

U.S. EPA Underground Injection Control Program

**FINAL PERMIT**

Class I Nonhazardous Waste Injection Wells

Permit No. R9UIC-CA1-FY20-3R (the Permit)

Well Name: Union Sugar No. 13

Issued to:

County of Santa Barbara  
Laguna County Sanitation District  
620 West Foster Road  
Santa Maria, CA 93455



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## **PART I. AUTHORIZATION TO INJECT**

Pursuant to the Underground Injection Control (UIC) regulations of the U.S. Environmental Protection Agency (EPA) codified at Title 40 of the Code of Federal Regulations (CFR), §§ 124, 144, 145, 146, 147, and 148,

County of Santa Barbara  
Laguna County Sanitation District (the Permittee)  
620 West Foster Road  
Santa Maria, CA 93455

is hereby authorized, as owner and operator, and contingent upon Permit conditions, to operate an existing injection facility. The facility has been permitted since May 2000 and was re-permitted in March 2011 by EPA as a Class I non-hazardous waste injection facility. In September 2020, the Permittee submitted an application to renew its UIC Class I non-hazardous waste injection permit for one (1) existing well: Union Sugar No. 13. Until this Permit is issued and effective, the Existing Well will continue to operate under the authority of the current UIC permit, No. CA 10900004.

The Existing well is located in Section 14, Township 10 North, Range 35 West within Rancho Guadalupe, at the Laguna County Sanitation District Well Facility (LCSD Facility) in Santa Barbara County, California. The exact location of the existing well is provided in Part II.B.1.

The Permittee injects a concentrated brine solution (saline) produced from reverse osmosis units at the Laguna County Sanitation District Wastewater Treatment Plant. The reverse osmosis units treat wastewater from domestic sources with minor contributions from commercial establishments. In addition to the brine from the reverse osmosis units, LCSD has a brine unloading station to accept concentrated brine from authorized local water softening companies. The Permittee shall provide a characterization of the waste waters as required in Part II.D.1.b. and other sections within this Permit, such as periodic testing and reporting, to maintain authorization to inject.

In this Permit, EPA authorizes the Permittee to operate the Existing Well because the Permittee has met the requirements of Title 40 of the CFR §§ 124, 144, 145, 146, 147, and 148, as set forth in this Permit, to operate UIC Class I wells.

This Permit authorizes injection of specific types of wastewater from wastewater treatment plant operations into the Monterey Formation at an approximate depth between 4,800 and 5,366 feet below ground surface (bgs). The Monterey Formation at the Existing Well has greater than 10,000 mg/L total dissolved solids and is confined above by the marine shale layer of the Sisquoc Formation, with a thickness of approximately 700 feet, and below by the shale layer of the Point Sal Formation with a thickness of approximately 40 feet.

All Conditions set forth in this Permit are based on Title 40 of the CFR §§ 124, 144, 145, 146, 147, and 148, which are regulations in effect as of the effective date of this Permit.

This Permit consists of thirty-one (31) pages plus the appendices, and includes all items listed in the Table of Contents. Further, it is based upon representations made by the Permittee and on other information contained in the administrative record. It is the responsibility of the Permittee to read, understand, and comply with all terms and conditions of this permit.

This permit is issued for a period of ten (10) years unless terminated under the conditions set forth in Part III.B.1 of this permit or administratively extended under the conditions set forth in Part III.E.12.

This permit is issued on 11/23/2021 and becomes effective on 12/24/2021 .

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Tomás Torres, Director  
Water Division, EPA Region 9

## **PART II. SPECIFIC PERMIT CONDITIONS**

### **A. REQUIREMENTS PRIOR TO DRILLING, TESTING, CONSTRUCTING, OR OPERATING**

#### **1. Financial Assurance**

The Permittee's plugging and abandonment cost estimate and chosen financial assurance mechanism for the Existing Well meets the requirements of 40 CFR § 144.52(a)(7).

#### **2. Field Demonstration Submittal, Notification, and Reporting**

- a. Prior to each demonstration required by and described in Part II.D.1.a, 2.a, and 2.b., the Permittee shall submit plans for procedures and specifications to the EPA Region 9 Groundwater Protection Section for approval at least sixty (60) days prior to the planned demonstration. Submittals shall be made in accordance with Part III.E.9. No demonstration in this Permit may proceed without prior written approval from EPA.
- b. After receipt of approval of the Permittee's proposed field demonstrations in writing from EPA, the Permittee must provide at least thirty (30) days' notice prior to performing any required field demonstrations.
- c. Unless otherwise specified in this Permit, or otherwise directed by EPA, the Permittee shall submit results of each such field demonstration required by Part II.B. through D. to EPA within sixty (60) days of completion.

### **B. CONDITIONS FOR EXISTING WELL**

#### **1. Surface Location**

Union Sugar No. 13 (Existing Well) is located as follows: Latitude 34 Deg, 56 Min, 32.33 Sec and Longitude 120 Deg, 32 Min, 40.46 Sec of Section 14 Township 10 North, Range 35 West, within Rancho Guadalupe. A map of the Existing Well is contained in Appendix A of this Permit.

#### **2. Existing Well Construction Details**

A well schematic for the Existing Well is contained in Appendix B of this Permit. The Permittee shall at all times maintain the well consistent with this well schematic.

#### **3. Future Well Construction Beyond the Existing Well Identified in this Permit**

Prior to drilling any new injection well(s) not covered by this Permit, the Permittee must submit to EPA, for review and approval, a permit application with detailed construction plans and procedures, including proposed field coordinates (Section, Township, Range, with latitude/longitude) for the surface and bottom hole locations of the proposed well(s). The Permittee shall also provide the drilling program details, and the distance between all wells, and any justification for the proposed separation distance between the wells, both at the surface and at the true vertical depth of the top of the injection interval.

Construction on any such new injection well may only commence after the Permittee receives a modified or new permit, consistent with 40 CFR § 144.52(a)(1), that covers the construction and operation of any new injection well. All drilling, workover, and plugging procedures must comply with CalGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Sections 1722-1723. EPA may apply additional requirements upon review and issuance of a modified or new permit.

#### 4. Injection Interval

The Existing Well is currently injecting into the fractured shale of the Monterey Formation within the LCS D Injection Well Facility. Injection by the Existing Well is only permitted into the Monterey Formation within the depth range as depicted in the as-built diagrams in Appendix B (i.e., at a depth of approximately 4,800 to 5,366 feet bgs).

#### 5. Monitoring Devices

The Permittee shall install and maintain in good operating condition at all times during the operation of the Existing Well, the following monitoring devices:

- a. A tap on the discharge line between the injection pump and the wellhead or an alternative location proposed in a detailed written request by the Permittee and approved in writing by EPA for the purpose of obtaining representative samples of injection fluid; and
- b. Devices to continuously measure and record injection pressure, annulus pressure, flow rate, and injection volume, subject to the following:
  - i. Pressure gauges shall be of a design to provide:
    - (a) A full pressure range of at least fifty (50) percent greater than the anticipated operating pressure; and
    - (b) A certified deviation accuracy of five (5) percent or less throughout the operating pressure range.



- ii. Flow meters shall measure cumulative volumes and be certified for a deviation accuracy of five (5) percent or less throughout the range of injection rates allowed by the Permit.

6. Pressure Fall Off Test (FOT)

- a. The Permittee shall conduct an annual FOT to monitor formation characteristics. The Permittee shall conduct the FOT after a radial flow regime has been established at an injection rate which is representative of the wastewater contribution to the well. The Permittee may conduct the annual FOT in conjunction with the annual External Mechanical Integrity Test demonstration, as required by Part II.D.2.a.iii. The Permittee shall conduct the FOT in accordance with EPA Region 9 guidance found in Appendix E, and as follows.
- b. The Permittee shall submit to EPA for review and approval a detailed plan for the FOT that is developed in accordance with EPA Region 9 guidance in Appendix E. Once EPA approves in writing the test plan, the Permittee may schedule the FOT. The final FOT report shall be submitted to EPA within sixty (60) days of test completion.
- c. The Permittee shall use the test results to calculate the Zone of Endangering Influence (ZEI), consistent with procedures set forth at 40 CFR § 146.6, and to evaluate whether any corrective action is required (refer to Part II.C.). The Permittee shall include a summary of the ZEI recalculation with the FOT report.
- d. The Permittee shall create a plot/graph of the latest static reservoir pressure of the injection zone and its cumulative behavior over time, starting with the FOT conducted after the initial FOT; the plot shall be included with the annual FOT report each year.

## 7. Proposed Changes and Workovers

- a. The Permittee shall give advance notice to EPA as soon as possible, pursuant to and in accordance with 40 CFR § 144.51(I), of any planned physical alterations or additions to the Existing Well, including sidetracking and deepening or perforating additional intervals. Any changes in well construction, including changes in casing, tubing, packers, and/or perforations other than minor changes, require prior written approval by EPA and may require a permit modification under the requirements of 40 CFR § 144.39 or 144.41. Modifications that are considered routine in well construction details, such as tubing dimensions and strengths, packer models, types and setting depths, and perforation interval changes within the permitted injection zone may be processed by EPA as minor permit modifications consistent with 40 CFR § 144.41 and Part III.B.1
- b. For the Existing Well, the Permittee shall provide all records of well workovers, logging, or other subsequent test data to EPA within sixty (60) days of completion of the activity.
- c. The Permittee shall submit all reports required by this Permit using the appropriate reporting forms contained in Appendix C.
- d. The Permittee shall perform a Mechanical Integrity Test (MIT), using the procedures set forth in Part II.D.1.a. and II.D.2., within thirty (30) days of completion of workovers or alterations and prior to resuming injection activities, in accordance with Part II.D.1. The Permittee shall provide results of the MIT to EPA within sixty (60) days of completion.

## C. **CORRECTIVE ACTION**

The Permittee is not required to conduct any corrective action, in accordance with 40 CFR §§ 144.55 and 146.7, prior to EPA granting authorization to inject under this Permit.

### 1. Annual Zone of Endangering Influence Review

The Permittee shall annually review the ZEI calculation based on any new data obtained from the FOT and static reservoir pressure observations required by Part II.B.6.c. The Permittee shall provide to EPA a copy of the modified ZEI calculations, along with all associated assumptions and justifications, with the next Quarterly Report due in accordance with the schedule, set forth in Part II.E.5.b.

### 2. Implementation of Corrective Actions

- a. If any wells requiring corrective action, in accordance with 40 CFR §§ 144.55 and 146.7, are found within the modified ZEI referenced in Part II.C.1., above, a list of the wells along with their locations and construction data shall be provided to EPA within thirty (30) days of their identification.
- b. The Permittee shall submit a plan for approval by EPA to re-enter, plug, and abandon the wells listed in Part II.C.2.a., above, in a way that prevents the migration of fluids into any USDWs. The Permittee may submit an alternative plan to address the potential for fluid migration in any of these wells to EPA.
- c. The Permittee may not commence corrective action activities without prior written approval from EPA.

## **D. WELL OPERATION**

### **1. Required Demonstrations**

#### **a. Mechanical Integrity**

The Permittee shall propose a schedule to conduct a MIT to demonstrate the Existing Well authorized by this Permit has mechanical integrity consistent with 40 CFR § 146.8 and with Section II.D.2.a. The test should be planned for no more than 365 days after the prior well tests were conducted under the previous permit. The Permittee shall demonstrate that there are no significant leaks in the casing and tubing (internal mechanical integrity) and that there is not significant fluid movement into or between USDWs through the casing wellbore annulus or vertical channels adjacent to the injection wellbore (external mechanical integrity).

#### **b. Injectate Hazardous Waste Determination**

- i. Within sixty (60) days of the effective date of this Permit, the Permittee shall certify that the existing Injectate “Hazardous Waste Determination” of each unique waste stream source injected into the Existing Well authorized by this Permit, as listed in Section II.D.5.a, in accordance with 40 CFR § 262.11, is unchanged. If a change is identified, a new determination must be performed within sixty (60) days of the effective date of this Permit. The results of the analysis shall demonstrate that the injectate does not meet the definition of hazardous waste as defined in 40 CFR § 261.3.
- ii. The Permittee is required to submit a letter to EPA confirming that the “Hazardous Waste Determination” was carried out according to 40 CFR § 262.11 within sixty (60) days of it having been completed for the Existing Well.

iii. The Permittee shall perform an additional “Hazardous Waste Determination” whenever there is a process change or a change in fluid chemical constituents or characteristics of the injectate. The Permittee shall also refer to injectate testing requirements set forth in Part II.E.1., below.

## 2. Mechanical Integrity Testing

### a. Mechanical Integrity Tests

Mechanical integrity testing shall conform to the following requirements throughout the life of any injection wells currently or in the future authorized by EPA under this Permit and in accordance with the requirements set forth at 40 CFR §§ 144.51(q) and 146.8:

#### i. Casing/Tubing Annular Pressure (Internal MIT)

In accordance with the timing requirements defined in Part II.D.2.b., below, the Permittee shall perform a pressure test on the annular space between the tubing and long string casing to demonstrate the absence of significant leaks in the casing, tubing, and/or liner. This test shall be for a minimum of thirty (30) minutes at a pressure equal to or greater than three hundred and fifty (350) pounds per square inch gauge (psig). If greater than the MAIP, it should be no greater than one hundred (100) psig or 10% of the MAIP, whichever is less. A well passes the MIT if there is less than a five (5) percent change in pressure over the thirty (30) minute period. A pressure differential of at least three hundred and fifty (350) psig between the tubing and annular pressures shall be maintained throughout the MIT. This test shall be performed on the Existing Well within five years of the previous Internal MIT and once every five (5) years thereafter.

Detailed plans for conducting the Internal MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the Internal MIT, providing EPA at least thirty (30) days’ notice before the Internal MIT is conducted. The final test report shall be submitted to EPA within sixty (60) days of test completion.

#### ii. Continuous Pressure Monitoring

The Permittee shall continuously monitor and record the tubing/casing annulus pressure and injection pressure by a digital instrument with a resolution of one tenth (0.1) psig. The average, maximum, and minimum monthly results shall be included in the next Quarterly Report submitted to EPA pursuant to Part II.E.5.b., along with any

additional records or data requested by EPA regarding the continuous monitoring data described in this Section.

iii. Injection Profile Survey (External MIT)

The Permittee shall conduct a demonstration that the injectate is confined to the proper zone and submit the results of the demonstration to EPA for approval.

This demonstration shall consist of temperature and radioactive tracer surveys, and top perforation and packer checks (as specified in Appendix D) or another diagnostic tool or procedure as approved by EPA.

Detailed plans for conducting the external MIT must be submitted to EPA for review and approval. Once approved, the Permittee may schedule the External MIT, providing EPA at least thirty (30) days' notice before the External MIT is conducted.

iv. Cement Evaluation Analysis

After installing and cementing casing, conducting a cement squeeze job, or any well cement repair for any approved injection well under this Permit, the Permittee shall submit to EPA cementing records and cement evaluation logs that demonstrate isolation of the injection interval and other formations from underground sources of drinking water. Surface casing, intermediate, and long string casing well bore annuli shall be cemented to ground surface. Analysis shall include cement evaluation performed after each casing is set and cemented. Cement evaluation must assess the following four objectives:

- (a) Bond between casing and cement;
- (b) Bond between cement and formation;
- (c) Detection and assessment of any micro-annulus (small gaps between casing and cement); and
- (d) Identification of any cement channeling in the borehole annulus.

If the cement bond logs indicate a lack of sufficient cement or poor bonding at the base of USDWs and/or other critical intervals in any approved injection well under this Permit, remedial cementing may be required to place additional cement in the casing/wellbore annulus.

The Permittee may not commence or recommence injection on the well until it has received written notice from EPA that the cement evaluation/demonstration is satisfactory.

- v. After any repair that requires removing the tubing and packer from the well the Permittee shall conduct a casing evaluation log. A copy of the casing evaluation log shall be provided to EPA within sixty (60) days in accordance with 40 CFR § 146.8.

b. Schedule for MITs

EPA may require that an Internal and/or External MIT be conducted within thirty (30) days of a written request from EPA during the permitted life of any well authorized by this Permit. The Permittee shall also arrange and conduct MITs according to the following requirements and schedule:

- i. Within thirty (30) days from completion of any workover operation where well integrity is compromised, an Internal MIT shall be conducted and submitted to EPA for approval to verify that the well has mechanical integrity. Prior to this field demonstration, the Permittee shall submit testing plans to EPA, as described in Part II.A.2.
- ii. At least annually, an injection profile survey External MIT shall be conducted in accordance with 40 CFR § 146.8 and Part II.D.2.a.iii.
- iii. At least once every five (5) years for each operating well authorized under this Permit, an Internal MIT shall be conducted in accordance with 40 CFR § 146.8 and Part II.D.2.a.i., above.

c. Loss of Mechanical Integrity

Within twenty-four (24) hours from the time the Permittee becomes aware of any loss of mechanical integrity of any well authorized by this Permit, the Permittee shall notify EPA of the situation and specify which of the following circumstances apply:

- i. The well fails to demonstrate mechanical integrity during a test; or
- ii. A loss of mechanical integrity becomes evident during operation; or
- iii. A significant change in the annulus or injection pressure occurs during normal operating conditions.

In the event of a loss of mechanical integrity, the Permittee shall immediately suspend injection activities in the affected well and shall not resume operation until it has taken necessary actions to restore and confirm mechanical integrity of the affected well and not until EPA has provided written approval prior to the recommencing of injection into the affected well.

The Permittee may not recommence injection after a workover which has compromised well integrity (such as unseating the packer, etc.) until it has received written approval from EPA that the demonstration of mechanical integrity is satisfactory.

### 3. Injection Pressure Limitation

For any injection wells authorized pursuant to this Permit:

- a. Injection pressure measured at the wellhead shall not exceed 1,000 psig for injection into the Monterey Formation.
- b. The Permittee may request a change in the maximum injection pressure allowed under Part II.D.3. Any such request shall be made in writing and justified to EPA with the results of a SRT conducted as described in Appendix F. If EPA approves the change, the proposed MAIP would be added to the Permit as an attachment, becoming the enforceable MAIP.
- c. In no case shall the Permittee inject at pressures that (i) initiate new fractures or propagate existing fractures in the injection zone or the confining zone, (ii) cause the movement of injection or formation fluids into or between USDWs, or (iii) allow injection fluids to migrate to any oil, gas, or geothermal field operations or production wells.

### 4. Injection Volume (Rate) Limitation

For any injection wells authorized pursuant to this Permit:

- a. The injection rate shall not exceed six million four hundred eighty thousand (6,480,000) gallons per month or two hundred sixteen thousand (216,000) gallons per day. This rate will be subject to an annual review based on the annual ZEI determinations as described in Part II.C.1.
- b. The Permittee may request a change in the maximum rate allowed in Part II.D.4.a., above. Any such request shall be made in writing, along with a justification for the proposed increase, to EPA for review and approval.
- c. Should any increase in injection rate be requested, the Permittee shall demonstrate to the satisfaction of EPA that the proposed increase will not interfere with the operation of the facility, its ability to meet conditions described in this Permit, change its well classification, or cause migration of injectate or pressure buildup to occur beyond the Area of Review.

- d. The injection rate shall not cause an exceedance of the injection pressure limitation established pursuant to Part II.D.3.

5. Injection Fluid Limitation

- a. This Permit authorizes the following injection fluids into the Existing Well: brine from reverse osmosis (RO) units at the Laguna County Sanitation District Wastewater Treatment Plant, and brine from the regeneration process of water softening units by authorized sources. Brines from other sources or any other types of waste fluids are prohibited from injection at this Facility.
- b. Authorized sources of water softening regeneration brine: Rayne Water Company of Santa Maria, Culligan of Santa Maria, Culligan of Lompoc and Golden State Water Company. Regular testing of brine from these sources is required as specified in Section E of this part.
- c. The Permittee shall not inject any hazardous waste, as defined by 40 CFR § 261.3, at any time. See also Part II.D.1.b.
- d. Injection fluids shall be limited to those authorized by this Permit, which are those fluids produced by the Permittee and authorized sources described in Part II.D.5.a. and Part II.D.5.b., above.
- e. Any well stimulation or treatment procedure (such as acidizing, etc.) performed at the discretion of the Permittee shall be proposed and submitted to EPA for approval. If approval is granted, notification to EPA is required at least thirty (30) days prior to performing the approved procedure. This requirement may be modified if the Permittee submits a standard operating procedure for well stimulation or treatment for EPA approval after the effective date of this Permit. If the standard operating procedure plan is approved by EPA in writing, the Permittee shall notify EPA within fifteen (15) days of the proposed well stimulation or treatment procedure, provided the procedure does not deviate in any way from the EPA-approved plan.

6. Tubing/Casing Annulus Requirements

For any injection wells authorized pursuant to this Permit:

- a. The Permittee shall use and maintain corrosion-inhibiting annular fluid during well operation. The annular fluid used in the Union Sugar No. 13 well is a NaCl brine solution with a density of 8.5 pounds per gallon (ppg).



- b. If the historic cyclic range of annular pressure fluctuation is not already known, then within the first three (3) months of normal injection operations after the effective date of this Permit, the Permittee shall monitor and record to determine that range. The pressure fluctuation data shall be submitted with the first Quarterly Report due after the effective date of the Permit.
- c. Any annular pressure measured outside of the established normal pressure range, regardless of whether it otherwise meets the requirements of this Permit, shall be reported orally to EPA within twenty-four (24) hours, followed by a written submission within five (5) days, as a potential loss of mechanical integrity. In the submission, the Permittee must describe the event and include details, such as associated injection pressures and temperatures. The Permittee shall provide any additional information regarding the reported annular pressure event requested by EPA within sixty (60) days of receipt of a written request from EPA.

## **E. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS**

### **1. Injection Fluid Monitoring Program**

On a quarterly basis, the Permittee shall sample and analyze injection fluids to yield representative data on their physical, chemical, and other relevant characteristics. Test results shall be submitted by the Permittee to EPA on a quarterly basis.

Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize applicable analytical methods described in Table I of 40 CFR § 136.3 or in EPA Publication SW-846, “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” and as described below, unless other methods have been approved by EPA or additional approved methods or updates to the methods become available.

- a. Summary of Acceptable Analytical Methods
  - i. Inorganic Constituents –USEPA Method 300.0, Part A for Major Anions and USEPA Method 200.8 for Cations and Trace Metals.
  - ii. Solids - Standard Methods 2540C and 2540D for Total Dissolved Solids (TDS) and Total Suspended Solids (TSS).
  - iii. General and Physical Parameters – appropriate USEPA methods for Temperature, Turbidity, pH, Conductivity, Hardness, Specific Gravity, Alkalinity, and Biological Oxygen Demand (BOD); and Density and Viscosity (See EPA Bulletin 712-C-96-032) under standard conditions.

iv. Volatile Organic Compounds (VOCs) - USEPA Method 8260D.

v. Semi-Volatile Organic Compounds (SVOCs) - USEPA Method 8270E.

2. Monitoring Information

The Permittee shall maintain records of monitoring activity required under this Permit, including the following information and data:

- a. Date, exact location, and time of sampling or measurements;
- b. Name(s) of individual(s) who performed sampling or measuring;
- c. Exact sampling method(s) used;
- d. Date(s) laboratory analyses were performed;
- e. Name(s) of individual(s) who performed laboratory analyses;
- f. Types of analyses; and
- g. Results of analyses.

3. Monitoring Devices

a. Continuous Monitoring Devices

During all periods of operation of any well authorized by this Permit, the Permittee shall measure the following wellhead parameters: (i) injectate rate/volume, (ii) injectate temperature, (iii) annular pressure, and (iv) injection pressure. All measurements must be recorded at minimum to a resolution of one tenth (0.1) of the unit of measure (e.g. injection rate and volume must be recorded to a resolution of one tenth (0.1) gallon; pressure must be recorded to a resolution of one tenth (0.1) psig; injection fluid temperature must be recorded to a resolution of one tenth (0.1) degree Fahrenheit). Exact dates and times of measurements, when taken, must be recorded and submitted. The well shall have a dedicated flow meter, installed at or near the wellhead so it records all injection flow. To meet the requirements of this Section, the Permittee shall monitor the following parameters, at the prescribed frequency, and record the measurements at this required frequency, using the prescribed instruments (continuous monitoring requires a minimum frequency of at least one (1) data point every sixty (60) seconds):

<b>Monitoring Parameter</b>	<b>Frequency</b>	<b>Instrument</b>
Injection rate (gallons per minute)	Continuous	Digital recorder
Daily Injection Volume (gallons)	Daily	Digital totalizer
Total Cumulative Volume (gallons)	Continuous	Digital totalizer
Well head injection pressure (psig)	Continuous	Digital recorder
Annular pressure (psig)	Continuous	Digital recorder
Injection fluid temperature (degrees Fahrenheit)	Continuous	Digital recorder

Permittee must adhere to the required format below for reporting injection rate and well head injection pressure. An example of the required electronic data format:

DATE	TIME	INJ. PRESS (PSIG)	INJ. RATE (GPM)
06/27/09	16:33:16	1525.6	65.8
06/27/09	17:33:16	1525.4	66.3

Each data line shall include four (4) values separated by a consistent combination of spaces or tabs. The first value contains the date measurement in the format of mm/dd/yy or mm/dd/yyyy, where mm is the number of the month, dd is the number of the day, and yy or yyyy is the number of the year. The second value is the time measurement, in the format of hh:mm:ss, where hh is the hour, mm are the minutes, and ss are the seconds. Hours should be calculated on a twenty-four (24)-hour basis, i.e. 6 PM is entered as 18:00:00. Seconds are optional. The third value is the well head injection pressure in psig. The fourth column is injection rate in gallons per minute (gpm).

b. Calibration and Maintenance of Equipment

The Permittee shall calibrate and maintain on a regular basis all monitoring and recording equipment to ensure proper working order of all equipment.

4. Recordkeeping

- a. The Permittee shall retain the following records and shall have them available at the facility at all times for inspection by EPA or other authorized personnel, in accordance with the following:

- i. All monitoring information, including required observations, calibration and maintenance records, recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the Permit application;
  - ii. Information on the physical nature and chemical composition of all injected fluids;
  - iii. Results of the injectate “Hazardous Waste Determination” according to 40 CFR § 262.11 (See Part II.D.1.b.). Results shall demonstrate that the injectate does not meet the definition of hazardous waste as defined in 40 CFR § 261.3; and
  - iv. Records and results of MITs, FOTs, and any other tests and logs required by EPA, and any well work and workovers completed.
- b. The Permittee shall maintain copies (or originals) of all records described in Part II.E.4.a.i. through iv., above, during the operating life of the well and shall make such records available at all times for inspection at the facility. The Permittee shall only discard the records described in Part II.E.4.a.i. through iv., if written approval from EPA to discard the records is obtained.

#### 5. Quarterly Reports

- a. The Permittee shall submit to EPA Quarterly Reports containing, at minimum, the following information gathered during the Reporting Period identified in this Part (below):
  - i. Injection fluid characteristics for parameters specified in Part II.E.1.a.;
  - ii. When appropriate, Injectate Hazardous Waste Determination according to Part II.D.1.b.;
  - iii. The results of any additional MITs, FOTs, logging or other tests, as required by EPA;
  - iv. Any pressure tests, as required by Part II.D.2.a.i.;
  - v. Shut-in static reservoir pressure cumulative behavior plot of the injection zone, as required by Part II.B.6.d;

- vi. Hourly and daily values, submitted in electronic format, for the continuously monitored parameters specified for the injection wells in Part II.E.3.a.; and
  - vii. Monthly cumulative volumes, as well as monthly average, minimum and maximum values for the continuously monitored rate, pressure and temperature parameters specified for the injection well in Part II.E.3.a., unless more detailed records are requested by EPA.
- b. Quarterly Reports, with the applicable Appendix C forms, shall be submitted for the reporting periods by the respective due dates as listed below:

<u>Reporting Period</u>	<u>Report Due</u>
Jan, Feb, Mar	Apr 28
Apr, May, June	July 28
July, Aug, Sept	Oct 28
Oct, Nov, Dec	Jan 28

- c. For the January Quarterly Report, the Permittee shall also include in that Report the following information collected during the prior year covering January through December:
- i. Annual reporting summary (7520-11 in Appendix C);
  - ii. Annual injection profile survey results as required in Part II.D.2.a.iii.;
  - iii. Annual ZEI recalculation as required in Part II.C.1.; and
  - iv. A narrative description of all non-compliance that occurred during the past year.
- d. In addition to meeting the submittal requirements of Part III.E.9., digital e-copies of all Quarterly Reports shall also be provided to the following:

California Geologic Energy Management Division  
 Coastal District  
 Attn: District Engineer  
 Via email: [CalGEMCoastal@conservation.ca.gov](mailto:CalGEMCoastal@conservation.ca.gov)

California Regional Water Quality Control Board  
 Central Coast District  
 Attn: Underground Injection Control Unit  
 Via email: [centralcoast@waterboards.ca.gov](mailto:centralcoast@waterboards.ca.gov)

Should either of the contacts/email addresses identified above no longer work at CalGEM/Regional Water Board, the Permittee must notify EPA, ascertain the replacement contact(s)/addresses, and submit reports going forward to the new contacts/addresses.

## **F. PLUGGING AND ABANDONMENT**

### **1. Notice of Plugging and Abandonment**

The Permittee shall notify EPA no less than sixty (60) days before abandonment of any well authorized by this Permit and shall not perform the plugging and abandonment activities until the Permittee receives written notice of approval by EPA.

### **2. Plugging and Abandonment Plans**

The Permittee shall plug and abandon the well as provided by the Plugging and Abandonment Plan submitted by the Permittee (see Appendix G) and approved by EPA, consistent with CalGEM's "Onshore Well Regulations" of the California Code of Regulations, found in Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 4, Article 3, Sections 1722-1723 and 40 CFR § 146.10. Upon written notice to the Permittee, EPA may change the manner in which a well will be plugged, based upon but not limited to the following reasons: (a) if the well is modified during its permitted life, (b) if the proposed Plugging and Abandonment Plan for the well is not consistent with EPA requirements for construction or mechanical integrity, or (c) otherwise at EPA's discretion. Upon written notice, EPA may periodically require the Permittee to estimate and to update the estimated plugging cost. To determine the appropriate level of financial assurance for the Plugging and Abandonment Plan, the Permittee shall obtain a cost estimate from an independent third-party firm in the business of plugging wells. The estimate shall include the costs of all the materials and activities necessary to pay an independent third-party contractor to completely plug and abandon the well as established in the Plugging and Abandonment Plan.

### **3. Cessation of Injection Activities**

After a cessation of injection operations for two (2) years for any well authorized by this Permit, a well is considered inactive. In this case, the Permittee shall plug and abandon the inactive well in accordance with the approved Plugging and Abandonment Plans contained in Appendix G, unless the Permittee:

- a. Provides notice to EPA of an intent to re-activate the well;
- b. Has demonstrated that the well(s) will be used in the future;

- c. Has described actions or procedures, satisfactory to EPA and approved in writing by EPA, which will be taken to ensure that the well(s) will not endanger USDWs during the period of inactivity, including annually demonstrating external mechanical integrity of the well(s); and
- d. Conducts an initial Internal MIT and every two (2) years thereafter while the well remains inactive, demonstrating no loss of mechanical integrity. Note that the Permittee must restore mechanical integrity of the inactive well if the well fails the MIT.

4. Plugging and Abandonment Report

Within sixty (60) days after plugging any well, or at the time of the next Quarterly Report (whichever is less), the Permittee shall submit a report on Form 7520-19, provided in Appendix C, as well as the detailed procedural activity of engineer's log and daily rig log to EPA. The report shall be certified as accurate by the person who performed the plugging operation and shall consist of either:

- a. A statement that the well was plugged in accordance with the approved Plugging and Abandonment Plans contained in Appendix G; or
- b. Where actual plugging differed from the Plugging and Abandonment Plans contained in Appendix G, a statement specifying and justifying the different procedures followed.

**G. FINANCIAL ASSURANCE REQUIREMENTS**

1. Demonstration of Financial Assurance

The Permittee is required to demonstrate and maintain financial assurance and resources sufficient to close, plug, and abandon any existing or future-permitted underground injection operations approved pursuant to this Permit, as provided in the Plugging and Abandonment Plans contained in Appendix G and consistent with 40 CFR Part 144 Subpart E.

In addition, the Permittee shall meet the following specific financial assurance requirements:

- a. The Permittee established financial assurance for the plugging and abandonment of the Existing Well in the amount of \$256,994, by demonstrating that it meets the criteria specified in 40 CFR § 144.63(f)(1)(ii). The plugging and abandonment amounts have been factored in the cost for an independent third party to plug and abandon the Existing Well.

- b. For each well authorized by this Permit, the financial assurance mechanism shall be reviewed and updated annually, if necessary, and a description of that review and any updates shall be set forth in the Quarterly Report required in Part II.E.5., due on January 28 of each year. At its discretion, and upon written request, EPA may require the Permittee to change to an alternate method of financial assurance. Any such change must be approved in writing by EPA prior to the change.
- c. EPA may periodically require the Permittee to update the estimated Plugging and Abandonment Plans (see Appendix G) and/or the cost associated with it, and the Permittee shall make such an adjustment within sixty (60) days of notice from EPA. Alternately, EPA may independently adjust the required financial assurance amount, as warranted.

## 2. Failure of Financial Assurance

The Permittee must notify EPA of the insolvency of a financial institution supporting the financial assurance as soon as possible, but no later than ten (10) days after the Permittee becomes aware of the insolvency. The Permittee shall submit to EPA a revised and/or new instrument of financial assurance, consistent with the terms of this Permit and 40 CFR § 144.52(a)(7)(ii), within sixty (60) days after any of the following events occurs:

- a. The institution issuing the bond or other financial instrument files for bankruptcy;
- b. The authority of the trustee institution to act as trustee, or the authority of the institution issuing the financial instrument, is suspended or revoked; or
- c. The institution issuing the financial instrument lets it lapse or decides not to extend it.

Failure to submit an acceptable financial assurance demonstration may result in the termination of this Permit pursuant to 40 CFR § 144.40(a)(1).

## 3. Insolvency of Owner or Operator

An owner or operator must notify EPA by certified mail of the commencement of voluntary or involuntary proceedings under U.S. Code Title 11 (Bankruptcy), naming the owner or operator as debtor, within ten (10) business days after such an event occurs. A guarantor of a corporate guarantee must make such a notification if he/she is named as debtor, as required under the terms of the guarantee.

## **H. DURATION OF PERMIT**

This Permit and the authorization to inject are issued for a period of ten (10) years unless



terminated under the conditions set forth in Part III.B.1. or administratively extended under the conditions set forth in Part III.E.12.

### **PART III. GENERAL PERMIT CONDITIONS**

#### **A. EFFECT OF PERMIT**

The Permittee is allowed to engage in underground injection well construction and operation in accordance with the conditions of this Permit. The Permittee shall not construct, operate, maintain, convert, plug, abandon, or conduct any injection activity not otherwise allowed by this Permit, as such activities may allow the movement of fluid containing any contaminant into USDWs (as defined by 40 CFR §§ 144.3 and 146.3).

No injection fluids are allowed to migrate to any nearby oil, gas, or geothermal field operations or production wells. Further, this Permit requires systematic and predictive documentation over the facility's operational life to ensure that no injection fluids, either presently or in the future, will so migrate.

Any underground injection activity not specifically authorized in this Permit is prohibited. 40 CFR § 144.11. The Permittee must comply with all applicable provisions of the Safe Drinking Water Act (SDWA) and 40 CFR §§ 124, 144, 145, 146, 147 and 148. Such compliance does not constitute a defense to any action brought under Section 1431 of the SDWA, 42 U.S.C. § 300i, or any other common law, statute, or regulation other than Part C of the SDWA. Issuance of this Permit does not convey property rights of any sort or any exclusive privilege, nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Nothing in this Permit shall be construed to relieve the Permittee of any duties under all applicable, including future, laws or regulations.

#### **B. PERMIT ACTIONS**

##### **1. Modification, Revocation and Reissuance, or Termination**

EPA may, for cause or upon request from the Permittee, modify, revoke and reissue, or terminate this Permit in accordance with 40 CFR §§ 124.5, 144.12, 144.39, 144.40, and 144.51(f). The Permit is also subject to minor modifications for cause as specified in 40 CFR § 144.41. The filing of a request for a Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance by the Permittee, does not stay the applicability or enforceability of any Permit condition. EPA may also modify, revoke and reissue, or terminate this Permit in accordance with any amendments to the SDWA if the amendments have applicability to this Permit.

## 2. Transfers

This Permit is not transferable to any person except after notice to and approval by EPA and the Permittee complies with requirements of 40 CFR § 144.38. See also 40 CFR § 144.51(1)(3). EPA may require modification or revocation and reissuance of the Permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the SDWA.

### **C. SEVERABILITY**

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

### **D. CONFIDENTIALITY**

In accordance with 40 CFR Part 2 and § 144.5, any information submitted to EPA pursuant to this Permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures contained in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

1. Name and address of the Permittee; or
2. Information dealing with the existence, absence, or level of contaminants in drinking water.

### **E. GENERAL DUTIES AND REQUIREMENTS**

The provisions of 40 CFR § 144.51 are incorporated by reference into this Permit, except as modified by specific provisions in this Permit. In addition, the following general duties and requirements apply to this Permit and the Permittee.

#### 1. Duty to Comply

The Permittee shall comply with all applicable UIC Program regulations and all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued in accordance with 40 CFR § 144.34. Any Permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, Permit termination, revocation and reissuance, modification, or denial of a Permit renewal application. Such noncompliance may

also be grounds for enforcement action under the Resource Conservation and Recovery Act (RCRA).

2. Penalties for Violations of Permit Conditions

Any person who violates a Permit requirement is subject to civil penalties, fines, and other enforcement action under the SDWA and may also be subject to enforcement actions pursuant to RCRA or other actionable authorities. Any person who willfully violates a Permit condition may be subject to criminal prosecution.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

4. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize and correct any adverse impact on the environment resulting from noncompliance with this Permit.

5. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit.

6. Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privilege.

7. Duty to Provide Information

The Permittee shall furnish to EPA, within a time specified, any information which EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to EPA, upon request, copies of records required to be kept by this Permit.

## 8. Inspection and Entry

The Permittee shall allow EPA, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Permit;
- b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this Permit;
- c. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any location.

## 9. Submittal Requirements

The Permittee shall follow the procedures set forth below for all submittals made to EPA under this Permit, including all notices and reports:

- a. All submittals to EPA shall be signed and certified by a responsible corporate officer or duly authorized representative consistent with the requirements of 40 CFR §§ 122.22, 144.32, and 144.51(k).
- b. Unless otherwise authorized, or required by this Permit or rule, all submissions (including correspondence, reports, records and notifications) required under this Permit shall be in writing, sent by electronic mail, and mailed first class mail to the following addresses:

U.S. Environmental Protection Agency, Region 9  
Water Division  
UIC Program  
Groundwater Protection Section (WTR-4-2)  
75 Hawthorne St.  
San Francisco, CA 94105-3901  
Email: [Albright.David@epa.gov](mailto:Albright.David@epa.gov)

- c. The compliance date for submittal of a report is the day it is mailed.

## 10. Additional Reporting Requirements

a. Planned Changes

The Permittee shall give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility.

b. Anticipated Noncompliance

The Permittee shall give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with Permit requirements.

c. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted to EPA no later than thirty (30) days following each schedule date.

d. Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this Permit.

e. Twenty-four Hour Reporting

i. The Permittee shall report to EPA any noncompliance which may endanger health or the environment, including:

(a) Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water (USDW); or

(b) Any noncompliance with a Permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs.

ii. Any information shall be provided orally within twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. A written submission of all noncompliance as described in Part III.E.10.e.i., above, shall also be provided to EPA within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

f. Other Noncompliance

At the time monitoring reports are submitted, the Permittee shall report in writing all other instances of noncompliance not otherwise reported pursuant to other reporting requirements outlined in this Permit.

g. Other Information

If the Permittee becomes aware that it failed to submit all relevant facts in the Permit application, or submitted incorrect information in the Permit application or in any report to EPA, the Permittee shall submit such facts or information within two (2) weeks of the time such facts or information becomes known.

11. Requirements prior to commencing injection, Plugging and abandonment report, Duty to establish and maintain mechanical integrity.

The Permittee shall comply with all applicable requirements set forth at 40 CFR § 144.51(m)-(q) and as outlined throughout this Permit.

12. Continuation of Expiring Permit

a. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittee must submit a complete application to EPA for a new permit at least three hundred and sixty-five (365) days before this Permit expires.

b. Permit Extensions

The conditions and requirements of an expired permit continue in force and effect in accordance with 5 U.S.C. § 558(c) until the effective date of a new permit, if:

- i. The Permittee has submitted a timely and complete application for a new permit; and
- ii. EPA, through no fault of the Permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit.

13. Records of Permit Application

The Permittee shall maintain records of all data required to complete the Permit application and any supplemental information submitted with the Permit application.

14. Availability of Reports

All reports prepared in accordance with the conditions of this Permit shall be available for public inspection at appropriate offices of the EPA. Permit applications, Permits, and well operation data shall not be considered confidential.