## DISCHARGE PERMIT APPROVAL CONDITIONS

All discharge permits are subject to Water Quality Control Commission regulations.

**1. GENERAL PROVISIONS:** The Federal Fiscal Year: Q1 (Oct. – Dec.), Q2 (Jan. – Mar.), Q3 (Apr. – Jun.), and Q4 (Jul. – Sep.) shall be the standard for referenced periods of all permit activities.

**1.A. PERMITTEE AND PERMITTED FACILITY:** The Director of the Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues a Discharge Permit Renewal for BW-8 to PAB Services, Inc. (Permittee) to operate a Underground Injection Control (UIC) Class III Brine Well for the solution mining of salt. "Brine Supply Well No. 1" (API # 30-025-26307/Facility ID# fCJC2117638475) is located 1,980 FSL, and 1,980 FEL, UL: J (NW/4 SE/4) of Section 5, Township 19S Range 36E, Lat. N 32.687817°, Long. W -103.374489°, NMPM, Lea County, New Mexico. This brine well is located approximately 11-miles west of Hobbs, New Mexico along U.S. Hwy. 62/160 (US62/160), about 0.8 mile east of the US 62/160 and 528 Intersection. Produced brine is metered at surface and transported greater than 3.5 miles via a buried 3-inch polyethylene pipeline to the brine station for sale.

The Permittee is permitted to inject freshwater into the subsurface salt layers and produce brine for use in the oil and gas industry. Groundwater that may be affected by a spill, leak, or accidental discharge of brine occurs at a depth of approximately 75 feet (ft.) below ground level (bgl) and has a total dissolved solids (TDS) concentration of approximately 1,010 milligrams per liter (mg/L).

**1.B. SCOPE OF PERMIT:** OCD has been granted the authority by statute and by delegation from the Waler Quality Control Commission (WQCC) to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to Class III Brine Wells associated with the oil and gas industry (See Section 74-6-4, and 74-6-5 NMSA 1978).

The Water Quality Act and the rules promulgated pursuant to the Act protect groundwater and surface water of the State of New Mexico by providing that, unless otherwise allowed by 20.6.2 NMAC, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into groundwater unless such discharge is pursuant to an approved discharge plan (See 20.6.2.3104 NMAC, 20.6.2.3106 NMAC, and 20.6.2.5000 through 20.6.2.5299 NMAC).

This Discharge Permit for a Class III Brine Well is issued pursuant to the Water Quality Act and WQCC rules, 20.6.2 NMAC. This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by- product, or oil-field waste.

Pursuant to 20.6.2.5004A NMAC, the following underground injection activities are prohibited:

1. Injection of fluids into a motor vehicle waste disposal well is prohibited.
2. Injection of fluids into a large capacity cesspool is prohibited.
3. Injection of any hazardous or radioactive waste into a well is prohibited except as provided by 20.6.2.5004A(3) NMAC.
4. Class IV wells are prohibited, except for wells re-injecting treated groundwater into the same formation from which it was drawn as part of a removal or remedial action.
5. Barrier wells, drainage wells, recharge wells, return flow wells, and motor vehicle waste disposal wells are prohibited.

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Permittee shall operate the well in accordance with the terms and conditions specified in this Discharge Permit to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (See 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health (See 20.6.2.3109H(3) NMAC); so that the numerical standards specified in 20.6.2.3103 NMAC are not exceeded; and so that the technical criteria and performance standards (See 20.6.2.5000 through 20.6.2.5299 NMAC)

for Class III wells are met. Pursuant to 20.6.2.5003B NMAC, the Permittee shall comply with 20.6.2.1 through 20.6.2.5299 NMAC.

The Permittee shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the WQCC standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams). Pursuant to 20.6.2.5101A NMAC, the Permittee shall not inject non-hazardous fluids into groundwater having 10,000 mg/l or less TDS.

The issuance of this permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the WQCC, or any applicable federal laws, regulations or standards (See Section 74-6-5 NMSA 1978) to be violated (See 20.6.2.3109H(2) NMAC), so that no discharge of any water contaminant will result in a hazard to public health, (See 20.6.2.3109H(3) NMAC); so that the numerical standards specified in 20.6.2.3103 NMAC are not exceeded; and, so that the technical criteria and performance standards (See 20.6.2.5000 NMAC through 20.6.2.5299 NMAC) for a Class III Well are met. Pursuant to 20.6.2.5003B NMAC, the Permittee shall comply with 20.6.2.1 NMAC through 20.6.2.5299 NMAC.

The issuance of this permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the WQCC, or any applicable federal laws, regulations or standards (See Section 74-6-5 NMSA 1978).

**1.C. DISCHARGE PERMIT:** This Discharge Permit is derived from a permit renewal application. Future replacement of a prior permit does not relieve the Permittee of the responsibility to comply with the terms of that prior permit while that permit was in effect.

**1.D. DEFINITIONS:** Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

**1.E. FILING FEES AND PERMIT FEES:** Pursuant to 20.6.2.3114 NMAC**,** every facility that submits a Discharge Permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100 filing fee. The Permittee is now required to submit the $1,700 permit fee for a Class Ill well. Please remit payment made payable to the "Water Quality Management Fund" in care of OCD at 1220 South St. Francis Drive in Santa Fe, New Mexico 87505.

**1.F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT:** This Discharge Permit becomes effective immediately from the date of permit issuance unless there are changes from the posted OCD draft permit on the OCD Webpage, in which case, an additional 30-days shall be allowed for appeal of the issued permit (See 20.6.2.3113 NMAC) or until the permit is terminated or expires. In the event there is no appeal, the permit becomes effective 30-days after the date of permit issuance. This Discharge Permit will **expire on June 21, 2029.**

The Permittee shall submit an application for renewal no later than 120-days before the expiration date, pursuant to 20.6.2.5101F NMAC. If a Permittee submits a renewal application at least 120-days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. A discharge permit continued under this provision remains fully effective and enforceable. Operating with an expired Discharge Permit may subject the Permittee to civil and/or criminal penalties (See Section 74-6-10.l NMSA 1978 and Section 74-6-10.2 NMSA 1978).

**1.G. MODIFICATIONS AND TERMINATIONS:** The Permittee shall notify the OCD Director and OCD's Engineering Bureau of any Facility expansion or process modification (See 20.6.2.3l07C NMAC). The OCD Director may require the Permittee to submit a Discharge Permit modification application pursuant to 20.6.2.3109E NMAC and may modify or terminate a Discharge Permit pursuant to Sections 74-6-5(M) NMSA through 74-6-5(N) NMSA 1978.

**1.** If data submitted pursuant to any monitoring requirements specified in this Discharge Permit or other information available to the OCD Director indicate that 20.6.2 NMAC is being or may be violated, then the

OCD Director may require modification or, if it is determined by the OCD Director that the modification may not be adequate, may terminate this Discharge Permit for a Class III well that was approved pursuant to the requirements of 20.6.2.5000 NMAC through 20.6.2.5299 NMAC for the following causes:

**a.** Noncompliance by Permittee with any condition of this Discharge Permit; or,
**b.** The Permittee's failure in the discharge permit application or during the discharge permit review process to disclose fully all relevant facts, or Permittee 's misrepresentation of any relevant facts at any time; or,
**c.** A determination that the permitted activity may cause a hazard to public health or undue risk to property and can only be regulated to acceptable levels by discharge permit modification or termination (See Sections 75-6-6 NMSA 1978; 20.6.2.5101(I) NMAC; and 20.6.2.3109E NMAC).

**2.** This Discharge Permit may also be modified or terminated for any of the following causes:

**a.** Violation of any provisions of the Water Quality Act or any applicable regulations. standard of performance or water quality standards;
**b.** Violation of any applicable state or federal effluent regulations or limitations; or
**c.** Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge (See Section 75-6-5M NMSA 1978).

## 1.H. TRANSFER OF CLASS III WELL DISCHARGE PERMIT:

**1.** The transfer provisions of 20.6.2.3111 NMAC do not apply to a discharge permit for a Class III well.

**2.** Pursuant to 20.6.2.5101H NMAC, the Permittee may request to transfer its Class III well discharge permit if:

**a.** The OCD Director receives written notice 30-days prior to the transfer date; and
**b.** The OCD Director docs not object prior to the proposed transfer date. OCD may require modifications to the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.

3. The written notice required in accordance with WQCC Regulations 20.6.2.5101H1 NMAC and 20.6.2.5101H2.a NMAC shall:

**a.** Have been signed by the Permittee and the succeeding Permittee and shall include an acknowledgement that the succeeding Permittee shall be responsible for compliance with the Class III well discharge permit upon taking possession of the facility;
**b.** Set a specific date for transfer of the discharge permit responsibility, coverage and liability; and
**c.** Include information relating to the succeeding Permittee's financial responsibility required by 20.6.2.5210B(17) NMAC.

**1.I. COMPLIANCE AND ENFORCEMENT:** If the Permittee violates or is violating a condition of this Discharge Permit, OCD may issue a compliance order that requires compliance immediately or within a specified time period, or assess a civil penalty, or both (See Section 74-6-10 NMSA I978). The compliance order may also include a suspension or termination of this Discharge Permit. OCD may also commence a civil action in District Court for appropriate relief, including injunctive relief (See Section 74-6-10(A)(2) NMSA 1978). The Permittee may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in a renewal application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a Discharge Permit issued pursuant to a state or federal law or regulation (See Section 74-6-10.2 NMSA 1978).

## 2. GENERAL FACILITY OPERATIONS:

**2.A. QUARTERLY MONITORING REQUIREMENTS FOR CLASS III WELLS:** The Permittee may use either or both freshwater and water from otherwise non-potable sources excluding oil and gas produced water. Pursuant to 20.6.2.5207C NMAC, the Permittee shall provide analysis of the injected fluids and brine at least quarterly to yield data representative of their characteristics. The Permittee shall analyze both the injected fluids and brine at least quarterly to yield data representative of their characteristics. The Permittee shall analyze both the injected fluids and brine at least quarterly to yield data for the following characteristics: pH; density; TDS; Chloride; and Sodium concentration (for brine only). A modification to the permit may be allowed to reduce the frequency of monitoring to semi-annual when the permittee demonstrates based on historical environmental analytical lab data results indicating that no statistically significant variation or deviation in data concentration values has occurred over the historical monitoring period (See Permit Condition 1.G).

**1. Monitor Well:** In advance of start-up of brine well operations, unless already completed, the Permittee shall install a hydrogeologic downgradient monitor well within 50 feet of the brine well into the water table aquifer and collect a background groundwater quality sample for general chemistry, and WQCC groundwater constituents listed in 20.6.2.3103 NMAC and methanol (EPA Method 8015B)..

Environmental groundwater quality sampling and analytical laboratory data results shall comply with EPA Quality Assurance/Quality Control (QA/QC) and Data Quality Objectives (DQOs) and be **submitted to OCD for approval before start-up** of brine production unless already completed. The monitor well construction shall comply with EPA Standards and be required to be sampled and monitored quarterly for the following characteristics:

- Methanol (Method 8015B);
- pH (Method 9040);
- Eh;
- Specific conductance;
- Specific gravity;
- Temperature; and
- General groundwater quality parameters (general chemistry/ cations and anions) including fluoride, calcium, potassium, magnesium, sodium bicarbonate. carbonate, chloride, sulfate, TDS, cation/anion balance, pH, and bromide using the methods specified in 40 CFR 136.3). A reduction in sampling frequency is specified in Permit Condition 1.G.

The environmental analytical data results shall be reported in the Annual Report (Permit Condition 2.J).

**2.B. SOLUTION CAVERN MONITORING PROGRAM:**

1. **Surface Subsidence Monitoring Plan:** The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180-days of the effective date of this permit unless already completed. The Surface Subsidence Monitoring Plan shall specify that the Permittee will install at least three (3) survey monuments plus the top of brine well casing and shall include a proposal to monitor or survey the elevation of the monuments and top of well casing.

The Permittee shall survey each monument and top of well casing at least semi-annually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS geodetic benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program with proper instrument accuracy assessment at the conclusion of each survey. The Permittee shall submit a survey report with the results of all subsidence surveys per monument, summary of results, and any recommendations to OCD within fifteen (15) days of survey completion. If the monitored surface subsidence survey at any measuring point deviates 0.10 ft. or more compared to the original monument baseline elevation, then the Permittee shall notify OCD within thirty (30) days of survey completion for further instructions. If survey results continue to demonstrate subsidence over time, and the Permittee cannot demonstrate the integrity of the cavern and well to the satisfaction of OCD, then he/she shall cease all brine production and submit a corrective action plan to mitigate the subsidence, and/or a closure plan (See Permit

Condition 2.D).

The Permittee shall include the above information in the Annual Report (Permit Condition 2.J).

**2. Solution Cavern Characterization Program:** The Permittee shall submit a Solution Cavern Characterization Plan to characterize the size (i.e., maximum cavern diameter) and shape of the solution cavern using geophysical methods within 180-days of the effective date of this permit, unless already completed. The Permittee shall characterize the size and shape of the solution cavern using geophysical or alternate method(s) approved by OCD at least once before the expiration date of the permit but annually for any alternate estimation method. The Permittee shall demonstrate that at least 90% of the calculated volume of salt removed based upon cumulative injection and production volumes has been accounted for based on the approved geophysical method(s) for such testing to be considered truly representative.

**a.** The Permittee shall provide an estimate of the size, shape and safety ratio factor (D/H: where D is the estimated maximum cavern diameter relative to the depth of casing shoe H (ft./ft.) of the solution cavern at least annually in the Annual Report (See Permit Condition 2.J). The mathematical algorithm for a "right circular cone" (RCC) is allowed for cavern cavity volume estimation based on cumulative volume of brine fluid produced or extracted from the well.

1. A salt cavern "depth sounding" shall be completed on or before the permit expiration date and/or when tubing is removed from the well to determine the base of the cavern for determination of the accurate cavern height value in the RCC estimation of the maximum cavern diameter, or successful completion of a well sonar test to accomplish the same when sounding is not possible.

**b.** The Permit shall apply a mathematical "Relative Percent Difference" (RPD) comparison between the monthly volumes of freshwater injected versus the volume of produced brine. If the RPD varies by greater than 15%, the Permittee after having knowledge of the exceedance, shall report this observation to OCD and cease injection and production operations of the brine well within 24-hours. The Permittee shall determine the cause of the abnormal RPD within 72-hours and communicate with the OCD on corrective action(s) (CA). The Permittee shall submit to OCD a CA report based on its investigation within fifteen (15) days of cessation of injection and production operations of the brine well for final resolution of the matter.

3. **Annual Certification:** The Permittee shall certify annually in the Annual Report (Permit Condition 2.J) that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geological, geophysical, engineering and/or approved mathematical algorithmic estimation method based on cumulative brine well production data.

If the solution cavern is determined by either OCD or the Permittee to be potentially unstable or unsafe by either direct, indirect or estimation means, then the Permittee shall cease all fluid injection and brine production operations within 24-hours. If the Permittee ceases operations because it or OCD has determined that the solution cavern is unstable or unsafe, then he/she shall submit a plan to stabilize the solution cavern within 30-days. OCD may require the Permittee to implement additional subsidence monitoring, testing and/or to conduct additional corrective actions.

**2.C. CONTINGENCY PLAN:** The Permittee shall implement the proposed contingency plan(s) included in the Permit Application and follow the E-Permitting submittal process under Release Reporting (Permit Condition 2.G) to the OCD to address violations of a permit conditions.

**2.D. CLOSURE:** Prior to closure of the facility, the Permittee shall submit via E-Permitting for OCD's approval, a closure plan including a completed OCD Form C-103F for NOI to plug and abandon the Class III well. The Permittee shall plug and abandon the well pursuant to 20.6.2.5209 NMAC and as specified in Permit Conditions 2.I and 5.B to address: well plug and abandonment, land surface restoration; environmental groundwater sampling and monitoring (if

applicable); pipeline abandonment; and five (5) years of five years of semi-annual surface subsidence monitoring and/or to be determined based on historical monitoring data results at the time of closure.

**1. Pre-Closure Notification:** Pursuant to 20.6.2.5005A NMAC, the Permittee shall submit a pre-closure notification to OCD's Engineering Bureau at least 30-days prior to the date that it proposes to close or to discontinue operation of its Class III well. Pursuant to 20.6.2.5005B NMAC, OCD's Engineering Bureau must approve all proposed well closure activities before the Permittee may implement its proposed closure plan.

**2. Required Information:** The Permittee shall provide OCD's Engineering Bureau with the following information:

- Name of facility;
- Address of facility;
- Name of Permittee (and owner or operator, if appropriate);
- Address of Permittee (and owner or operator, if appropriate);
- Contact person;
- Phone number;
- Number and type of well(s);
- Year of well construction;
- Well construction details;
- Well plug and abandonment details;
- Type of discharge;
- Average flow (gallons per day);
- Proposed well closure activities (e.g., sample fluids/sediment, appropriate disposal of remaining fluids/sediments, remove well and any contaminated soil, clean out well, install permanent plug, conversion to other type of well, groundwater and vadose zone investigation, other, etc.); Proposed date of well closure;
- Proposed method and date of surface restoration;
- Proposed method and date of pipeline abandonment;
- Name of preparer; and
- Date.

**2.E. PLUGGING AND ABANDONMENT PLAN:** Pursuant to 20.6.2.5209A NMAC, when the Permittee proposes to plug and abandon its Class III well, it shall submit to OCD a plugging and abandonment plan (Plan) that meets the requirements of 20.6.2.3109C NMAC, 20.6.2.5101C NMAC, and 20.6.2.5005 NMAC for protection of groundwater. If requested by OCD, the Permittee shall submit for approval prior to closure, a revised or updated Plan. The obligation to implement the Plan as well as the requirements of the plan survives the termination or expiration of this Discharge Permit. The Permittee shall comply with 20.6.2.5209 NMAC.

**2.F RECORD KEEPING:** The Permittee shall maintain records of all inspections, surveys, investigations, etc., required by this Discharge Permit at its Facility office for a minimum of five (5) years and shall make those records available for inspection at the request of an OCD Representative.

**2.G. RELEASE REPORTING:** The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, if he/she determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report via E-Permitting any unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified in 20.6.2.3103 NMAC, then it shall report a release to OCD's Engineering Bureau.

**1. Oral Notification:** As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the Permittee shall notify OCD's Engineering Bureau. The Permittee shall provide the following minimum information:

- Name, address, and telephone number(s) and E-mail address of the person(s) in charge of the

facility, as well as of the owner and/or operator of the facility:

- Name and location of the facility;
- Date, time, location including latitude/longitude (NAD83), and duration of the discharge(s);
- Source and cause of discharge(s);
- Description of the discharge, including the chemical composition;
- Estimated volume of the discharge(s); and
- Any corrective or abatement action(s) taken to mitigate immediate damage from the discharge(s).

**2. Written Notification:** Within one week after the Permittee has discovered a discharge, the Permittee shall submit via E-Permitting written notification (Use form C-141 with attachments) to OCD's Engineering Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

The Permittee shall provide subsequent corrective action(s) and written reports as required by OCD's Engineering Bureau.

**2.H. OTHER REQUIREMENTS:**

**1. Inspection and Entry:** Pursuant to Section 74-6-9 NMSA 1978 and 20.6.2.3107A NMAC, the Permittee shall allow any authorized Representative of the OCD Director, to:

- Upon the presentation of proper credentials, enter the premises at reasonable times;
- Inspect and copy records required by this Discharge Permit;
- Inspect any treatment works, monitoring, and analytical equipment;
- Sample any injection fluid or produced brine;
- Conduct various types of environmental media sampling; and
- Use the Permittee's monitoring systems and wells in order to collect groundwater samples.

**2. Advance Notice:** The Permittee shall provide OCD's Engineering Bureau and Hobbs District Office with at least five (5) working days advance notice of any environmental sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or decommissioning of any equipment associated with the Class III well.

**3. Environmental Monitoring and Groundwater Remediation:** The Permittee shall ensure that any environmental sampling and analytical laboratory data collected meets the standards specified in 20.6.2.3107B NMAC or EPA QA/QC Standards and Data Quality Objectives (DQO). The Permittee shall ensure that all environmental samples are analyzed by an accredited "National Environmental Laboratory Accreditation Conference" (NELAC) Laboratory. The Permittee shall submit environmental sampling analytic data summary tables with all “raw” analytical data, and laboratory QAQC results.

a. A groundwater monitor well shall be installed hydrogeologically downgradient from the Brine Well and sampled in accordance with Permit Condition 2.A. l.
b. Groundwater remediation of elevated Chloride and/or other pollutants, operation and maintenance of any remedial systems shall be monitored, remediated, and documented in semi-annual reports submitted by April 30th (Period: October – March) and December 31st (Period: April – September) of each Federal fiscal year via OCD E-Permitting to the OCD Engineering Bureau. Any remediation(s) shall meet the requirements and approval of the OCD. These reports may also be accepted to satisfy the annual reporting requirements if the report contents includes Permit Condition 2.J reporting parameters to be reported to OCD semi-annually in lieu of annually.

**2.I BONDING OR FINANCIAL ASSURANCE:** Pursuant to 20.6.2.5210B(17) NMAC, the Permittee shall maintain at a minimum, a single well plugging bond in the amount that he/she shall determine, in accordance with Permit Conditions 2.D and 5.B, to cover potential costs associated with plugging and abandonment of the Class III well, surface restoration, environmental groundwater sampling and monitoring (if applicable), pipeline abandonment, along with five (5) years of surface subsidence monitoring unless historical monitoring data indicates otherwise. OCD

may require additional financial assurance to ensure adequate funding is available to plug and abandon the well and/or for any required environmental related corrective actions.

Methods by which the Permittee shall demonstrate the ability to undertake these measures shall include submission of a surety bond or other adequate financial assurances, such as financial statements or other financial documents acceptable to the OCD Director i.e., (1) Letter of Credit; (2) Surety Bond; and (3) Trust Fund). If an adequate bond is posted by the Permittee to a federal or another state agency, and this bond covers all of the measures specified above, the OCD Director shall consider this bond as satisfying the bonding requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC wholly or in part, depending upon the extent to which such bond is adequate to ensure that the Permittee will fully perform the measures required herein and above.

**2.J. ANNUAL REPORT:** The Permittee shall submit the annual report pursuant to 20.6.2.3107 NMAC to OCD's Engineering Bureau annually by December 31st of each year. The annual report shall include the following:

- Cover sheet marked as "Annual Class III Well Report, Name of Permittee, Discharge Permit Number, API number of well(s), date of report, and person submitting report;
- Summary of Class III well operations for the year including a description and reason for any remedial or major work on the well with a copy of OCD Form C-103;
- Monthly fluid injection and brine production volume, including the cumulative total carried over each year;
- Cavern characterization information and data results;
- Subsidence monitoring information and data results;
- Monitor well analytical data results;
- Injection pressure data;
- Pipeline hydrostatic test results;
- Pipeline visual leak inspection monitoring results;
- Copy of the quarterly chemical analyses shall be included with data summary tables all QA/QC and DQO information;
- Copy of any mechanical integrity test chart, including the type of test with date and time, test duration, start and end time, witnesses, pressure gauge calibration sheet, etc.;
- Brief explanation describing deviations from well monitoring and normal operations;
- Results of any OCD Form C-141 facility releases, leaks, spills and well or environmental corrective action reports;
- Area of Review (AOR) (Half Mile) update summary;
- Summary with interpretation of MITs, surface subsidence surveys, estimated cavern size and shape, cavern volume and geometry measurements with conclusion(s) and recommendation(s);
- Summary of the ratio of the monthly volume of injected fluids to the volume of produced brine;
- Summary of all major Facility activities or events, which occurred during the year with any conclusions and recommendations;
- Annual Surface Subsidence Monitoring Plan data results in accordance with Permit Condition 2.B.1;
- Annual Solution Cavern Characterization data results in accordance with Permit Condition 2.B.2; and
- File Annual Report via "OCD E-Permitting" with a hard copy submittal to OCD's Engineering Bureau.

## 3. CLASS III WELL OPERATIONS:

**Owner/Operator Commitments.** Once a permit is issued, the owner/operator must ensure all operations are consistent with the terms and conditions of the permit and in conformance with all pertinent rules and regulations under both the Water Quality Act and WQCC 20.6.2 NMAC. The owner/operator shall abide by all commitments submitted in the discharge permit application including any attachments and/or amendments along with these approval conditions. Applications which reference previously approved plans on file with the OCD shall be incorporated into this permit and the owner/operator shall abide by all commitments of such plans.

**3.A. OPERATING REQUIREMENTS:** The Permittee shall comply with the operating requirements specified in 20.6.2.5206A NMAC and 20.6.2.5206C NMAC to ensure that:

**1. Brine Production Method:** During the cavern development process and daily brine production, a "reverse flow" configuration consisting of freshwater injection shall occur through the 4-1/2 in. liner cemented within the 8-5/8 in. casing with brine production through the 2-7/8 in. tubing. Injection and production flow may temporarily be reversed as required periodically to clean salt from the tubing and annulus. However, a reverse flow configuration is required during daily injection and production must only occur in the intended solution mining interval.

During the brine well design, cavern development process, and daily brine production, a "reverse flow" configuration consisting of freshwater injection shall occur through the 4-1/2 in. liner cemented within the 8-5/8 in. casing at 1877 ft. into the Anhydrite "beds" above the Salado "Salt" Formation (Salado) at an average injection rate of 1,600 bbl./day (~ 47 gpm) with brine production through the 2-7/8 in. tubing set into the Salado "Salt" Formation (Salado) set at about 2,610 ft. bgl. Injection shall be below a permitted maximum surface injection pressure (MSIP) of 350 psig. Brine fluids from the Salado enter the 2-7/8 in. tubing to be produced at surface. The 8-5/8 in. steel casing set at 1,877 ft. bgl is backed by cement to surface. Freshwater is injected into the 4-1/2 in. liner which allows for proper salt cavern development and stability over time. The 8-5/8 in. casing and liner is set about 123 ft. above the Anhydrite-Salado contact. The top of the Salado is at about 2,000 ft. bgl. The brine cavern collapse ratio of D (estimated diameter of cavern in ft.) vs. H (depth to 4-1/2 in. liner) and corresponding safety factor approaching 0.45 shall be implemented to assess cavern maturity and prevent cavern ceiling collapse. Freshwater is supplied by a water supply well and groundwater remediation well. Freshwater and brine will be transported via separate buried (3 ft.) polyethylene pipelines between the brine well and brine station.

**2. Injection Out of Zone:** Injection between the outermost casing and the well bore is prohibited in a zone other than the authorized injection zones. If the Permittee determines that its Class III well is discharging or suspects that it is discharging fluids into a zone or zones other than the permitted injection zones specified in Permit Condition 3.B.1., then the Permittee shall within twenty-four (24) hours notify OCD's Engineering Bureau and Hobbs Office of the circumstances and action(s) taken. The Permittee shall cease operations until proper repairs are made and it has received approval from OCD to re-start injection operations.

**3. Pipeline:** Initial hydrostatic testing of pipeline is required for any pressure loss, leakage, etc. at joints. The hydrostatic test report with "as-built" pipeline transect and associated construction information shall be submitted to OCD for approval before pipeline activation. Mandatory Hydrostatic Testing of the pipeline is required after leakage and/or before the expiration date of the Permit. The pipeline shall be constructed with an Emergency Shut-Down Device with block off locations for pipeline isolation, access, cleaning, testing, etc. Daily pipeline inspection and monitoring is required at a minimum for the first week and each time the pipeline is brought back into service after shut-down, service work, etc. The pipeline shall be inspected within eight (8) hours of pipeline pressure loss, upset, etc. Weekly inspection and monitoring at a minimum is required thereafter. Inspection record keeping is required and shall include the date and time of each inspection, inspectors name and contact information, weather conditions with inspection summary, any conclusion on pipeline condition with any recommendations. Spills or release locations shall include GPS Coordinates and be handled in accordance with Permit Condition 2.G Release Reporting herein.

## 3.B. INJECTION OPERATIONS:

**1. Well Injection Pressure Limit:** The Permittee shall ensure that the maximum wellhead or surface injection pressure (MSIP) on the Class III well shall not exceed 350 psig the fracture pressure of the injection salt formation and will not cause new fractures or propagate any existing fractures or cause damage to the system and underground source of drinking water (USDW).

**2. Pressure Limiting Device:** The Permittee shall equip and operate its Class III well or system with a pressure limiting device which shall, at all times, limit surface injection pressure to the maximum allowable pressure of 350 psig for its Class III well. The Permittee shall monitor the pressure-limiting device daily and shall report all pressure exceedances within twenty-four (24) hours of detecting an exceedance to OCD' s Engineering Bureau.

The Permittee shall take all steps necessary to ensure that the injected fluids enter only the proposed injection

interval and is not permitted to escape to other formations, freshwater zones, or onto the ground surface. The Permittee shall report to OCD's Engineering Bureau within twenty-four (24) hours of discovery any indication that new fractures or existing fractures have been propagated, or that damage to the well, the injection zone, or formation has occurred.

**3.C. CONTINUOUS MONITORING DEVICES:** The Permittee shall use continuous monitoring devices to provide a record of surface injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.

**3.D. MECHANICAL INTEGRITY FOR CLASS III WELLS:**

**1.** Pursuant to 20.6.2.5204 NMAC, the Permittee shall demonstrate mechanical integrity for its Class Ill well at least once every five (5) years or more frequently as the OCD Director may require for good cause during the life of the well. The Permittee shall demonstrate mechanical integrity for its Class III well every time it performs a well workover, including when it pulls the tubing. A Class III well has mechanical integrity if there is no detectable leak in the casing or tubing which OCD considers to be significant at maximum operating temperature and pressure; and no detectable conduit for fluid movement out of the injection zone through the well bore or vertical channels adjacent to the well bore which the OCD Director considers to be significant. The Permittee shall conduct a casing Mechanical Integrity Test (MIT) from the surface to the approved injection depth to assess casing integrity. The casing MIT shall consist of a thirty (30) minute test at a minimum pressure of 500 psig measured at the surface when tubing is removed and a plug is installed within 20 ft. of the casing shoe depth. Alternatively, the MIT may consist of a casing/cavern four (4) hour test at a minimum pressure of 300 psig (or less based on the shallow depth of cavern) measured at the surface when the cavern and casing arc full and tubing remains in the well. More work is required in the "casing/cavern" test in the event of failure to determine the actual cause.

**2.** The Permittee shall submit an OCD Form C-103X Sundry via “E-Permitting” notifying OCD’s Engineering Bureau and Hobbs Office at least five (5) days prior to conducting any MIT to allow OCD the opportunity to approve and witness the MIT. A final OCD Form C-103Z Sundry shall be submitted via E-Permitting for any test and/or logging event.

**3.** The following criteria shall determine if the Class III well has passed the MIT:

- **a.** Passes MIT if zero bleed-off during the test.
- **b.** Passes casing MIT (30 minute) if final test pressure is within +/- 10% of starting pressure, if approved by OCD (Note: Passes +/- 1% of starting pressure for cavern MIT (4-hour) due to the massive volume of fluid present in the cavern and casing during this test).
- **c.** When the MIT is not witnessed by OCD and fails, the Permittee shall notify OCD within twenty-four (24) hours of the failure of the MIT.
- **d.** All chart recorder information, charts containing appropriate information, calibration sheets, witness signatures, etc. shall be provided to OCD within five (5) working days of completing an MIT via E-Permitting.

**4.** Pursuant to 20.6.2.5204C NMAC, the OCD Director may consider the use by the Permittee of equivalent alternate test methods to determine mechanical integrity. The Permittee shall submit information on the proposed test and all technical data supporting its use via E-Permitting. The OCD Director may approve the Permittee's request if it will reliably demonstrate the mechanical integrity of the well for which its use is proposed.

**5.** Pursuant to 20.6.2.5204D NMAC, when conducting and evaluating the MIT(s), the Permittee shall apply methods and standards generally accepted in the oil and gas industry. When the Permittee reports the results of all MITs on an OCD Form C-103Z Sundry via E-Permitting to the OCD Director. he/she shall include a description of the test(s), the method(s) used, and the test results.

**3.E. WELL WORK OVER OPERATIONS:** Pursuant to 20.6.2.5205A(5) NMAC, the Permittee shall provide notice to and shall obtain approval from OCD's Hobbs Office and the Engineering Bureau prior to commencement of any remedial work or any other workover operations to allow OCD the opportunity to witness the operation. The

Permittee shall request approval using OCD Form C-103G (Sundry Notice of Intent Work Overs) via E-Permitting to OCD's Engineering Bureau and Hobbs Office. Properly completed OCD Form C-103R (Sundry Subsequent) must be filed with OCD upon completion of workover activities via E-Permitting and copies shall be included in that year's Annual Report (See Permit Condition 2.J).

**3.F. FLUID INJECTION AND BRINE PRODUCTION VOLUMES AND PRESSURES:** The Permittee shall continuously monitor the volumes of water injection and brine production. The Permittee shall submit monthly reports of the injection and production volumes on or before the 10th day of the following month via the electronic OCD Form C-115 submittal process (Hardcopies to be provided upon request of OCD and in Annual Reports per Permit Condition 2.J). The Permittee shall suspend injection if the monthly injection volume relative percent difference (RPD) is less than or greater than 15%. If such an event occurs, the Permittee shall notify OCD within twenty-four (24) hours.

**3.G. AREA OF REVIEW (AOR):** The Permittee shall report within seventy-two (72) hours of discovery any new wells, conduits, or any other device that penetrates or may penetrate the injection zone within a 1/2-mile radius from its Class III well. OCD shall be notified within twenty-four (24) hours of having knowledge of any wells lacking cement within the cavern interval within a 1/2-mile radius from the Class III well.

**4. CLASS V WELLS:** Pursuant to 20.6.2.5002B(5) NMAC, leach fields and other waste fluid disposal systems that inject non-hazardous fluid into or above a USDW are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection wells for the disposal of industrial waste. Pursuant to 20.6.2.5005 NMAC, the Permittee shall close any Class V industrial waste injection well that injects non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (e.g., septic systems, leach fields, dry wells, etc.) within 90 calendar days of the issuance of this Discharge Permit. The Permittee shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated groundwater in its Annual Report. Other Class **V** wells, including wells used only for the injection of domestic wastes, shall be permitted by the New Mexico Environment Department.

**5. SCHEDULE OF COMPLIANCE:**

**5.A. ANNUAL REPORT:** The Permittee shall submit its annual report via E-Permitting to OCD by December 31st of each year (See Permit Condition 2.J)

**5.B. BONDING OR FINANCIAL ASSURANCE:** The Permittee shall submit an estimate of the minimum cost to properly close, plug and abandon its UIC Class III well, conduct land or groundwater restoration if applicable, and any post- operational monitoring as may be needed (See 20.6.2.5210B(17) NMAC) within ninety (90) days of permit issuance (See 20.6.2.5210B(17) NMAC), and/or the Closure Plan addresses this requirement and is approved by OCD. The Permittee's cost estimate shall be based on third person estimates and included in the Closure Plan with the application. OCD will require the Permittee to submit a single well plugging bond based on the approved third person cost estimate for OCD approval before OCD may issue approval to drill, construct and/or continue to operate the well (See Permit Conditions 2.D and 2.I).

**5.C. SURFACE SUBSIDENCE MONITORING PLAN:** The Permittee shall submit the Surface Subsidence Monitoring Plan required in accordance with Permit Condition 2.B.1 within one hundred-eighty (180) days of permit issuance for OCD approval unless the plan has already been approved by OCD. Monitoring information and data shall be reported under Permit Condition 2.J.

**5.D. SOLUTION CAVERN CHARACTERIZATION PLAN:** The Permittee shall submit the Solution Cavern Characterization Plan required in accordance with Permit Condition 2.B.2 within one hundred-eighty (180) days or permit issuance for OCD approval unless the plan has already been approved by OCD. Characterization information and data shall be reported under Permit Condition 2.J.

**END OF PERMIT CONDITIONS**