects (with symptoms including headache, nausea, dizziness, and blurred vision) at higher levels. Long term exposure can affect liver and kidney function. Some studies indicate a potential for petroleum hydrocarbons to be an animal carcinogen, but this has not been fully established. Because petroleum hydrocarbon is a mixture of varying proportions of dozens of hydrocarbons, a mean odor threshold has not been determined.</p>			

<b>Physical Hazard</b>	<b>Engineering Controls to Minimize Risks</b>
Noise	Wear earplugs when in noisy areas that have sound levels such that interfere with normal conversation.
Traffic	Inspect and maintain traffic safety cones and/or flagging to keep automobile traffic away from work area.
Heat or Cold Stress	Monitor individuals for signs of stress if air temperature exceeds 85°F or drops below 40°F. Provide frequent breaks to cool down or warm up. Have fluids available.
Heavy Equipment Operation	Be visible to operator when approaching heavy equipment. Do not operate equipment and walk away.

#### **8.4 Safety and Health Risk/Hazard Analysis**

**29 CFR 1910.120 (b)(2)(4)(ii)(a)**

Work will be performed outdoors. Engineering controls, such as working upwind as much as is practicable, will help minimize risk to exposure. Should PID readings exceed normal background levels anywhere in the work area, the work area will be evacuated, and the risks re-evaluated.

#### IDLH Concentrations

29 CFR 1910.120 (c)(7)(ii)

The work area will be evacuated before personnel exposure to IDLH concentrations of contaminants.

#### Explosion Sensitivity and Flammability Ranges

29 CFR 1910.120 (c)(7)(iv)

If levels of contaminants reach explosive levels at the site location, work will cease and the injection boreholes will be abandoned as described in work tasks. The SMA on-site representative will monitor for potentially explosive conditions.

#### Oxygen deficiency

29 CFR 1910.120 (c)(7)(v)

Not applicable

#### **9.0 DECONTAMINATION PROCEDURES**

**29 CFR 1910.120 (k)**

All employees leaving the work area shall remove and discard disposable gloves and earplugs, wash personal protective equipment (such as rinsing off boots, cleaning eye protection, etc.) as necessary, and wash hands prior to leaving the work area.

Decontamination shall be performed in an area that will minimize the employee exposure. All equipment used for decontamination shall also be decontaminated or disposed of properly.



## **10.0 EMERGENCY RESPONSE PLAN**

**29 CFR 1910.120 (I)**

### **10.1 Response Activities**

**29 CFR 1910.120 (c)(4)(ii)**

Determine the nature of the emergency (release of hazardous substances, injury or unconsciousness from hazardous substance, injury from physical hazard, etc.)

#### **FIRST AID KIT AND FIRE EXTINGUISHER:**

An emergency first aid kit and the fire extinguisher are located in the SMA vehicle.

#### **MINOR INJURY:**

If the injury or illness is minor, full decontamination may be completed and first aid administered prior to transport. If the patient's condition is serious, medical assistance should be summoned immediately.

#### **SEVERE INJURY:**

If personal injury has occurred resulting from hazardous substance exposure, call for emergency medical attention. Do not enter work area if risk of injury from hazardous substance exposure exists.

If personal injury has occurred, call for emergency medical attention.

#### **TELEPHONE:**

Each SMA employee on site has a mobile phone that can be used for emergency calls.

#### **VEHICLE ACCIDENT:**

If no personal injury, notify police and treat as traffic mishap. Record name of person(s) involved, telephone number(s), license number(s), insurance company name(s). Photograph vehicle damage, skid marks, property damage, etc.

#### **FIRE OR EXPLOSION:**

A fire extinguisher is available in the SMA vehicle. In the event a fire cannot be extinguished, or the fighting of fire poses a safety and/or health risk, call the local fire department immediately.

#### **NOTIFICATION OF SITE PERSONNEL:**

Three long beeps on support vehicle horn. Site personnel meet at a designated rally point upwind of incident outside of work area. Alert fire department.

## **11.0 TRAINING AND MEDICAL SURVEILLANCE**

### **11.1 Training**

**29 CFR 1910.120 (b)(2)(4)(ii)(b)**

All on site personnel have been trained as specified in SMA's health and safety program.

### **11.2 Medical Surveillance**

**29 CFR 1910.120 (f)**

All site personnel certify that they are under a medical surveillance program as described in SMA's health and safety program.

### 12.0 TRAFFIC SAFETY PLAN

SMA will consult with Town of Hatch if they recommend a traffic control plan. Though site work is to take place on private property, adjacent public roadways and sidewalk may be affected during injection. Safety cones and markers will be utilized to alert non-essential personnel of site work, heavy equipment, operators, SMA employees, and subcontractors.

### 13.0 RECORD KEEPING

A daily log of site activities will be kept by the on-site SMA representative during work progression. All activities will be noted.

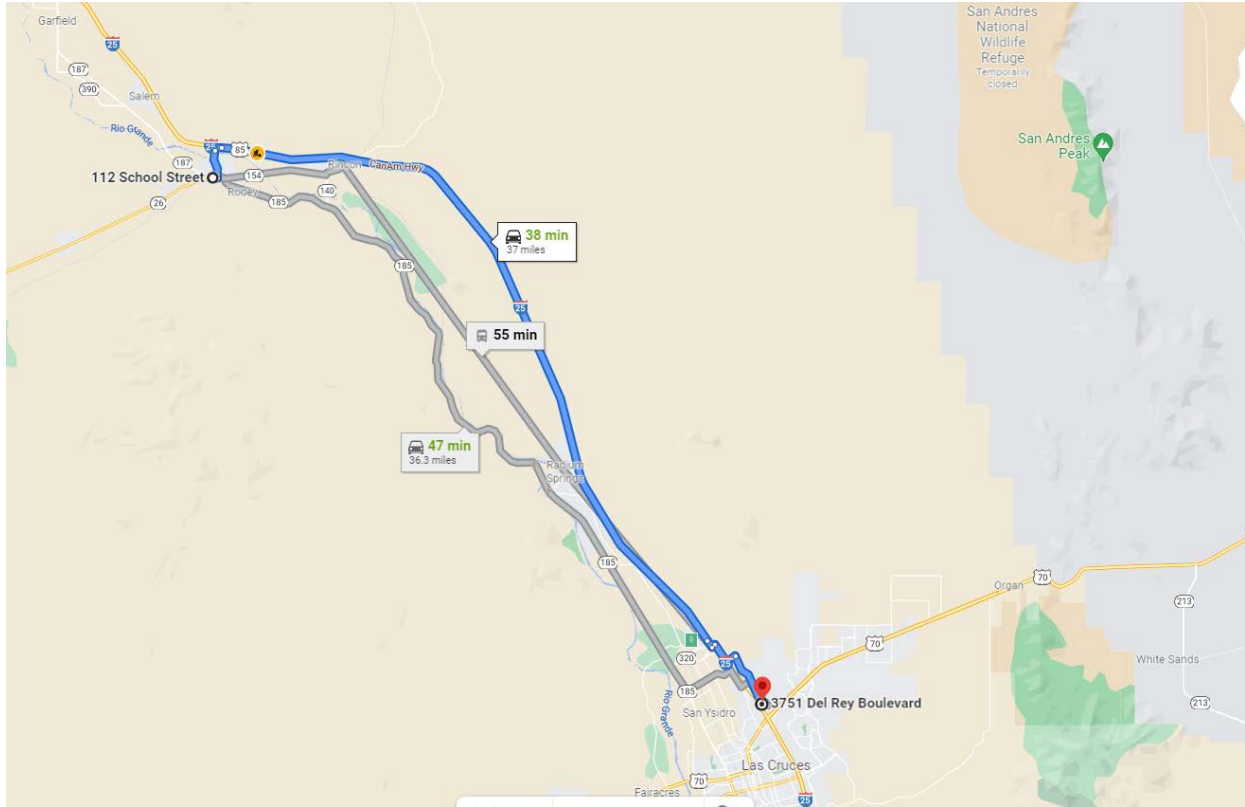
#### EMERGENCY TELEPHONE NUMBERS

<b>AGENCY</b>	<b>TELEPHONE NUMBER</b>
Emergency	911
Fire and Rescue	911
Police or Sheriff	911
Poison Control	1-800-432-6866
EPA Emergency Response Team	908-321-6660
National Response Center	800-424-8802
Center for Disease Control	404-488-4100
Chemtrec	800-424-9555
One Call	811
NOTIFICATION OF SMA	575-647-0680 (Las Cruces Office) 505-793-7079 (S. Hinds, SMA Project Manager) 575-449-2966 (J. Vanlandingham, SMA Sr. Project Manager)

*Call SMA's Farmington Office at **575-647-0680** after notification of emergency assistance. Inform office of the name of injured party or the nature of the incident. If injured worker is a contractor or subcontractor, instruct SMA personnel to inform contractor or subcontractor of the incident.*



**Hospital Information:**  
Mesilla Valley Hospital  
3751 Del Rey Blvd.  
Las Cruces, NM 88012  
911 or (575) 382-3500



**38 min** (37.0 miles)



via I-25 S

Fastest route, the usual traffic

#### 112 School St

Hatch, NM 87937

- > Get on I-25 S from NM-26 N  
4 min (1.7 mi)
- > Follow I-25 S to Co Rd D036/NM-320 E in Doña Ana.  
Take exit 9 from I-25 S  
27 min (31.4 mi)
- > Follow Del Rey Blvd to your destination in Las Cruces  
7 min (3.9 mi)

#### 3751 Del Rey Blvd

Las Cruces, NM 88012

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

## CONSENTIMIENTO PARA EL ACCESO A LA PROPIEDAD

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Nombre del propietario: Jose Guadalupe y Antonia Banuelos

Ubicación de la propiedad: 112 School Street, Hatch, NM 87937

Este es mi consentimiento para que el Departamento de Medio Ambiente de Nuevo México (Departamento) y sus funcionarios, empleados, contratistas y representantes autorizados tengan acceso a la Propiedad descrita anteriormente para llevar a cabo acciones correctivas de acuerdo con los requisitos de 20.5.119 NMAC y aprobados por el Departamento. Las actividades pueden incluir, entre otras, las siguientes:

- Inyección de compuestos químicos para remediar la contaminación del suelo y las aguas subterráneas por la liberación de petróleo
- Monitoreo de las aguas subterráneas
- Inspección
- Reparación de terminaciones superficiales de pozos de monitoreo
- Utilización de equipos móviles para extraer vapores de petróleo y aguas subterráneas de los pozos de monitoreo
- Todos los trabajos se llevarán a cabo de manera eficiente y cortés y con un mínimo de interrupciones y molestias para los clientes, empleados, agentes y representantes del Propietario.

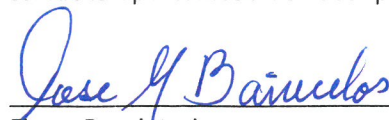
El Departamento y sus funcionarios, empleados, contratistas y representantes autorizados proporcionarán al Propietario un aviso por escrito o un aviso verbal antes de cada entrada en la Propiedad. Este aviso se entregará a:

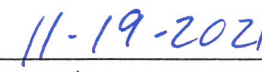
Propietario: José G o Antonia Banuelos  
Dirección del Propietario: P.O. Box 1110, Hatch, NM 87937  
Teléfono: (575) 644-444 (575) 644-4441  
Correo electrónico: jgbanuelos@gmail.com

Es posible que el Propietario pueda observar las actividades en la Propiedad; sin embargo, todas las operaciones se llevarán a cabo de acuerdo con las Regulaciones de Salud y Seguridad Ocupacional (ver 29 CFR § 1910.120) y en caso de que se identifique cualquier riesgo potencial de incendio, explosión, salud, seguridad u otros peligros de la operación de residuos peligrosos, el Propietario no podrá observar. En caso de que el Propietario decida que se recojan y analicen muestras divididas, será responsable de organizar por adelantado el suministro y los costes asociados a cualquier equipo, accesorios y costes de laboratorio necesarios para dichas muestras divididas.

Se colocarán instalaciones en la propiedad de forma que se minimicen las interferencias con el movimiento de vehículos y las actividades habituales en la Propiedad. Tras la finalización del proyecto, el Departamento y sus funcionarios, empleados, contratistas y representantes autorizados abandonarán adecuadamente todos los pozos, retirarán el equipo, todos los materiales, la basura, las vallas y otros elementos asociados. El Departamento y sus funcionarios, empleados, contratistas y representantes autorizados devolverán la propiedad lo más cerca posible de la condición previa a la entrada.

Este permiso lo doy voluntariamente con conocimiento de mi derecho a negarme y sin coacción. He tenido la oportunidad de hacer preguntas y todas mis preguntas han sido contestadas a mi satisfacción.

  
Firma-Propietario

  
Fecha

## Appendix D

Underground Injection Control General Discharge Permit DP-1937



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

**UNDERGROUND INJECTION CONTROL**

**GENERAL DISCHARGE PERMIT**



**Certified Mail- Return Receipt Requested**

**Facility Name:** Halsell's Grocery State-Lead Site FID #6053

**Facility Location:** 112 School Road, Hatch, NM 87937  
Section 9, Township 19S, Range 3W  
Dona Ana County

**Legally Responsible Party:** New Mexico Environment Department (NMED)  
Petroleum Storage Tank Bureau (PSTB) Remedial  
Action Program, Attn: Lorena Goerger  
2905 Rodeo Park Drive, Building 1, Santa Fe, NM  
87505  
(505) 827-2855

**Remediation Oversight Agency Contact:** NMED Petroleum Storage Tank Bureau  
Lorena Goerger  
(505) 670-9618

**Remediation or Injection Plan Identification:** Final Remediation Plan, Halsell's Grocery State-  
Lead Site, 112 School Road, Hatch NM

**Permitting Action:** New DP-1937

**PPS Contact** Avery Young  
(505) 699-8564

**EFFECTIVE DATE:** March 3, 2022      **TERM ENDS:** March 2, 2027

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**Justin D. Ball, Chief**  
**Ground Water Quality Bureau**

[Subsection H of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.]

Version updated December 5, 2018

**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 for the purpose of facilitating vadose zone or groundwater remediation. The GWQB issues this UIC Permit to New Mexico Environment Department Petroleum Storage Tank Bureau (NMED PSTB) (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 Final Remediation Plan, Halsell's Grocery State-Lead Site (Injection Plan), under the authority of Statutes/Regulations, with oversight by the NMED PSTB. 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):

Summary of Injection Plan: Injection of COGAC (chemically oxygenated granular activated carbon) solution to treat persistent dissolved-phase petroleum hydrocarbons in shallow groundwater (~10 ft below ground surface(bgs)) at former underground storage tank site. Injection to be performed using Geoprobe 7822DT direct push rig with injection tips. An area of 2000 square feet will be treated using 28 injection points and at depth of 10-16 feet bgs. Injection rate will be at ~20 gallons per minute to minimize surfacing. Approximately 3360 pounds of 12% concentrated COGAC will be injected evenly using 7.5-foot grid spacing.



### Injection Site Information

Depth to most shallow groundwater (required): 10 ft  
Existing concentration of total dissolved solids (TDS) in groundwater (required): 1150mg/L  
Location (required): 112 School Road, Hatch, NM  
County (required): Dona Ana  
Latitude: 32.665468  
Longitude: -107.156524  
Map Showing Area of Injection Sites Attached (required):

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

3360 lbs of 12% concentrated COGAC solution. COGAC solution developed by Remington Technologies, Inc. Please see attached the Safety Data Sheet for COGAC ingredients as well as chemical and physical properties.

### Anticipated Precipitation, Dissolution, Adsorption, and Desorption Products

COGAC is a high carbon content chemically oxygenated granular activated carbon. COGAC is a combination of sodium persulfate, calcium peroxide, and activated carbon that provides 3 methods of contaminant concentration reduction: (1) sorption of the contaminants for reduced flux into groundwater, (2) initial in-situ chemical oxidation, and (3) a transition to biological stimulation for indigenous microbes. COGAC can perform under both aerobic and anaerobic conditions. Please see attached SDS for additional product properties and fates.

### Public Notice Posting Locations

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

**Newspaper:** N/A

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

**Newspaper:** Las Cruces Sun News

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:** Sign will be posted by the front door of the Halsell Grocery Store.

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:** Flyer will be located at the Hatch Public Library.

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:  Lorena Goerger Digitally signed by Lorena Goerger  
Date: 2021.12.09 10:53:15 -07'00'

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

Printed Name:  Lorena Goerger

Title:  Program Manager

Applicant Note that Submissions Must Include:

- 1- One electronic copy of the application delivered to the GWQB via email or other format
- 2- Two hardcopies of the application delivered to: Ground Water Quality Bureau  
Harold Runnels Building  
1190 Saint Francis Drive  
P.O. Box 5469  
Santa Fe, NM 87502-5469
- 3- Payment by check or electronic transfer of one application fee of \$100.00

## 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 the NMED Petroleum Storage Tank Bureau.

[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 the 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 a 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) - Placeholder for any added monitoring and reporting requirements.
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 [all parties](#) 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]

## Appendix E

Property Access, Public Notices

## CONSENTIMIENTO PARA EL ACCESO A LA PROPIEDAD

---

Nombre del propietario: Jose Guadalupe y Antonia Banuelos

Ubicación de la propiedad: 112 School Street, Hatch, NM 87937

Este es mi consentimiento para que el Departamento de Medio Ambiente de Nuevo México (Departamento) y sus funcionarios, empleados, contratistas y representantes autorizados tengan acceso a la Propiedad descrita anteriormente para llevar a cabo acciones correctivas de acuerdo con los requisitos de 20.5.119 NMAC y aprobados por el Departamento. Las actividades pueden incluir, entre otras, las siguientes:

- Inyección de compuestos químicos para remediar la contaminación del suelo y las aguas subterráneas por la liberación de petróleo
- Monitoreo de las aguas subterráneas
- Inspección
- Reparación de terminaciones superficiales de pozos de monitoreo
- Utilización de equipos móviles para extraer vapores de petróleo y aguas subterráneas de los pozos de monitoreo
- Todos los trabajos se llevarán a cabo de manera eficiente y cortés y con un mínimo de interrupciones y molestias para los clientes, empleados, agentes y representantes del Propietario.

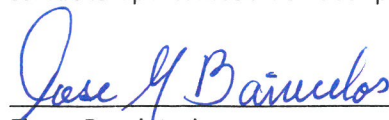
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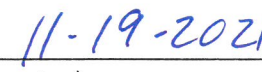
Propietario: José G o Antonia Banuelos  
Dirección del Propietario: P.O. Box 1110, Hatch, NM 87937  
Teléfono: (575) 644-444 (575) 644-4441  
Correo electrónico: jgbanuelos@gmail.com

Es posible que el Propietario pueda observar las actividades en la Propiedad; sin embargo, todas las operaciones se llevarán a cabo de acuerdo con las Regulaciones de Salud y Seguridad Ocupacional (ver 29 CFR § 1910.120) y en caso de que se identifique cualquier riesgo potencial de incendio, explosión, salud, seguridad u otros peligros de la operación de residuos peligrosos, el Propietario no podrá observar. En caso de que el Propietario decida que se recojan y analicen muestras divididas, será responsable de organizar por adelantado el suministro y los costes asociados a cualquier equipo, accesorios y costes de laboratorio necesarios para dichas muestras divididas.

Se colocarán instalaciones en la propiedad de forma que se minimicen las interferencias con el movimiento de vehículos y las actividades habituales en la Propiedad. Tras la finalización del proyecto, el Departamento y sus funcionarios, empleados, contratistas y representantes autorizados abandonarán adecuadamente todos los pozos, retirarán el equipo, todos los materiales, la basura, las vallas y otros elementos asociados. El Departamento y sus funcionarios, empleados, contratistas y representantes autorizados devolverán la propiedad lo más cerca posible de la condición previa a la entrada.

Este permiso lo doy voluntariamente con conocimiento de mi derecho a negarme y sin coacción. He tenido la oportunidad de hacer preguntas y todas mis preguntas han sido contestadas a mi satisfacción.

  
Firma-Propietario

  
Fecha

## Appendix F

### Site-Specific Health and Safety Plan



**SOUDER, MILLER & ASSOCIATES  
SITE-SPECIFIC HEALTH & SAFETY PLAN  
29 CFR 1910.120 (b)(2)(4)**

**1.0 INTRODUCTION**

This document is the site-specific health and safety plan for Souder, Miller & Associates (SMA) with specific reference to the Halsell's Grocery State-Lead petroleum storage tank (PST) release site, located at 112 School Road, Hatch, New Mexico. This document cannot list all hazardous activities or materials that may be encountered at the work site, however it does provide a framework for operating under generally accepted health and safety methods.

**2.0 OBJECTIVES**

It is the intention of this plan to itemize the minimum health and safety requirements for SMA personnel, for subcontractors under direct supervision by SMA, and for site visitors. This plan is devised with due consideration of regulations and performance requirements of various state agencies regarding the health and safety of the surrounding population. It is also the purpose of this plan to reduce or eliminate the potential for injury.

**2.1 Work Tasks and Objectives**

**29 CFR 1910.120 (b)(3)(ii)**

SMA will be conducting investigative and/or remedial activities related to a release of hydrocarbons from an underground storage tank (UST) system. These activities include groundwater sampling from monitoring wells and observation of in-situ treatment (injection) of an activated carbon-based solution (COGAC™).

**2.2 Effectiveness**

**29 CFR 1910.120 (b)(2)(4)(iv)**

Inspections shall be conducted by the SMA site health and safety supervisor, or his/her representative, to determine the effectiveness of the site health and safety plan. Any deficiencies in the effectiveness of the site health and safety plan shall be corrected by SMA.

**2.3 Location of Health and Safety Plan**

**29 CFR 1910.120 (b)(2)(4)(i)**

The site health and safety plan will be kept on site accessible to personnel in the SMA vehicle at all times, unless a specific centralized location is designated by the employees, contractors, and subcontractors working on site.

**2.4 Pre-Entry Briefing**

**29 CFR 1910.120 (b)(2)(4)(iii)**

A health and safety briefing will be conducted for all site personnel prior to initiating site activity, and at such other times as necessary to ensure that SMA employees, contractors, and subcontractors are apprised of the site health and safety plan.

The information contained in this site health and safety plan is compiled from data obtained from site

characterization and analysis work.

### **3.0 PROJECT ORGANIZATION**

SMA Project Manager: Ms. Stephanie Hinds, Project Engineer, (505) 793-7079  
SMA Senior Manager: Mr. Jay Vanlandingham, P.G. (575) 449-2966

### **4.0 AGENCY COORDINATION**

NMED Project Manager: Mr. Michael Boulay, Geoscientist, (505) 372-8331

### **5.0 SITE DESCRIPTION**

**29 CFR 1910.120 (c)(4)**

SITE NAME: Halsell's Grocery State-Lead Site

LOCATION: 112 School Road, Hatch, NM 87937

CURRENT ON-SITE ACTIVITIES: Grocery store with parking lot

TOPOGRAPHY: flat, paved parking lot with sidewalks and roadways along property perimeter

SURROUNDING POPULATION: within Town of Hatch town limits, mix of commercial, residential, and light industrial properties

EXPECTED WEATHER CONDITIONS: TBD but potentially (likely) cool/cold, breezy (winter time-frame)

ACCESSIBILITY OF SITE: easily accessible, no fencing or gates

### **6.0 SITE WORK PLAN**

#### **6.1 Description of Job Tasks**

**29 CFR 1910.120 (c)(4)(ii)**

SMA will sample from three groundwater monitoring wells using disposable bailers. SMA will also be on site to observe injection of a chemically oxygenated active carbon solution, performed by Remington Technologies, Inc. Heavy equipment, including a Geoprobe 7822DT direct push rig and mixing tanks will be on site. Hydrocarbon impacted groundwater may be encountered.

#### **6.2 Site Cleanup**

**29 CFR 1910.120 (b)(3)(i)**

The site will be cleared of hazards and injection debris and restored to pre-injection site conditions.

### **7.0 SITE CONTROL**

Site control will consist of traffic cones, flagging, safety vests, and consultation with Town of Hatch for a

traffic control plan. These measures are meant to prevent non-essential personnel from getting inside of the work area. The size of the work area will be determined by site specific parameters but will encompass an area of no greater than 5,000 square feet.

### **7.1 Pre-Emergency Planning**

**29 CFR 1910.120 (I)(2)(i)**

All on-site personnel and visitors will be required to attend a safety meeting discussing elements of this site-specific health and safety plan. The plan will be discussed with all personnel involved with site work prior to work initiation. Site characterization, expected hazards, and emergency response actions will be covered in the pre-emergency meeting. Additional safety meetings will be held when conditions such as weather, scope of work, or unanticipated hazards change substantially.

Monitoring for possible exposure to hazardous substances or health and safety hazards will be performed by the site health and safety officer during the execution of work tasks.

All site personnel must be aware of anticipated potential hazards and actively take steps to avoid or reduce the risk of such potential hazards. The site health and safety officer must be informed if unanticipated health and safety hazards are observed.

## **8.0 SITE CHARACTERIZATION 29 CFR 1910.120 (c)**

### **8.1 Preliminary Evaluation**

**29 CFR 1910.120 (c)(2)**

A preliminary evaluation of site characteristics has been performed prior to site entry by the project manager.

**EMPLOYEE PROTECTION** Level D personal protective equipment (PPE), including steel-toed boots, gloves, eye protection, ear protection (as applicable), and hard hats (as applicable) must be worn by all personnel within the work area.

**ENGINEERING CONTROLS** Personnel should, whenever possible, work on the upwind side of injection points. Subsurface contamination should not be encountered during system construction, however, should air quality monitoring indicate elevated levels of hazardous vapors, the work area will be evacuated and reassessed prior to re-entrance. An evaluation of increased level of protection (e.g., respiratory protection) will be performed prior to work area re-entry.

### **8.2 Anticipated Safety and Health Hazards**

**29 CFR 1910.120 (c)(4)(v)**

**SAFETY HAZARDS:** Traffic, noise, heavy equipment operation, heat or cold stress, slips/trips/falls, pinch points, sharp tools.

**HEALTH HAZARDS:** Soil and/or groundwater contaminated with petroleum hydrocarbons (benzene) and elevated dissolved metals (iron, manganese), volatile organic vapors, possible free phase petroleum hydrocarbons.

8.3 Hazard Identification

29 CFR 1910.120 (c)(3)

Chemical Hazard	Pathways for Exposure Risk Identification 29 CFR 1910.120 (c)(4)(vi) 29 CFR 1910.120 (c)(7)			Exposure Limits
Petroleum Hydrocarbons	Skin Contact, Eye Irritation	Inhalation	Ingestion	Cal/ OSHA PEL
Engineering Controls for Exposure Minimization	<p>Wear protective gloves and clothing while handling soils and water.</p> <p>Petroleum hydrocarbon is an eye and throat irritant at levels around the PEL.</p>	<p>Stay upwind whenever possible while working with or near equipment. If engineering control is insufficient to minimize risk of inhalation, respirators will be worn.</p>	<p>No eating, drinking, or application of cosmetics in the work zone. Decontaminate prior to leaving work area. Wash hands prior to eating, drinking or the application of cosmetics.</p>	300 ppm
Effects of Contaminant	<p>Petroleum hydrocarbons are an eye and throat irritant at levels around the Permissible Exposure Limit (PEL), and causes narcotic effects (with symptoms including headache, nausea, dizziness, and blurred vision) at higher levels. Long term exposure can affect liver and kidney function. Some studies indicate a potential for petroleum hydrocarbons to be an animal carcinogen, but this has not been fully established. Because petroleum hydrocarbon is a mixture of varying proportions of dozens of hydrocarbons, a mean odor threshold has not been determined.</p>			

<b>Physical Hazard</b>	<b>Engineering Controls to Minimize Risks</b>
Noise	Wear earplugs when in noisy areas that have sound levels such that interfere with normal conversation.
Traffic	Inspect and maintain traffic safety cones and/or flagging to keep automobile traffic away from work area.
Heat or Cold Stress	Monitor individuals for signs of stress if air temperature exceeds 85°F or drops below 40°F. Provide frequent breaks to cool down or warm up. Have fluids available.
Heavy Equipment Operation	Be visible to operator when approaching heavy equipment. Do not operate equipment and walk away.

#### **8.4 Safety and Health Risk/Hazard Analysis**

**29 CFR 1910.120 (b)(2)(4)(ii)(a)**

Work will be performed outdoors. Engineering controls, such as working upwind as much as is practicable, will help minimize risk to exposure. Should PID readings exceed normal background levels anywhere in the work area, the work area will be evacuated, and the risks re-evaluated.

#### IDLH Concentrations

29 CFR 1910.120 (c)(7)(ii)

The work area will be evacuated before personnel exposure to IDLH concentrations of contaminants.

#### Explosion Sensitivity and Flammability Ranges

29 CFR 1910.120 (c)(7)(iv)

If levels of contaminants reach explosive levels at the site location, work will cease and the injection boreholes will be abandoned as described in work tasks. The SMA on-site representative will monitor for potentially explosive conditions.

#### Oxygen deficiency

29 CFR 1910.120 (c)(7)(v)

Not applicable

#### **9.0 DECONTAMINATION PROCEDURES**

**29 CFR 1910.120 (k)**

All employees leaving the work area shall remove and discard disposable gloves and earplugs, wash personal protective equipment (such as rinsing off boots, cleaning eye protection, etc.) as necessary, and wash hands prior to leaving the work area.

Decontamination shall be performed in an area that will minimize the employee exposure. All equipment used for decontamination shall also be decontaminated or disposed of properly.

## **10.0 EMERGENCY RESPONSE PLAN**

**29 CFR 1910.120 (I)**

### **10.1 Response Activities**

**29 CFR 1910.120 (c)(4)(ii)**

Determine the nature of the emergency (release of hazardous substances, injury or unconsciousness from hazardous substance, injury from physical hazard, etc.)

#### **FIRST AID KIT AND FIRE EXTINGUISHER:**

An emergency first aid kit and the fire extinguisher are located in the SMA vehicle.

#### **MINOR INJURY:**

If the injury or illness is minor, full decontamination may be completed and first aid administered prior to transport. If the patient's condition is serious, medical assistance should be summoned immediately.

#### **SEVERE INJURY:**

If personal injury has occurred resulting from hazardous substance exposure, call for emergency medical attention. Do not enter work area if risk of injury from hazardous substance exposure exists.

If personal injury has occurred, call for emergency medical attention.

#### **TELEPHONE:**

Each SMA employee on site has a mobile phone that can be used for emergency calls.

#### **VEHICLE ACCIDENT:**

If no personal injury, notify police and treat as traffic mishap. Record name of person(s) involved, telephone number(s), license number(s), insurance company name(s). Photograph vehicle damage, skid marks, property damage, etc.

#### **FIRE OR EXPLOSION:**

A fire extinguisher is available in the SMA vehicle. In the event a fire cannot be extinguished, or the fighting of fire poses a safety and/or health risk, call the local fire department immediately.

#### **NOTIFICATION OF SITE PERSONNEL:**

Three long beeps on support vehicle horn. Site personnel meet at a designated rally point upwind of incident outside of work area. Alert fire department.

## **11.0 TRAINING AND MEDICAL SURVEILLANCE**

### **11.1 Training**

**29 CFR 1910.120 (b)(2)(4)(ii)(b)**

All on site personnel have been trained as specified in SMA's health and safety program.

### **11.2 Medical Surveillance**

**29 CFR 1910.120 (f)**

All site personnel certify that they are under a medical surveillance program as described in SMA's health and safety program.

### 12.0 TRAFFIC SAFETY PLAN

SMA will consult with Town of Hatch if they recommend a traffic control plan. Though site work is to take place on private property, adjacent public roadways and sidewalk may be affected during injection. Safety cones and markers will be utilized to alert non-essential personnel of site work, heavy equipment, operators, SMA employees, and subcontractors.

### 13.0 RECORD KEEPING

A daily log of site activities will be kept by the on-site SMA representative during work progression. All activities will be noted.

#### EMERGENCY TELEPHONE NUMBERS

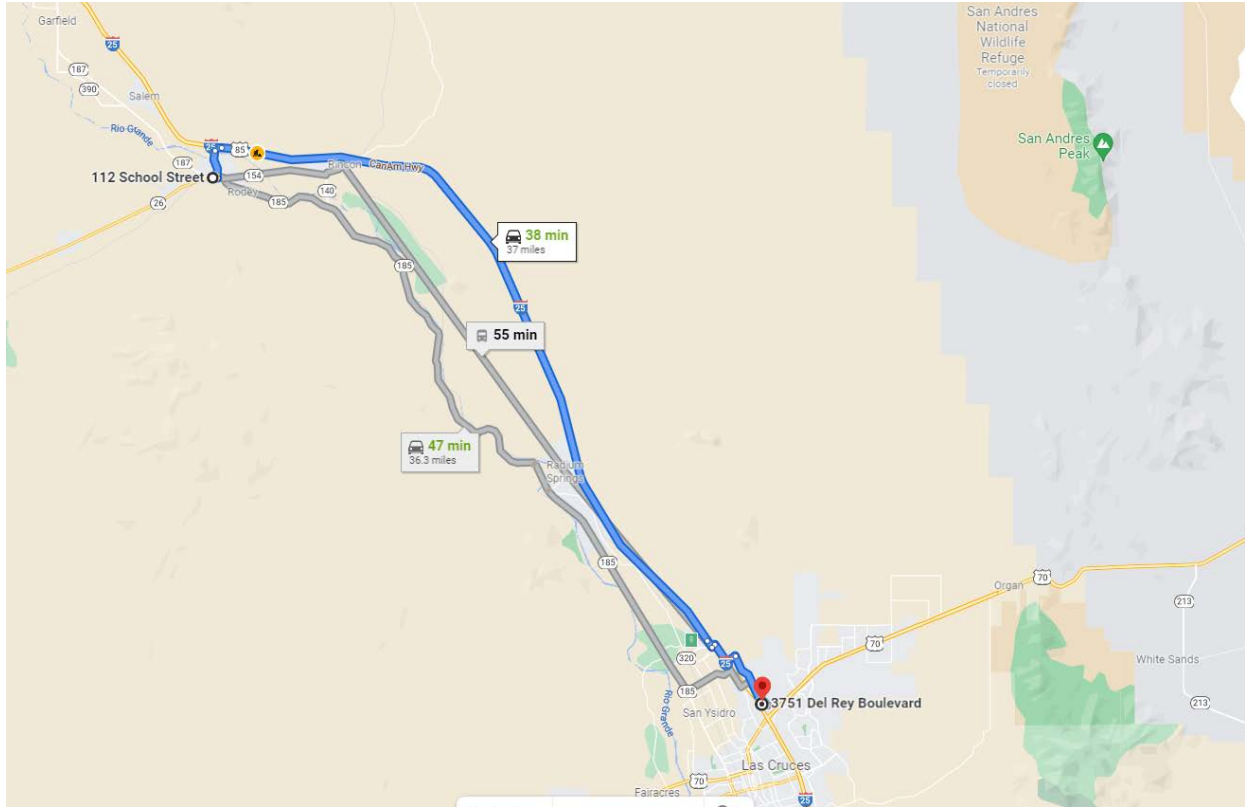
<b>AGENCY</b>	<b>TELEPHONE NUMBER</b>
Emergency	911
Fire and Rescue	911
Police or Sheriff	911
Poison Control	1-800-432-6866
EPA Emergency Response Team	908-321-6660
National Response Center	800-424-8802
Center for Disease Control	404-488-4100
Chemtrec	800-424-9555
One Call	811
NOTIFICATION OF SMA	575-647-0680 (Las Cruces Office) 505-793-7079 (S. Hinds, SMA Project Manager) 575-449-2966 (J. Vanlandingham, SMA Sr. Project Manager)

*Call SMA's Farmington Office at **575-647-0680** after notification of emergency assistance. Inform office of the name of injured party or the nature of the incident. If injured worker is a contractor or subcontractor, instruct SMA personnel to inform contractor or subcontractor of the incident.*





**Hospital Information:**  
**Mesilla Valley Hospital**  
3751 Del Rey Blvd.  
Las Cruces, NM 88012  
911 or (575) 382-3500



**38 min** (37.0 miles)



via I-25 S

Fastest route, the usual traffic

**112 School St**

Hatch, NM 87937

- > Get on I-25 S from NM-26 N  
4 min (1.7 mi)
- > Follow I-25 S to Co Rd D036/NM-320 E in Doña Ana.  
Take exit 9 from I-25 S  
27 min (31.4 mi)
- > Follow Del Rey Blvd to your destination in Las Cruces  
7 min (3.9 mi)

**3751 Del Rey Blvd**

Las Cruces, NM 88012

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.