RECEIVED
By PSTB at 9:02 am, Jun 14, 2022

EA Engineering, Science,
and Technology, Inc., PBC

320 Gold Avenue SW, Suite 1300
Albuquerque, NM 87102
Telephone: 505-224-9013
www.eaest.com

June 13, 2022

Mr. Corey Jarrett
Geoscientist/Project Manager
Remedial Action Program
New Mexico Environment Department
Petroleum Storage Tank Bureau
121 Tijeras Ave NE, Suite 1000
Albuquerque, NM 87102

Final Remediation Plan
Conoco Service Station, 3837 Highway 64, Chama, NM
Release ID #: 2316 Facility #: 27498 Deliverable ID 4262-3
Contract #: 22 667 3200 0007

Dear Mr. Jarrett:

EA Engineering, Science, and Technology, Inc. PBC (EA) prepared this Final Remediation Plan to inject Regenesis ORC-Advanced® at the Chama Conoco site located at 3837 Highway 64 in Chama, New Mexico.

Please feel free to contact me at (505) 296-1070 or vmustafin@eaest.com if you have questions or comments.

Respectfully,

EA Engineering, Science, and Technology, Inc., PBC

V. Mustafin

Vener Mustafin, P.E.
Project Manager/Engineer

Attachments:

Final Remediation Plan

CC:

Ms. Katherine MacNeil, P.E., Engineer, NMED PSTB
Mr. and Mrs. Leonard Kenyon, 2718 Wisconsin NE, Albuquerque, NM 87110
Mayor, Village or Chama, PO Box 794, Chama, NM, 87520

EA Engineering, Science,
and Technology, Inc.

FINAL REMEDIATION PLAN
CONOCO SERVICE STATION
3837 HIGHWAY 64, CHAMA, NEW MEXICO

PSTB FACILITY #: 27498
RELEASE ID #: 2316
WPID #: 4262
DELIVERABLE ID #: 4262-3
CONTRACT #: 22-667-3200-0007

Submitted to:
New Mexico Environment Department
Petroleum Storage Tank Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

Submitted by:
EA Engineering, Science,
and Technology, Inc., PBC
320 Gold Avenue SW, Suite 1300
Albuquerque, NM 87102

Distribution:

1 Copy Mr. Corey Jarrett, Project Manager, NMED PSTB
1 Copy Ms. Katherine Macneil, P.E., Engineer, NMED PSTB

Signed Electronically by
V. Mustafin on June 13, 2022

June 13, 2022

EA Project No. 6380401

TABLE OF CONTENTS

List of Drawings

List of Appendices

1.0 INTRODUCTION

1.1. CONTRACTUAL

EA Engineering, Science, and Technology, Inc. PBC (EA) has prepared this Final Remediation Plan (FRP) to inject Regenesis® Oxygen Release Compound® - Advanced (ORC-A) to mitigate residual groundwater contamination and to facilitate a No Further Action status at Conoco Service Station located at 3837 US Highway 64 in Chama, New Mexico (Drawing G-1). The FRP has been prepared under Contract number 22 667 3200 0007, in accordance with the New Mexico Petroleum Storage Tank Regulations, New Mexico Administrative Code (NMAC) 20.5.119.1923, and work plan identification (WPID) number 4262, approved by the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) on February 24, 2022.

1.2. BACKGROUND

- In well MW-7, a NAPL sheen was noted in April 2021. Before that, in 2017, total naphthalene concentrations exceeded the NMWQCC standard ranging between 180 and 277 micrograms per liter (µg/L).
- The depth to groundwater in recent years has varied between approximately 5 and 8 feet below the top of the well casing (btoc). Historically, the groundwater level was as high as 3.5 feet btoc.
- The groundwater flow direction is primarily to the southwest at a gradient of approximately 0.02.
- Dissolved oxygen (DO) concentrations were slightly aerobic at approximately 1.0 milligrams per liter (mg/L), as estimated from the oxygen saturation of 15%. This indicates that aerobic biodegradation may be supported. Oxidation-reduction potential (ORP) was slightly positive at around 50 millivolts (mV).
- Total petroleum hydrocarbons (TPH) were below the laboratory detection levels indicating low contaminant mass.

- Soil to seven (7) feet below the ground surface (bgs) is comprised of clay with sand and gravel of slight plasticity and medium stiffness. The soil between 7 and 12 feet bgs is comprised of fine to coarse well-graded sand with some gravel. Large cobbles were noted between 9 and 12.5 feet bgs.
- In 2005, in SB-8/MW-7, high photoionization detector (PID) readings were observed at 5 feet bgs (3,480 parts per million by volume [ppmv]) and 9 feet bgs (2,470 ppmv).
- Well MW-7 extends to a depth of approximately 12.5 feet bgs, where refusal of the hollow stem auger was noted during well installation.

1.3. MARCH 2022 GROUNDWATER FIELD DATA RESULTS

Provided below is a table summarizing groundwater level gauging and geochemical parameters obtained during the purging of the wells.

Table 1. Summary of Field Measurements

Well ID	Depth to Water	Total Depth	Well Casing Elevation	Ground Water Elevation	Temperature	Specific Conductance	pH	Oxidation-Reduction Potential	Dissolved Oxygen
	feet TOC	feet TOC	feet AMSL	feet AMSL	degrees C	µS/cm	units	mV	mg/L
MW-6	Could not find the well								
MW-7	5.88	12.16	7,779.28	7,767.12	9.23	533	6.4	698	2.33
MW-8	6.57	15.04	7,779.64	7,764.60	9.73	1,294	5.76	1,103	1.29
MW-9	5.64	13.84	7,777.49	7,763.65	9.24	830	6.17	148	2.01
MW-11	5.64	12.70	7,778.53	7,765.83	8.96	764	6.13	123	2.22
MW-12	6.43	12.96	7,780.28	7,767.32	6.75	1,874	6.39	1,205	3.63
Average	6.0	13.34	7,779.04	7,765.70	8.8	1,059	6.2	655	2.3

Notes:
Dissolved oxygen concentrations are from the first bailer. All other parameters are before sampling.

feet TOC	feet below the top of well casing
feet AMSL	feet above mean sea level
C	Celsius
µS/cm	micro Siemens per centimeter
mV	millivolt
mg/L	milligram per liter

- The average depth to water was 6.0 feet below the top of the casing. The corresponding average groundwater elevation was 7,765.7 feet above the mean sea level.
- The groundwater flow direction was to the south-southwest at gradients varying between 0.04 and 0.09 (Drawing G-2).
- The average groundwater temperature was 8.8 degrees Celsius.
- The average DO was 2.5 milligrams per liter (mg/L) and the average ORP was 655 millivolts. Groundwater conditions were slightly aerobic and oxidizing.
- The average Specific Conductance (SpC) was 1,059 micro Siemens per centimeter.

1.4. MARCH 2022 GROUNDWATER LABORATORY ANALYSIS RESULTS

Provided below is a table summarizing recent groundwater analytical results.

Table 2. Summary of Recent Laboratory Analytical Results

Well ID	Date	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	EDC	EDB	Total Naphthalenes	Total Dissolved Solids
Standard		***5.0***	***1,000***	***700***	***620***	***100***	***5.0***	***0.05***	***30***	***1,000***
Units		*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*µg/L*	*mg/L*
MW-7	4/29/2019	**Non-Aqueous Phase Liquid Sheen**								
MW-7	4/22/2021	**Non-Aqueous Phase Liquid Sheen**								
MW-7	3/31/2022	<10	<20	140	210	<20	<20	<20	**55**	
MW-8	4/29/2019	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<10	
MW-8	4/22/2021	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<10	
MW-8	3/31/2022	<2.0	<2.0	<2.0	<3.0	<2.0	<2.0	<2.0	<20	**754**
MW-9	4/29/2019	<1.0	<1.0	1.4	<1.5	<1.0	<1.0	<1.0	<10	
MW-9	4/22/2021	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<10	
MW-9	3/31/2022	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<10	**473**
MW-11	4/29/2019	1.2	<1.0	2.6	27	<1.0	<1.0	<1.0	8.0	
MW-11	4/22/2021	1.7	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<10	
MW-11	3/31/2022	<2.0	<2.0	<2.0	<3.0	<2.0	<2.0	<2.0	<20	
MW-12	4/29/2019	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<1.0	
MW-12	4/22/2021	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<1.0	
MW-12	3/31/2022	<1.0	<1.0	<1.0	<1.5	<1.0	<1.0	<1.0	<1.0	

Notes:
Source of previous data: May 10, 2021, Groundwater Monitoring Report, Souder, Miller, & Associates.
Empty cells indicate that analysis was not conducted
Volatile Organic Compounds were analyzed using EPA Method 8260B.
Total Dissolved Solids were analyzed using Standard Method 2540C.

<	less than	mg/L	milligrams per liter
µg/L	micrograms per liter	MTBE	methyl tertiary butyl ether
EDB	ethylene dibromide		
EDC	ethylene dichloride		

- Groundwater concentrations were compared to the concentrations stated in the New Mexico Administrative Code 20.6.2.3103 "Standards for Ground Water of 10,000 mg/L TDS Concentration or less" and results are shown in the table above and Drawing G-3.
- Concentrations of benzene, toluene, ethylbenzene, total xylenes, methyl-tertiary butyl ether (MTBE), ethylene dichloride, and ethylene dibromide were below the standards.
- Concentration of total naphthalenes in MW-7 was 55 µg/L, above the standard of 30 µg/L. In 2019 and 2021, a NAPL sheen was present in the well.
- The Total Dissolved Solids concentration in MW-8 was 754 mg/L and in MW-9 was 473 mg/L.

2.0 REMEDIATION

2.1. GOAL OF REMEDIATION

The goal of the remediation is to mitigate recalcitrant petroleum hydrocarbon concentrations in monitoring well MW-7 to facilitate a No Further Action at the site. In recent years, concentrations of benzene, total xylenes, and total naphthalene in this well were above the New Mexico Administrative Code (NMAC) 20.6.2.3103 Standards for Ground Water and a NAPL sheen was observed in 2019 and 2021. The remediation goal is to decrease benzene concentrations to below 5 µg/L, total xylenes concentrations to below 620 µg/L, and total naphthalene concentrations to below 30 µg/L, which are the corresponding NMAC 20.6.2.3103 standards.

2.2. SELECTED INJECTATE

The NMED PSTB Request for Quote specified a controlled-release oxidant as the preferred technology for site remediation. EA selected Regenesis ORC-A®. ORC Advanced® is an engineered, oxygen release compound designed specifically for enhanced, in situ aerobic bioremediation of petroleum hydrocarbons in groundwater and saturated soils. Upon contact with groundwater, calcium oxy-hydroxide-based material becomes hydrated producing a controlled release of molecular oxygen (17% by weight) for periods of up to 12 months on a single application. ORC-A®. Manufacturer specifications are provided in Appendix A.

CRT

DEFINING THE SCIENCE BEHIND CONTROLLED-RELEASE TECHNOLOGY (CRT™)

Early on, Regenesis researchers noted that in order to optimally stimulate the natural attenuation of aerobically degradable contaminants, biologically usable oxygen was best supplied in low but constant concentrations. Big bursts of oxygen are wasteful and simply "bubble off", often generating undesirable foaming and producing unwanted preferential flow paths in the subsurface. Regenesis sought to solve this problem by controlling the rate of oxygen release from solid oxygen sources.

The answer was provided by the development of CRT. The CRT process involves intercalating (embedding) phosphates into the crystal structure of solid peroxygen molecules. This patented feature, now available in the ORC Advanced® formulation, slows the reaction that yields oxygen within the crystal, minimizing "bubble off" which can waste the majority of oxygen available in common solid peroxygen chemicals.

FIGURE 1:
FILLING A PUMP WITH
ORC ADVANCED SLURRY

CRT provides "balance" – it slows down the rate of oxygen release while at the same time preventing "lock-up". Commodity solid peroxygen chemicals, when in contact with water, will produce an initial rapid and uncontrolled-release of oxygen. Then, as hydroxides form, a significant portion of the oxygen deeper in the crystal is made unavailable or becomes "locked-up." This undesirable effect is inefficient and costly. CRT prevents lock-up and controls the rate of oxygen release, representing the state-of-the-art technology in passive oxygen delivery.

$$CaO(OH)_2 + H_2O \rightarrow \tfrac{1}{2}O_2 + Ca(OH)_2 + H_2O$$

2.3. TARGET ZONE AND AREA

The target area is defined as the area around monitoring well MW-7, as shown in Drawing C-1. The target injection zone was defined as the capillary fringe and the impacted saturated zone. As such, the target interval will be an 8-foot-thick zone between 4 feet bgs and 12 feet bgs. Considering the presence of cobbles, if the refusal is encountered without reaching the 12 feet bgs target, boreholes will be advanced to the refusal depth and fluids injected within the achievable interval. The MW-7 bore log and well construction log are included in Appendix B.

2.4. DOSAGE

TPH concentrations were below the detection limit; however, a sheen was observed in MW-7; therefore, an empirical application rate of 5 pounds of ORC-A per foot and 1.5 gallons of water per foot were selected. The application rate per point for an 8-foot-thick injection interval will be 40 pounds of ORC-A and approximately 12 gallons of water. The total quantities for ten injection points will be 400 pounds of ORC-A and 120 gallons of water. For the 10 injection points, 17% by weight releasable oxygen, and 3.5 pounds of oxygen to mineralize 1 pound of fuel hydrocarbons, this targeted injection of 400 pounds of ORC-A will release 68 pounds of oxygen and mineralize up to 19 pounds of hydrocarbons in the target area.

$$\frac{5\ \frac{lb}{ft} \cdot 8\ ft \cdot 10 \cdot 17\ \%}{3.5\ \frac{lb}{lb}} = 19\ lb$$

2.5. INJECTION METHODOLOGY

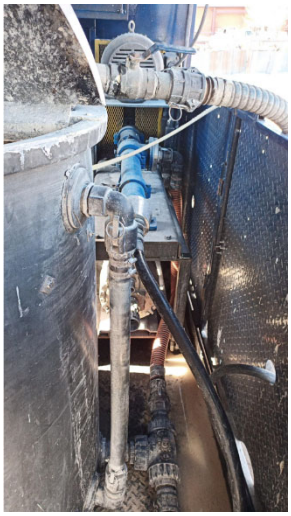
Direct push technology will be used to inject the remediation fluids using a top-down application at the injection points shown in Drawing C-1. A New Mexico Licensed Driller will perform the injection. If the top-down method is not successful and the surfacing is persistent, as a contingency, a bottom-up method with a drop-tip injection-through-the-rod method may be tried and utilized.

2.6. MIXING AND INJECTION

The ORC-A® will be stored in a cool dry place out of direct sunlight and heat in the original container in a well-ventilated place and away from combustible materials. It will be kept away from water and moisture and protected from rain and inclement weather. Personnel will wear protective gloves, eye protection, and face protection when handling.

Potable clean water will be poured into the mixing vessel and ORC-A® added thereafter. A mechanical paddle mixer or a hand-held drill with a "jiffy mixer" or a stucco mixer on it may be used in conjunction with a small paddle to scrape the bottom and sides of the container. The mixture of water and ORC-A® will be thoroughly mixed into a slurry. The slurry will be mixed immediately before the application and will be re-circulated if a delay in injection occurs.

An injection pump equipped with control valves and a pressure gauge will be used to inject the fluids through the injection tool. A high-pressure hose will be run from the pump to the top of the drilling rod. Pressures will be increased gradually to prevent surfacing. If surfacing occurs, the tool will be advanced deeper, and injection will be attempted again. If that fails, the injection tool will be advanced in another location in the general vicinity. If rods consistently encounter refusal, the injection interval and spacing will be adjusted to reflect site conditions. The injection volume will be measured using a mixing vessel or a totalizing flow meter. The injection volume, pressure, and times will be recorded on field forms (Appendix C). Field activities will be documented by photographs. A process flow diagram for injection is provided in Drawing P-1.



2.7. MONITORING DURING INJECTION

During injection, the following monitoring will be performed:

- The proportions of ORC-A™ and water in each batch will be recorded.
- Groundwater levels in wells MW-7 will be measured before and during the injection.
- The injection interval, pressure, and volume for each borehole/interval will be recorded.
- Field forms are provided in Appendix C.

2.8. OPTIMIZATION AND CONTINGENCY

Goal	Optimum Conditions	Contingency
Inject Remediation Fluids	According to the design and during the mobilization	Evaluate the bottom-up injection method Adjust injection pressure and flowrate Adjust the amount of water in the mixture Adjust injection spacing Adjust injection dosage Adjust injection interval
Demonstrate Remediation	Concentrations decrease and remain below the standards	Extend the duration of monitoring Perform another injection Evaluate alternative remediation methods

2.9. BOREHOLE PLUGGING AND RESTORATION

Upon completion, the injection boreholes will be plugged with bentonite pellets or grout. Bentonite pellets will be hydrated. The surface will be restored to match the pre-existing conditions and materials and all equipment will be removed from the site.

2.10. UTILITIES, NOTIFICATIONS, ACCESS AGREEMENT, AND HASP

Before the intrusive activities, a utility locate will be requested and marked by the respective utility entities. Borehole locations will be at least three feet away from the marked utilities.

EA will notify the NMED PSTB project manager and site owner at least 96-hours before implementation of field activities. A copy of the signed access agreement with the property owner is provided in Appendix D.

A copy of the Health and Safety Plan (HASP) prepared to cover the proposed project activities is included in Appendix E.

2.11. FRP PUBLIC NOTICE

The NMED PSTB will be responsible for the public notice for this FRP. EA will post the notice provided by the NMED PSTB (Appendix F) on-site and mail notifications to the owner and the adjacent properties using certified mail.

2.12. OFFICE OF STATE ENGINEER PERMIT

Before implementation, the selected New Mexico licensed driller performing the injection will obtain a permit to advance the boreholes and plug them after the injection.

2.13. DISCHARGE PERMIT

EA has prepared and submitted to the NMED Groundwater Quality Bureau (GWQB) an Underground Injection Control Discharge Permit (UIC DP) that is provided in Appendix G. The injection will be performed after the UIC DP is approved. EA will provide a copy of the completion report to the NMED PSTB and NMED GWQB to document the activities.

The UIC DP requires public notice of the proposed activities. Typically, the tasks listed below are required and will be performed. However, NMED GWQB may modify the requirements. EA will notify NMED PSTB of any modifications or changes to the requirements below.

- The public notice will be published in the Northern New Mexico Independent or other local publication, whichever the GWQB specifies.
- A 2' x 3' sign will be posted for 30 days at the site.
- An 8.5" x 11" notice will be posted in the Eleanor Daggett Library located at 299 4th Street in Chama, New Mexico.
- A public notice flyer will be mailed by 1st Class mail to the property owners within 1/3 mile of the site.
- A public notice flyer will be mailed to the owner by certified mail.
- An affidavit of posting of a public notice, a list of names and addresses to whom the public notice was mailed, a list and names and addresses of owners of discharge sites, certified mail receipts, and a copy of the newspaper ad will be submitted to the NMED GWQB.

2.14. REPORTING

Upon completion of the injection, EA will prepare and submit to the NMED PSTB and NMED GWQB a completion report documenting the injection. The report will include the following:

- A discussion of the injection process;
- A site map showing the injection locations;
- Table(s) of injection depth intervals, pressures, and volumes;
- Field notes; and
- Photographic documentation.

2.15. POST-INJECTION MONITORING

Provided below is the scope of work for the post-injection groundwater monitoring. This task was not part of the scope of the EA contract.

- Gauge six (6) monitoring wells (MW-6, MW-7, MW-8, MW-9, MW-11, and MW-12).
- Purge a minimum of three casing volumes of stagnant groundwater from the well.
- Collect groundwater samples from six wells (MW-6, MW-7, MW-8, MW-9, MW-11, and MW-12) for laboratory analysis.
- Submit samples for volatile organic compounds (VOCs) analysis by U.S. Environmental Protection Agency (EPA) Method 8260B and for total dissolved solids (TDS) analysis in MW-6 and MW-8 by SM 2540 C.
- Prepare and submit a groundwater monitoring report.

2.16. SCHEDULE

After the submittal of this FRP, a public notice of 30 days is required to allow the public to provide comments for the NMED PSTB and EA to respond to. After the issuance of the approval of the FRP by NMED PSTB, and approval of the UIC DP by the NMED GWQB, EA will proceed with scheduling the injection contractor and ordering the product. EA assumes that both approvals should be issued in the summer of 2022 and that work will also be scheduled and completed by September 30, 2022, the date of contract expiration. The fieldwork was estimated to take two days.

2.17. ANNUAL EVALUATION

In accordance with 20.5.12.119.1927 NMAC, the effectiveness of the injection should be evaluated annually and contain an analysis of the trends of contaminant concentrations in groundwater, project trends for contaminant concentration decline, evaluation of the effectiveness of the remediation based on injection performance, an estimated time to achieve remediation goals, and recommendations for remediation enhancements. The annual evaluation was not scoped within the EA's current contract.

3.0 REFERENCES

EA Engineering, Science, and Technology, Inc. PBC (EA), 2022. Chama Conoco Remediation Work Plan. February 17.

EA, 2022. Chama Conoco Pre-Injection Groundwater Monitoring Report. May 2.

State of New Mexico. 2022. Professional Services Contract No. 22 667 3200 0007. January 18.

DRAWINGS

LEGEND:

- MONITORING WELL
- PLUGGED MONITORING WELL

N

30 15 0 30

SCALE IN FEET

CONOCO SERVICE STATION
3837 US HIGHWAY 84/64, CHAMA, NM
CONTRACT 22 667 3200 0007

DRAWING G-1
SITE LAYOUT

PROJECT #:	6380401	PROJECT PHASE:	01	PROJECT MANAGER:	VM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

C:\Users\vmustafin\Desktop\Corona\PSTB State Lead\Conoco Svc Chama\Work Plan\Figures

LEGEND:

- MONITORING WELL
- PLUGGED MONITORING WELL

30 15 0 30

SCALE IN FEET

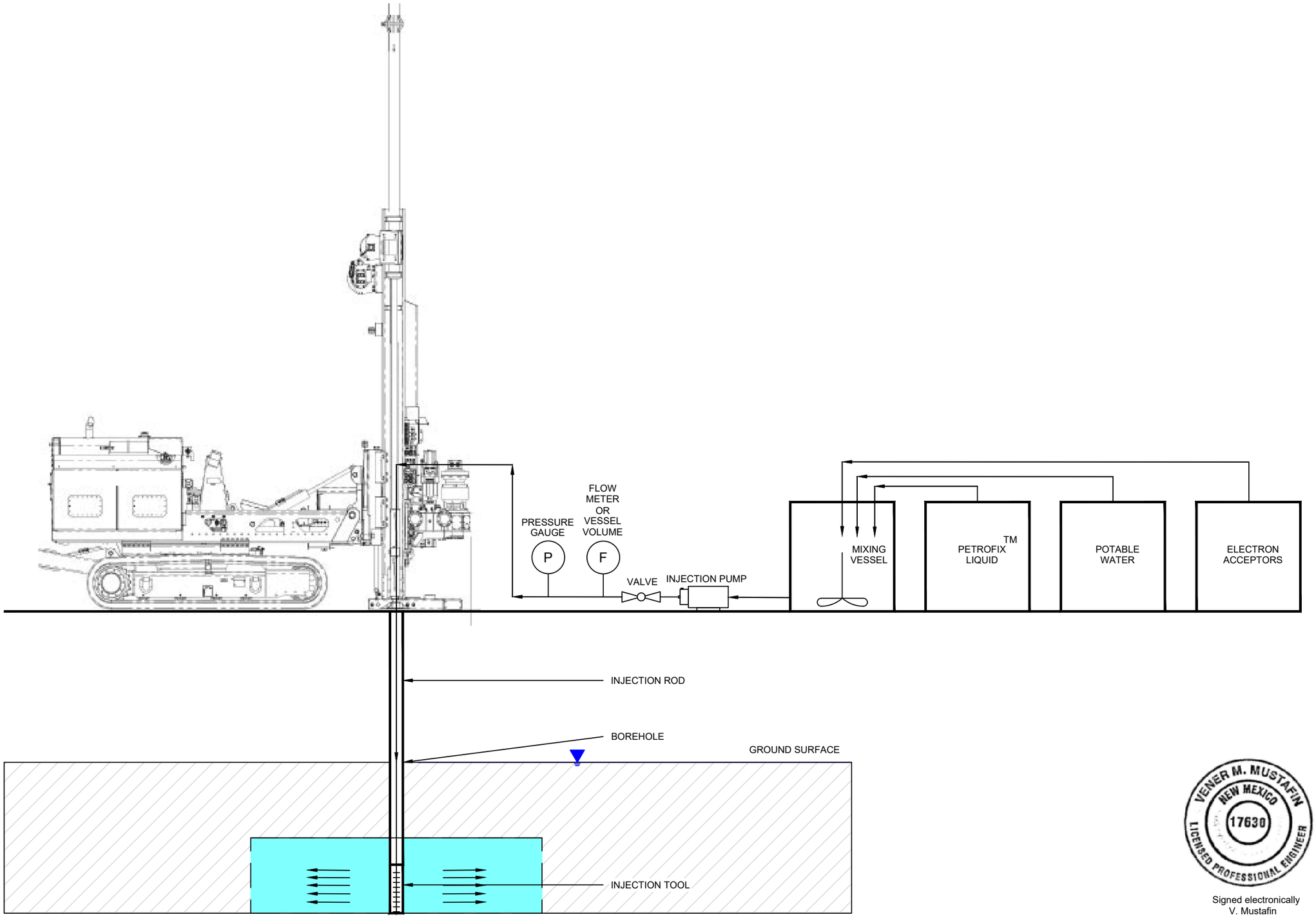
CONOCO SERVICE STATION
3837 US HIGHWAY 84/64, CHAMA, NM
CONTRACT 22 667 3200 0007

DRAWING G-2
GROUNDWATER ELEVATION CONTOURS MARCH 31, 2022

PROJECT #:	6380401	PROJECT PHASE:	01	PROJECT MANAGER:	VM

320 Gold Avenue, SW Suite 1210
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

C:\Users\vmustafin\Desktop\Corona\PSTB State Lead\Conoco Svc Chama\Work Plan\Figures



VENER M. MUSTAFIN
NEW MEXICO
17630
LICENSED PROFESSIONAL ENGINEER

Signed electronically
V. Mustafin
06/06/2022

REV	DATE	DRAWN	CHECKED	REMARKS
0	06/13/22	VM	JS	4262-3 FINAL REMEDIATION PLAN

REVISIONS

320 Gold Avenue, SW Suite 1300
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016

CONOCO SERVICE STATION
3837 HIGHWAY 64, CHAMA, NEW MEXICO
FINAL REMEDIATION PLAN

PROCESS FLOW DIAGRAM FOR INJECTION

PROJECT NUMBER:
6380401

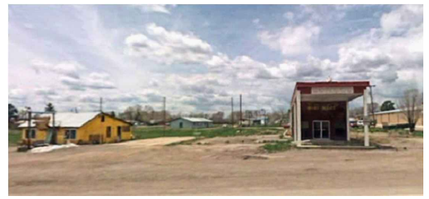
DRAWING NO.:
P-1

C:\Users\vmustafin\Desktop\Corona\PSTB State Lead\Chama Conoco\Reports\4262-2 FRP\Drawings

C:\Users\vmustafin\Desktop\Corona\PSTB State Lead\Conoco Svc Chama\Work Plan\Figures

LEGEND:

- MONITORING WELL
- PLUGGED MONITORING WELL
- INJECTION POINT WITH A RADIUS OF INFLUENCE OF 5 FEET. 7.5' ON-CENTER SPACING BETWEEN POINTS.
- GROUNDWATER FLOW DIRECTION AND GRADIENT RANGE
- GAS — UNDERGROUND GAS UTILITY
- OHE — OVERHEAD ELECTRICAL UTILITY



DOSAGE:

PER FOOT:

ORC-A	5 POUNDS
WATER	1.5 GALLONS

PER BORING:

ORC-A	40 POUNDS
WATER	12 GALLONS

TOTAL (10 BOREHOLES):

ORC-A	400 POUNDS
WATER	120 GALLONS

VENER M. MUSTAFIN NEW MEXICO 17630 LICENSED PROFESSIONAL ENGINEER

Signed electronically
V. Mustafin
06/13/2022

REV	DATE	DRAWN	CHECKED	REMARKS
0	06/13/22	VM	JS	4262-3 FINAL REMEDIATION PLAN

REVISIONS

320 Gold Avenue, SW Suite 1300
Albuquerque, NM 87102
Phone: (505) 224-9013
Fax: (505) 224-9016
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

CONOCO SERVICE STATION
3837 HIGHWAY 64, CHAMA, NEW MEXICO
FINAL REMEDIATION PLAN

INJECTION PLAN

PROJECT NUMBER: 6380401

DRAWING NO.: P-1

APPENDIX A – REGENESIS ORC-A® SPECIFICATION SHEET

OXYGEN RELEASE COMPOUND

ORC Advanced® Technical Description

ORC Advanced® is an engineered, oxygen release compound designed specifically for enhanced, *in situ* aerobic bioremediation of petroleum hydrocarbons in groundwater and saturated soils. Upon contact with groundwater, this calcium oxyhydroxide-based material becomes hydrated producing a controlled release of molecular oxygen (17% by weight) for periods of up to 12 months on a single application.

Example of ORC Advanced

ORC Advanced decreases time to site closure and accelerates degradation rates up to 100 times faster than natural degradation rates. A single ORC Advanced application can support aerobic biodegradation for up to 12 months with minimal site disturbance, no permanent or emplaced above ground equipment, piping, tanks, power sources, etc are needed. There is no operation or maintenance required. ORC Advanced provides lower costs, greater efficiency and reliability compared to engineered mechanical systems, oxygen emitters and bubblers.

ORC Advanced provides remediation practitioners with a significantly faster and highly effective means of treating petroleum contaminated sites. Petroleum hydrocarbon contamination is often associated with retail petroleum service stations resulting from leaking underground storage tanks, piping and dispensers. As a result, ORC Advanced technology and applications have been tailored around the remediation needs of the retail petroleum industry and include: tank pit excavations, amending and mixing with backfill, direct-injection, bore-hole backfill, ORC Advanced Pellets for waterless and dustless application, combined ISCO and bioremediation applications, etc.

For a list of treatable contaminants with the use of ORC Advanced, view the Range of Treatable Contaminants Guide

Chemical Composition

- Calcium hydroxide oxide
- Calcium hydroxide
- Monopotassium phosphate
- Dipotassium phosphate

Properties

- Physical state: Solid
- Form: Powder
- Odor: Odorless
- Color: White to pale yellow
- pH: 12.5 (3% suspension/water)

OXYGEN RELEASE COMPOUND

ORC Advanced® Technical Description

Storage and Handling Guidelines

Storage
Store in a cool, dry place out of direct sunlight
Store in original tightly closed container
Store in a well-ventilated place
Do not store near combustible materials
Store away from incompatible materials
Provide appropriate exhaust ventilation in places where dust is formed

Handling
Minimize dust generation and accumulation
Keep away from heat
Routine housekeeping should be instituted to ensure that dust does not accumulate on surfaces
Observe good industrial hygiene practices
Take precaution to avoid mixing with combustibles
Keep away from clothing and other combustible materials
Avoid contact with water and moisture
Avoid contact with eyes, skin, and clothing
Avoid prolonged exposure
Wear appropriate personal protective equipment

Applications

- Slurry mixture direct-push injection through hollow rods or direct-placement into boreholes
- *In situ* or *ex situ* slurry mixture into contaminated backfill or contaminated soils in general
- Slurry mixture injections in conjunction with chemical oxidants like RegenOx or PersulfOx
- Filter sock applications in groundwater for highly localized treatment
- *Ex situ* biopiles

Health and Safety

Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection. Please review the ORC Advanced Safety Data Sheet for additional storage, usage, and handling requirements.

REGENESIS®

www.regenesis.com
1011 Calle Sombra, San Clemente CA 92673
949.366.8000

APPENDIX B – MW-7 BORE LOG AND WELL CONSTRUCTION LOG

LOG OF BORING SB-8 / MW-7

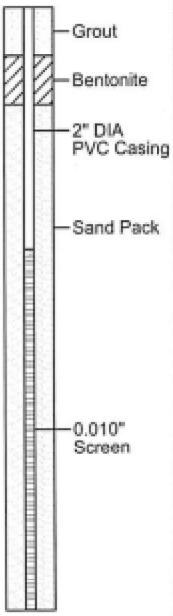
Project Name: Chama Conoco

Project #: NME-PST-01-03

Date Started	: 7/7/05 11:34	Driller	: B. Hitchcock
Date Completed	: 7/7/05 14:10	Depth to Water	: NA
Drilling Method	: 8" HSA	Logged By	: B. Eldridge
Sampling Method	: Split-spoon		
Drilling Company	: Rodgers Environmental Drilling		

Depth in Feet	Sample #	Rec/Pen (ft)	PID (ppm)	Blow Count	DESCRIPTION	USCS	GRAPHIC
0					Asphalt		
1	1'	10	0.5	6;9;11;50	CLAY, brown-dark brown, medium stiff, slightly plastic, heterogeneous, w/ gravels (subrounded to rounded), some sand (fine to medium grained), damp	GM	
5	5'	90	3480	6;9;15;17	CLAY, brown gray, staining at 4.5' bgs, uniform, heterogeneous, some sand (fine to medium grained), trace gravels, some fines, damp, strong hydrocarbon odor		
9	9'	7	2470	12;50	SAND, fine to coarse grained, well graded, w/ some gravels (subangular to subrounded), gray staining, few fines, wet Large cobbles at 9'-12.5'	SW	
12					Total Depth = 12.5' bgs Refusal		

Well:



Notes:

1. Color code is from Munsell Soil Color Charts 2000 ed.
2. PID reading represents total VOCs using a 10.6eV lamp by placing soil half full in a glass jar and sealing the opening with foil. The jar was heated for 15 minutes. The PID wand punctured the foil and the highest level was recorded.
3. Blow counts per 6" drive with drop hammer unless otherwise noted.
4. Samples collected using brass sleeves in split spoon.

09-07-2005 C:\Bore Logs\Chama Conoco\SB-8_MW-7.bor

APPENDIX C – FIELD FORMS

Conoco, Chama, NM

Contractor (company):

Contractor Personnel:

List of Contractor Equipment:

Before starting, take photos of pre-existing conditions of the site

Take photos of each piece of equipment, instrumentation, materials, overall setup and anything of importance

Drill Rig (manufacturer, model)

Rods (diameter, run length)

Injection Tool (diameter, length, injection interval length)

Support Truck (manufacturer, model)

Injection Pump (manufacturer, model)

Mixer (volume, type)

Water Tank (volume, type)

ORC-A (mass, bag weight)

Water Source

Bentonite (type, mass, volume, container)

Flowmeter (type, manufacturer, model, location)

Pressure (type, scale, resolution, location)

INJECTION FORM
CONOCO, CHAMA, NEW MEXICO

Date and Time:	6380401
EA Personnel:	
Subcontractor Personnel and Equipment:	
Project Manager/PE: Vener Mustafin	505-296-1070 vmustafin@eaest.com

Batch Mix Recipe

Mass of ORC-A, pounds	
Volume of Water, gal	

Injection

Borehole ID	Time - Start/End	Interval, ft bgs	Pressure, psi	Injected Volume, gal		Notes

Notes:

APPENDIX D – ACCESS AGREEMENT

Lorena Goerger
2044 Galisteo Street
Santa Fe, New Mexico 87504
(505) 984-1941
(505) 984-1738 (fax)
lorena_goerger@nmenv.state.nm.us

NMED - PSTB

Fax

To:	Mr. Joseph Tracy	**From:**	Lorena Goerger
Fax:	(505) 246-2600	**Date:**	June 7, 2005
Phone:	(505) 246-1600	**Pages:**	cover + 3
Re:	Access Agreement	**CC:**	

☐ **Urgent** **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Joe,

Here's a copy of the signed access agreement for the Former Conono Mini-Mart in Chama.

Lorena

Property Access Agreement for Environmental Services

Name of Property Owner: (unable to locate)

Mr. and Mrs. Leonard Kenyon
2718 Wisconsin NE
Albuquerque, New Mexico 87110

Village of Chama contact:

Mr. Archie J. Vigil, Mayor
Village of Chama
Chama, New Mexico
(505) 756-8035 phone
(505) 756-2622 fax

Property Address:

Property is known as: Former Conoco Mini-Mart
West Side of Highway 84/64
Chama, New Mexico

Agreement:

This property access agreement (Agreement) grants consent to the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB), its contractor(s) and their authorized officers, employees, subcontractors, and representatives for access to the property described above for the performance of the following environmental services:

1. Drilling and installation of monitoring wells. The wells will be maintained by the NMED PSTB and/or its contractor(s).
2. Sampling and field screening of soil and groundwater, and laboratory analysis of those samples.
3. Surveying of site features, including well locations and elevations.
4. Measurement of ground water elevations.
5. Temporary storage of investigation derived waste (IDW) (e.g., soil cuttings and purge water), which shall be drummed, labeled in accordance with PSTB guidelines, and left on site for future disposal. (IDW disposal is anticipated to be coordinated with the soil excavation and tank removal activities.)
6. Other environmental services, as needed.

The property owner and/or Village of Chama may observe activities on the property, in a manner consistent with Occupational Health and Safety Regulations (see 29 CFR 1910.120), and may collect duplicate samples during sampling activities. The property owner and/or Village of Chama is responsible for any equipment and laboratory costs for their elective testing of duplicate samples.

The NMED PSTB will conduct the environmental services at the NMED PSTB's sole cost and expense.

Notices:

Prior to entrance on the property, the NMED PSTB or its contractor will provide the property owner and/or Village of Chama with written or verbal notice. This notice shall be give to the owner name and address of the property stated above, unless otherwise noted by the owner here:

_____

_____

_____

_____

Any notices from the property owner and/or Village of Chama should be made in writing to:

Ms. Lorena Goerger
New Mexico Environment Department
Petroleum Storage Tank Bureau
2044 Galisteo
Santa Fe, NM 87504
Phone: (505) 984-1941

Compliance with Law:

The NMED PSTB and its contractors shall comply with all applicable laws, ordinances, rules, regulations, orders, and decisions promulgated by federal, state, and/or local governmental authority relating to this Agreement. The NMED PSTB and its contractors shall not permit the environmental services to constitute a public nuisance or a hazard to the health or safety of the general public.

Term of Agreement:

This Agreement shall continue until the NMED PSTB determines that the requirement for environmental services is no longer necessary at the property. Upon completion of the NMED PSTB's project, monitoring wells will be removed and abandoned by the NMED PSTB and/or its contractor(s).

Damages:

The NMED PSTB or its representative will return the property to as close as possible to the pre-entrance condition.

Ownership of Facilities:

Ownership of the monitoring wells will remain with the NMED PSTB.

Entire Agreement

This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings. Changes to this Agreement are not binding unless made in writing and signed by both parties.

Permission Granted

This permission for property access is given by me voluntarily and with knowledge of my right to refuse and without coercion. I have had the opportunity to ask questions and all my questions have been answered to my satisfaction.

Signature of Property Owner (unable to locate) Date

Signature of Village of Chama 6/6/2005 Date

APPENDIX E – HEALTH AND SAFETY PLAN

Site Name: Conoco Service Station	**Site Contact:** Vener Mustafin	**Telephone:** (505) 296-1070
Location: 3837 US HWY 64, Chama, NM	**Client Contact:** Corey Jarrett	**Telephone:** (505)-372-8335
EPA I.D. No.: N/A	**Prepared By:** Vener Mustafin	**Date:** March 20, 2022
Project No. 6380401	**Date of Proposed Activities:** 2022-2023	

Objectives:

All personnel working on this site are trained per 29 CFR 1910.120 and are currently active in a medical monitoring program to perform work on a hazardous waste site.

The objective of this health and safety plan (HSP) is to list the site-specific hazards and the hazards controls to be used to ensure worker safety for the following activities:

- Inject PetroFix using a direct push method
- Conduct Groundwater Monitoring

Site Type: *Check as many as applicable.*

- ☐ Active
- ☐ Inactive
- ☐ Secure
- ☒ Unsecure
- ☐ Industrial Waste
- ☐ Landfill
- ☐ Confined space **(must use long form)**
- ☐ Uncontrolled Waste **(must use long form)**
- ☐ Wellfield
- ☒ Underground storage tank
- ☐ Unknown **(must use long form)**
- ☐ Other *(Egg Farm)*

Site Description/History and Site Activities:

In well MW-7, a NAPL sheen was noted in April 2021. Before that, in 2017, total naphthalene concentrations exceeded the NMWQCC standard ranging between 180 and 277 micrograms per liter (µg/L). The depth to groundwater in recent years has varied between approximately 5 and 8 feet below the top of the well casing (ft btoc). Historically, the groundwater level was as high as 3.5 ft btoc.

EA is planning to conduct pre-injection groundwater monitoring and inject approximately 400 pounds of ORC-A/120 gallons of fluids using a direct push method to mitigate residual petroleum hydrocarbons associated with the release of gasoline. Post-injection monitoring may be also conducted if PSTB approves the scope and provides funding.

Note: A site map, definitions, and additional information about this form are provided on the last three pages of this form.

Waste Management Practices:

The site contains trace levels of petroleum hydrocarbons. Disposable gloves, bailers, twine, paper towels, and other waste will be placed in plastic trash bags and disposed of at municipal trash receptacles. Soil cutting will not be generated. Purge groundwater will be discharged onto impervious ground onsite. The disposal of investigation-derived waste will be following NMED PSTB requirements.

Waste Types:	☒ Liquid	☐ Solid	☐ Sludge	☐ Gas
Waste / Chemical Characteristics:	☐ Corrosive	☐ Oxidizer	☐ Flammable	
☐ Toxic	☐ Explosive	☐ Volatile	☐ Radioactive	
☐ Reactive	☐ Inert		☐ Other *(specify)* _____	

Chemical / Health Hazards of Concern:

- ☐ Explosion or fire hazard – monitor with combustible gas meter
- ☐ Oxygen deficiency – monitor with an oxygen meter
- ☐ Landfill gases – monitor with methane and hydrogen sulfide meter
- ☐ Surface tanks
- ☐ Potential inhalation or skin absorption hazard that is immediately dangerous to life and health (IDLH) – **must use the long form**
- ☐ Inorganic chemicals (nitrate and chloride)
- ☐ Organic chemicals (PCP)
- ☒ Petroleum Hydrocarbons (as TPH DRO)
- ☐ Underground storage tanks
- ☒ Other ORC-A

Explosion or Fire Potential:	☐ High	☐ Medium	☒ Low	☐ Unknown

Radiological Hazards of Concern: None known

☐ Ionizing radiation (Radioactive materials, X-ray) **(must use long form)**
☐ Non-ionizing radiation (ultraviolet, lasers)

Safety Hazards of Concern: (Based on anticipated clean-up operations)

☒ Heavy Equipment
☒ Pinch points
☒ Energized and rotating equipment (direct push rig)
☒ Steam cleaning equipment
☐ Excavations
☐ Welding or torch cutting (Hot work)
☒ Sharp Objects
☒ Hazardous energy sources (electrical, hydraulic)
☒ Buried utilities
☒ Overhead utilities
☐ Suspended loads
☐ Buried drums
☐ Work over or near water
☐ Work from elevated platforms
☒ Manual Lifting
☒ Other *(specify)*
Heavy traffic

Physical Hazards of Concern:

☒ Heat stress
☒ Cold stress
☒ Slips, trips, falls
☒ Illumination
☒ Vibration
☒ Noise
☒ Solar (sunburn)
☐ Unstable or steep terrain
☐ Other *(specify) Traffic*_____

Biological Hazards of Concern:

☐ Poisonous plants (poison ivy, poison oak)
☐ Spiders (black widow or brown recluse spiders)
☐ Medical waste
☐ Snakes (rattlesnakes)
☒ Stinging insects (bees, wasps)
☐ Animals (feral dogs, mountain lions, etc.)
☐ Blood or other body fluids

Unexploded Ordnance:

☐ Unexploded Ordnance (UXO) **(must use long form)**
☐ Chemical Warfare Materials (CWM) **(must use long form)**
☐ Explosive ordnance waste (OEW) **(must use long form)**

Chemical Products EA Engineering Will Use or Store On Site: (Attach a Safety Data Sheet [SDS] for each item.)

- ☒ Alconox® or Liquinox®
- ☒ Mercuric Chloride
- ☐ Nitric Acid (HNO_3)
- ☐ Sodium hydroxide (NaOH)
- ☐ Sulfuric Acid (H_2SO_4)
- ☒ Other *(specify)* __ORC-A_____
- ☐ Other *(specify)* _____
- ☐ Other *(specify)* _____
- ☐ Other *(specify)* _____
- ☐ Other *(specify)* _____
- ☐ Other *(specify)* _____

Chemicals Present at Site	Highest Observed Concentration* (groundwater)	PEL/TLV	IDLH Level	Symptoms and Effects of Acute Exposure	Photo-ionization Potential (eV)
Benzene	<1.0 µg/L	1 ppm (PEL)	500 ppm CARC	Severe irritant (skin, eye); reproductive toxin; CNS narcotic	9.24
Toluene	<1.0 µg/L	100 ppm	500 ppm	Severe irritant (skin, eye); reproductive toxin; CNS narcotic; fatigue, weakness, dizziness; headache	8.82
Ethylbenzene	<1.0 µg/L	100 ppm	800 ppm	Severe irritant (skin, eye, mucous membranes); headache; narcosis	8.76
Xylenes (o, m, and p)	<1.5 µg/L	100 ppm	900 ppm	Irritant (skin, eye, throat); reproductive toxin, CNS narcotic	8.44 – 8.56
Total Naphthalenes	84 µg/L	10 ppm TWA	250 ppm	irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	8.12
Gasoline	NA	300 ppm	CARC	Irritant (skin, eye, mucous membrane); CNS narcotic	NA
ORC-A	NA	5 mg/m^3 TWA	None	Irritating to mucous membrane, eyes, and skin. Ingestion can cause irritation, nausea, and vomiting.	NA

Notes: NIOSH Pocket Guide to Chemical Hazards, https://www.cdc.gov/niosh/npg/default.html

CARC = Carcinogenic
eV = Electron volt
GW = Ground water
IDLH = Immediately dangerous to life or health
mg/L = Milligram per liter
mg/m^3 = Milligram per cubic meter
NA = Not available
PEL = Permissible exposure limit
ppm = Part per million
TLV = Threshold limit value
TWA = Time-weighted average

Field Activities Covered Under This Plan:

Task Description	Type	Level of Protection: Primary	Level of Protection: Contingency	Date of Activities
1 Groundwater Sampling	☒ Intrusive ☐ Nonintrusive	☐ C ☒ D	☐ C ☐ B	2022-2023
2 ORC-A Injection	☒ Intrusive ☐ Nonintrusive	☐ C ☒ D	☐ C ☐ D	2022

Site Personnel and Responsibilities (include subcontractors):

Employee Name and Office Code	Task	Responsibilities
Vener Mustafin	1	Project Manager or Designated Leader: Directs project activities, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with the client as necessary.
Daniel O'Brien, others	1	Site Safety Coordinator (SSC): Ensures that appropriate personal protective equipment (PPE) is available, enforces proper utilization of PPE by on-site personnel, suspends investigative work if he or she believes that site personnel are or may be exposed to an immediate health hazard, implements the health and safety plan, and reports any observed deviations from anticipated conditions described in the health and safety plan to the health and safety representative.
Daniel O'Brien, others	1	Field Personnel: Complete tasks as directed by the program manager, field team leader, and SSC and follow all procedures and guidelines established in the EA Engineering Health and Safety Manual.

Protective Equipment: (Indicate the type of material as necessary for each task; attach additional sheets as necessary)

Task: ☒ 1 ☐ 1	Task: ☒ 2 ☐ 2
Level: ☒ D ☐ C	Level: ☒ D ☐ C
Level C as contingency (see note below)	☒ Primary ☐ Contingency

RESPIRATORY

- ☐ Not needed
- ☐ APR:
- ☐ Cartridge: _____
- ☐ Escape mask: _____
- ☐ Other: _____

PROTECTIVE CLOTHING

- ☐ Not needed
- ☐ Tyvek® coveralls: _____
- ☐ Saranex® coveralls: _____
- ☐ Coveralls: _____
- ☒ Other: Work Clothes

HEAD AND EYE

- ☐ Not needed
- ☐ Safety glasses: _____
- ☐ Face shield: _____
- ☐ Goggles: _____
- ☐ Hard hat: _____
- ☐ Other: _____

GLOVES

- ☐ Not needed
- ☐ Under gloves: _____
- ☒ Gloves: Nitrile
- ☐ Over gloves: _____

FIRST AID EQUIPMENT

- ☐ Not needed
- ☒ Standard First Aid kit
- ☒ Portable eyewash

BOOTS

- ☐ Not needed
- ☒ Work boots: Steel Toed
- ☐ Over boots: _____

OTHER

- ☐ (specify): _____

RESPIRATORY

- ☐ Not needed
- ☐ APR: _____
- ☐ Cartridge: _____
- ☐ Escape mask: _____
- ☒ Other: Dust Mask

PROTECTIVE CLOTHING

- ☐ Not needed
- ☒ Tyvek® coveralls: if preferred
- ☐ Saranex® coveralls: _____
- ☐ Coveralls: _____
- ☐ Other: _____

HEAD AND EYE

- ☐ Not needed
- ☒ Safety glasses: _____
- ☐ Face shield: _____
- ☐ Goggles: _____
- ☒ Hard hat: _____
- ☐ Other: _____

GLOVES

- ☐ Not needed
- ☐ Under gloves: _____
- ☒ Gloves: Nitrile
- ☒ Over gloves: Work Gloves

FIRST AID EQUIPMENT

- ☐ Not needed
- ☒ Standard First Aid kit
- ☒ Portable eyewash

BOOTS

- ☐ Not needed
- ☒ Work boots: _____
- ☐ Over boots: _____

OTHER

- ☐ (specify): _____

Note: A dust mask is recommended when handling ORC-A.

APR = Air-purifying respirator

Monitoring Equipment: (Specify instruments needed for each task; attach additional sheets as necessary)				
Instrument	Task	Instrument Reading	Action Guideline	Comments
Combustible gas indicator model:	☐ 1	0 to 10% LEL	No explosion hazard	☒ Not needed
	☐ 2	10 to 25% LEL	Potential explosion hazard; notify SSC	
		> 25% LEL	Explosion hazard; interrupt task; evacuate the site, notify SSC	
O2 meter model:	☐ 1	> 23.5% O2	Potential fire hazard; evacuate the site	☒ Not needed
	☐ 2	23.5 to 19.5% O2	Oxygen level normal	
		< 19.5% O2	Oxygen deficiency; interrupt task; evacuate site; notify SSC	
Photoionization detector model: ☐ 11.7 eV ☒ 10.6 eV ☐ 9.8 eV ☐ ____eV	☐ 1	>0 to 5 ppm above background	Level D	☒ Not needed
	☐ 2	>5 to 50 ppm above background	Level C	
		>50 ppm above background	Evacuate site; notify SSC	
Flame ionization detector model:	☐ 1	>0 to 5 ppm above background	Level D	☒ Not needed
	☐ 2	>5 to 50 ppm above background	Level C	
		>50 ppm above background	Evacuate site; notify SSC	
Detector tubes models:	☐ 1 ☐ 2	Specify:	Specify:	Note: This action level for upgrading the level of protection is one-half of the contaminant's PEL. If the PEL is reached, evacuate the site and notify the SSC. ☒ Not needed
Respirable dust monitor model:	☐ 1 ☐ 2	Specify:	Specify:	☒ Not needed
Other: (specify):	☐ 1 ☐ 2	Specify:	Specify:	☒ Not needed

Notes: eV = Electron volt PEL = Permissible exposure limit LEL = Lower explosive limit ppm = Part per million O_2 = Oxygen

Site Map (if available):

Additional Comments:	**Emergency Contacts:**		**Telephone**
EA Engineering site workers will contain and absorb any chemicals used or transferred on-site.	U.S. Coast Guard National Response Center		800/424-8802
	InfoTrac		800/535-5053
	Fire department		911
	Police department		911
	EA Engineering Personnel:		
	Corporate Human Resource Manager:	Michele Bailey	410/584-7000
	Corporate Health & Safety Manager:	Rob Marcase	410/329-5192
	Office Health & Safety Coordinator:	Teri McMillan	505/259-6779
	Program Manager:	Mike McVey	505/235-9037
	Site Safety Coordinator:	Aaron Kupper	956/648-5752
Personnel Decontamination and Disposal Method:	**Medical Emergency:**		
Personnel will follow the U.S. Environmental Protection Agency's "Standard Operating Safety Guides" for decontamination procedures for Level C personal protection. The following decontamination stations should be set up in each decontamination zone: • All equipment will be decontaminated in a designated area All disposable equipment and gloves will be double-bagged or containerized in an acceptable manner and disposed of following local regulations.	**Chama Medical Clinic** 2215 NM-17, Chama, NM 87520 (575) 756-1030 Emergency: 911 		

Note: This page must be posted on site.

Hospital Route Map (if available):

Note: This page must be posted on site.

APPROVAL AND SIGN-OFF FORM, CONOCO, CHAMA, NM

6380401

I have read, understood, and agree with the information outlined in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator as well as procedures and guidelines established in the EA Engineering Health and Safety Manual. I understand the training and medical requirements for conducting fieldwork and have met these requirements.

Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date

APPROVALS: (Two Signatures Required)

Teri McMillan	Site Safety Coordinator	Date 03/23/2022
	Health and Safety Coordinator	Date

DEFINITIONS

Intrusive - Work involving excavation to any depth, drilling, the opening of monitoring wells, most sampling, and Geoprobe® work

Nonintrusive - Generally refers to site walk-throughs or field reconnaissance

Levels of Protection

Level D - Hard hat, safety boots, and glasses, may include protective clothing such as gloves, boot covers, and Tyvek® or Saranex® coveralls

Level C - Hard hat, safety boots, glasses, and air-purifying respirators with appropriate cartridges, **PLUS** protective clothing such as gloves, boot covers, and Tyvek® or Saranex® coveralls

Emergency Contacts

InfoTrac - For issues related to incidents involving the transportation of hazardous chemicals; this hotline provides accident assistance 24 hours per day, 7 days per week

U.S. Coast Guard National Response Center - For issues related to spill containment, cleanup, and damage assessment; this hotline will direct spill information to the appropriate state or region

Health and Safety Plan Short Form

- Used for field projects of limited duration and with relatively limited activities; may be filled in with handwritten text
- Limitations:
  - No Level B or A work
  - Limited number of tasks
  - No confined space entry
  - No unexploded ordnance work or radiation hazard

REGENESIS
Technology-Based Solutions for the Environment

SAFETY DATA SHEET

1. Identification

Product identifier **Oxygen Release Compound Advanced (ORC Advanced®)**

Other means of identification None.

Recommended use Soil and Groundwater Remediation.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Regenesis

Address 1011 Calle Sombra
San Clemente, CA 92673

Telephone 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number CHEMTREC® at 1-800-424-9300 (International)

2. Hazard(s) identification

Physical hazards	Oxidizing solids	Category 2
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May intensify fire; oxidizer. Causes skin irritation. Causes serious eye damage.

Precautionary statement

Prevention Keep away from heat. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium hydroxide oxide	682334-66-3	≥85
Calcium hydroxide	1305-62-0	≤15
Dipotassium Phosphate	7758-11-4	<5

Monopotassium Phosphate	7778-77-0	<5

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Contact with combustible material may cause fire. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water spray, fog (flooding amounts). Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Combustion products may include: metal oxides.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

General fire hazards May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Collect dust using a vacuum cleaner equipped with HEPA filter. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers.

Large Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Shovel the material into waste container. Minimize dust generation and accumulation. Avoid the generation of dusts during clean-up. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Place all material into loosely covered plastic containers for later disposal. For waste disposal, see section 13 of the SDS. Wear appropriate protective equipment and clothing during clean-up.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Avoid contact with water and moisture. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium hydroxide (CAS 1305-62-0)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Calcium hydroxide (CAS 1305-62-0)	TWA	5 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Use dust-tight, unvented chemical safety goggles when there is potential for eye contact.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Frequent change is advisable. Recommended gloves include rubber, neoprene, nitrile or viton.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Solid.

Form

Powder.

Color

White to pale yellow.

Odor	Odorless.
Odor threshold	Not available.
pH	12.5 (3% suspension/water)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Oxidizer.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Slightly soluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	527 °F (275 °C)
Viscosity	Not available.
Other information	
Bulk density	0.5 - 0.9 g/ml
Explosive limit	Non-explosive.

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials.
Chemical stability	Decomposes on heating. Product may be unstable at temperatures above: 275°C/527°F.
Possibility of hazardous reactions	Reacts slowly with water.
Conditions to avoid	Heat. Moisture. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Acids. Bases. Salts of heavy metals. Reducing agents. Combustible material.
Hazardous decomposition products	Oxygen. Hydrogen peroxide (H2O2). Steam. Heat.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Calcium hydroxide (CAS 1305-62-0)		
Acute		
Oral		
LD50	Rat	7340 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Due to the physical form of the product it is not expected to be an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Calcium hydroxide (CAS 1305-62-0)			
Aquatic			
Fish	LC50	Zambezi barbel (Clarias gariepinus)	33.8844 mg/l, 96 hours

Persistence and degradability Decomposes in the presence of water. The product contains inorganic compounds which are not biodegradable.

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil This substance has very low solubility in water and low mobility in the environment.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1479
UN proper shipping name	Oxidizing solid, n.o.s. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	II
Environmental hazards	
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	62, IB8, IP2, IP4, T3, TP33
Packaging exceptions	152
Packaging non bulk	212
Packaging bulk	240

IATA

UN number	UN1479
UN proper shipping name	Oxidizing solid, n.o.s. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	II
Environmental hazards	No
ERG Code	5L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1479
UN proper shipping name	OXIDIZING SOLID, N.O.S. (Calcium hydroxide oxide)
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-Q
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - Yes

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List
Calcium hydroxide (CAS 1305-62-0)

US. New Jersey Worker and Community Right-to-Know Act
Calcium hydroxide (CAS 1305-62-0)
Calcium hydroxide oxide (CAS 682334-66-3)

US. Pennsylvania Worker and Community Right-to-Know Law
Calcium hydroxide (CAS 1305-62-0)

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-April-2015

Revision date 30-July-2015

Version # 02

Further information HMIS® is a registered trade and service mark of the American Coatings Association (ACA).

HMIS® ratings Health: 3
Flammability: 0
Physical hazard: 2

NFPA ratings

Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

APPENDIX F – PUBLIC NOTICE FLYER

NOTICE OF SUBMISSION OF FINAL REMEDIATION PLAN

Dates of Notice: June 16, 2022; June 23, 2022

Notice is hereby given by the Petroleum Storage Tank Bureau (PSTB) of the New Mexico Environment Department (NMED) of the submission of a Final Remediation Plan, as follows:

1. The Remediation Plan proposes actions to remediate a release of petroleum products into the environment.

2. The release occurred at: Conoco Service Station State Lead Site (the Site), 3837 US Highway 64, Chama, New Mexico. The remediation equipment will be located at this address.

3. The Remediation Plan proposes corrective action consisting of the injection of Regenesis Oxygen-Release Compound (ORC) to remediate the residual petroleum-contaminated groundwater. The ORC will slowly release oxygen over a period of up to 12 months and enhance the natural in-situ bioremediation of petroleum hydrocarbons in groundwater and saturated soil. The remediation goal is to decrease benzene and naphthalene concentrations to below NMWQCC standards eventually leading to a "No Further Action" status.

4. A copy of the Remediation Plan, including all data and modeling related to the Remediation Plan, can be viewed by interested parties at the NMED PSTB Santa Fe office at the address below, and at the Taos field office, 145 Roy Road, Suite B Taos, NM 87571. Due to policies in place in response to the COVID- 19 pandemic, arrangements must be made 48 hours in advance for an in-person review of the Remediation Plan. Please contact the NMED PSTB project manager Corey Jarrett by telephone at 505-372-8335 or by email at corey.jarrett@state.nm.us to schedule a time during normal business hours. In addition, the Remediation Plan and all applicable data may be viewed at the following website: https://cloud.env.nm.gov/waste?c=2617&k=7b33b2b61b

5. Services may be arranged for translation of documents, for interpreters, and for obtaining services for persons with disabilities by contacting the NMED PSTB Project Manager. TDD or TTY users, please access phone numbers using the New Mexico Relay Network, 1 (800) 659-1779 (voice) and 1 (800) 659-8331 (TTY users).

6. Comments on the plan may be sent to the PSTB Project Manager: Corey Jarrett by email to corey.jarrett@state.nm.us by telephone at 505-372-8335, or at the following address: New Mexico Environment Department, Petroleum Storage Tank Bureau, 2905 Rodeo Park Drive East, Bldg. 1, Santa Fe, NM 87505. Comments sent to the project manager must also be mailed to the New Mexico Environment Department Secretary, Attn: Secretary Kenney, P.O. Box 5469, Santa Fe, New Mexico 87502-5469. Please include the name of the site "Conoco Service Station State Lead Site" to ensure comments are correctly assigned to the site.

7. Comments must be received on or before July 16, 2022.

AVISO DE PRESENTACIÓN DEL PLAN DE REMEDIACIÓN FINAL

Fechas de aviso: 16 de junio de 2022; junio 23, 2022

Por el presente aviso, la Oficina de Tanques de Almacenamiento de Petróleo (PSTB, por sus siglas en inglés) del Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en inglés) notifica la presentación de un Plan de Remediación Final, como sigue:

1. El Plan de Remediación propone acciones para remediar la liberación de productos derivados del petróleo en el medio ambiente.

2. La liberación ocurrió en: Conoco Service Station State Lead Site (el Sitio), 3837 US Highway 64, Chama, Nuevo México. El equipo de remediación se ubicará en esta dirección.

3. El Plan de Remediación propone acciones correctivas que consisten en la inyección del Compuesto de Liberación de Oxígeno (ORC, por sus siglas en inglés) Regenesis para remediar las aguas subterráneas contaminadas con petróleo residual. El ORC liberará oxígeno lentamente durante un período de hasta 12 meses y mejorará la biorremediación natural in situ de hidrocarburos de petróleo en aguas subterráneas y suelos saturados. El objetivo de la remediación es disminuir las concentraciones de benceno y naftaleno por debajo de los estándares NMWQCC, lo que eventualmente conducirá a un estado de "No más acción".

4. Las partes interesadas pueden ver una copia del Plan de Remediación, incluidos todos los datos y modelos relacionados con el Plan de Remediación, en la oficina de Santa Fe de PSTB del NMED en la dirección mencionada más abajo, y en la oficina local de Taos, 145 Roy Road, Suite B Taos, NM 87571. Debido a las políticas vigentes en respuesta a la pandemia de COVID-19, se deben hacer acomodaciones con 48 horas de anticipación para hacer una revisión en persona del Plan de Remediación. Comuníquese con el gerente del proyecto de PSTB del NMED, Corey Jarrett, por teléfono llamando al 505-372-8335 o por correo electrónico a corey.jarrett@state.nm.us para programar una cita durante el horario normal de trabajo. Además, el Plan de Remediación y todos los datos aplicables se pueden ver en el siguiente sitio web: https://cloud.env.nm.gov/waste?c=2617&k=7b33b2b61b

5. Se pueden organizar servicios para la traducción de documentos, para intérpretes y para obtener servicios para personas con discapacidades comunicándose con el gerente del proyecto de PSTB del NMED. Los usuarios de TDD o TTY pueden acceder a los números de teléfono usando la Red de Retransmisión de Nuevo México 1 (800) 659-1779 (voz) y 1 (800) 659-8331 (usuarios de TTY).

6. Los comentarios sobre el plan pueden enviarse al gerente del proyecto de PSTB: Corey Jarrett por correo electrónico a corey.jarrett@state.nm.us, por teléfono llamando al 505-372-8335, o a la siguiente dirección: Departamento de Medio Ambiente de Nuevo México, Oficina de Tanques de Almacenamiento de Petróleo, 2905 Rodeo Park Drive East, Bldg. 1, Santa Fe, NM 87505. Los comentarios enviados al gerente del proyecto también deben enviarse por correo al secretario del Departamento de Medio Ambiente de Nuevo México, Attn: Secretary Kenney, P.O. Box 5469, Santa Fe, NM 87502-5469. Incluya el nombre del sitio "Conoco Service Station State Lead Site" para garantizar que los comentarios se asignen correctamente al sitio.

7. Los comentarios deben recibirse a más tardar el 16 de julio de 2022.

APPENDIX H – UNDERGROUND INJECTION CONTROL DISCHARGE PERMIT

NEW MEXICO ENVIRONMENT DEPARTMENT GROUND WATER QUALITY BUREAU

UNDERGROUND INJECTION CONTROL

GENERAL DISCHARGE PERMIT

Certified Mail- Return Receipt Requested

Facility Name:	**Conoco Service Station**
Facility Location:	**3837 Highway 64, Chama, New Mexico** **Section 00 Township 32 North Range 2 East** **Rio Arriba County**
Legally Responsible Party:	**NMED Petroleum Storage Tank Bureau** **121 Tijeras Avenue NE Suite 1000** **Albuquerque, NM 87102** **(505) 372-8335**
Remediation Oversight Agency Contact:	**NMED Petroleum Storage Tank Bureau** **Corey Jarrett, Project Manager, Geoscientist** **505-372-8335** **NM State Contract Number: 22-667-3200-0007**
Remediation or Injection Plan Identification:	**Chama Conoco Final Remediation Plan** **FID 27498 RID 2316 Work Plan ID 4262**
Permitting Action:	**New/Renewal/Modification/Renewal and Modification DP-**
PPS Contact	**Contact Name** **Phone Number**
EFFECTIVE DATE: XX/XX/XXXX	**TERM ENDS: XX/XX/XXXX**

Michelle Hunter
Chief, Ground Water Quality Bureau

Version updated December 5, 2018

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

CHAMA CONOCO SERIVCE STATION, DP-_____
EFFECTIVE DATE: XX/XX/XXXX

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 (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 Work Plan for Site Remediation (Injection Plan), under the authority of NMED PSTB, 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: Inject 400 pounds of ORC-A in a slurry mixed with 120 gallons of water into approximatley 10 direct push injection points. The target interval is between 4 feet bgs and 12 feet bgs around monitoring well MW-7.

Injection Site Information

Depth to most shallow groundwater (required): 6 ft

Existing concentration of total dissolved solids (TDS) in groundwater (required): 473 - 754 mg/L

Location (required): 3837 US Highway 64, Chama, New Mexico

County (required): Rio Arriba

Latitude: 36.89007

Longitude: -106.58196

Map Showing Area of Injection Sites Attached (required): ☒

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

Regenesis ORC-A 400 pounds mixed with 120 gallons of water and injected into approximately 10 injection points.

Anticipated Precipitation, Dissolution, Adsorption, and Desorption Products

None. Increased dissolved oxygen is expected for a period of up to 1 year.

Public Notice Posting Locations

2 inch by 3 inch Newspaper Ad required for Renewal applications.
Newspaper: Northern New Mexico Independent or another selected by the GWQB

3 inch by 4 inch Newspaper Ad required for New, Modification, and Renewal/Modification applications.
Newspaper: Northern New Mexico Independent or another selected by the GWQB

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: Onsite at 3837 Highway 64, Chama, New Mexico

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: Eleanor Daggett Library, 299 4th Street, Chama, NM 87520

This UIC Permit consists of the complete and accurate completion of this UIC Permit form as determined by the GWQB. ☐
Issuance of this UIC Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

Signatures

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

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

Applicant's Signature

Signature: _____ Date: 5/19/2022

Printed Name: Lorena Goerger Title: Acting Bureau Chief

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 NMED PSTB.

[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 NMED GWQB 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]