

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION IX (EPA)  
UNDERGROUND INJECTION CONTROL (UIC) PROGRAM**

**FINAL PERMIT**

**Class IID Water Injection Well**

**Permit No. NN207000003**

**Well Name: West Bisti SWD #1**

**San Juan County, New Mexico**

**Navajo Nation**

**Lease No. NMSF-078155**

**Issued to:**

**Dugan Production Corporation  
Attn: Mr. Kurt Fagrelus  
709 East Murray Drive  
P.O. Box 420  
Farmington, NM 87499-0420**

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## PART I. AUTHORIZATION TO OPERATE AND INJECT

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

Dugan Production Corporation  
Attn: Mr. Kurt Fragelius  
709 East Murray Drive  
Farmington, NM 87499-0420

is hereby authorized to drill, construct, and operate a new Class IID water injection well, to be known as the West Bisti SWD (Salt Water Disposal) #1. The well will be located on Indian lands in Section 35, T26N, R13W, at thirty-six (36) degrees twenty-seven (27) minutes forty-two (42) seconds latitude and one-hundred-eight (108) degrees eleven (11) minutes nine (9) seconds longitude, in San Juan County, New Mexico.

Injection shall be for the purpose of disposing of produced water from the Gallup Sandstone and Fruitland Coal formations into the Entrada Sandstone, in accordance with conditions set forth herein; the source of the produced water is from current and future wells operated by the Permittee


All conditions set forth herein refer to Title 40 Parts 124, 144, 145, 146, 147, and 148 of the Code of Federal Regulations and are regulations that are in effect on the date that this permit becomes effective.

This permit consists of a total of twenty (20) pages 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 and understand all provisions of this 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, Section B of this permit. The permit will expire upon delegation of primary enforcement responsibility for the UIC Class II Program to an appropriate agency of the Navajo Nation, unless that agency has the appropriate authority and chooses to adopt and enforce this permit as a Tribal permit. The permit shall be reviewed by EPA every 5 years.

Issued this 2<sup>nd</sup> day of November 2007

This permit shall become effective 11/2/07

  
Alexis Strauss  
Director, Water Division

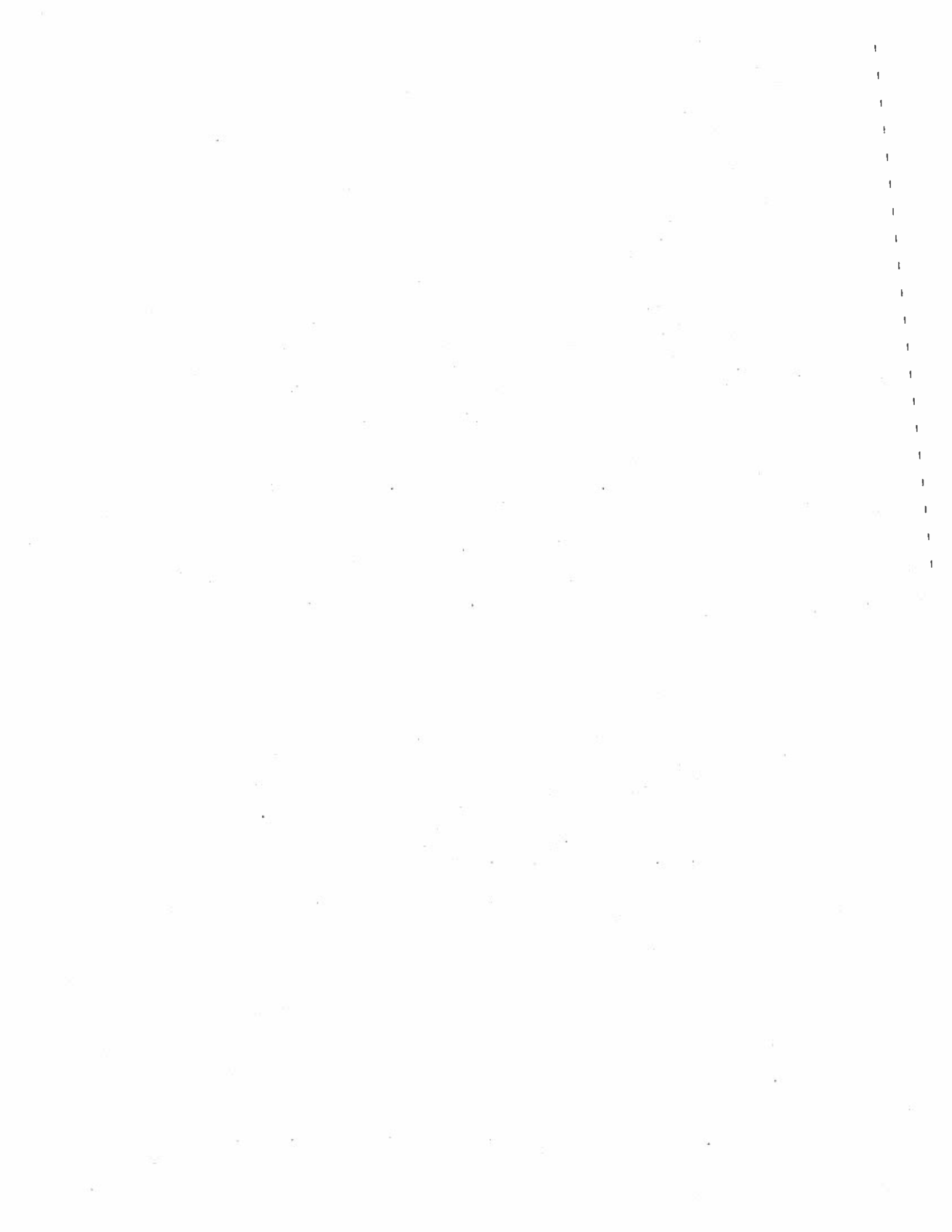
## PART II. SPECIFIC PERMIT CONDITIONS

### A. WELL CONSTRUCTION

1. Casing and Cementing. The construction details submitted with the permit application are incorporated into this permit as APPENDIX C (Well Schematic), and shall be binding on the Permittee. The well will be cased and cemented to prevent the movement of fluids in the casing wellbore annulus, from the casing shoe at approximately 7165 feet to the surface. The casing shall be maintained throughout the operating life of the well. Advanced notice of casing and cementing operations will be given to EPA<sup>1</sup> so that an EPA representative may be present to monitor those operations. Final construction details will be provided in a modified well schematic after drilling and well construction is complete, within thirty (30) days of well completion.
2. Formation Logging and Testing. A Dual Induction Log (DIL) will be run from total depth (TD) to surface and Gamma Ray/Compensated Neutron Log/Compensated Density Logs (GR/CNL/CDL), Micro Log (ML), AND Cement Bond Log/Gamma Ray (CBL/GR) logs will be run from TD to the bottom of surface casing. Static formation pressure of the Morrison/Entrada injection zone will be measured prior to injection and annually after a well shut-in period of at least seventy-two (72) hours duration, and will be reported to the Director<sup>2</sup> within thirty (30) days of the measurement. A pressure fall-off test will be conducted within thirty (30) days of commencing injection, for the determination of hydraulic conductivity of the injection zone. The Region 9 EPA guidance document for conducting a fall-off test can be found in Appendix D. The test results and evaluation will be reported to the Director within five (5) days of the test and will be subject to the Director's review and approval. Advance notice of logging and fall off test operations shall be given to the Director, so that an EPA representative may be present to witness/monitor those operations.
3. Monitoring Devices. The operator shall install and maintain in good operating condition:
  - (a) A tap on the discharge line between the injection pump and the wellhead for the purpose of obtaining representative samples of the injection fluids;
  - (b) Two one-half (½) inch FIP (female) fittings, isolated by plug or globe valves, and positioned to provide for either (1), the permanent attachment of one-half (½) inch MIP (male) gauges, or (2), the attachments for equivalent "quick-disconnect" gauges at the wellhead on the injection tubing and on the tubing/casing annulus. The gauges used shall be of a design to provide (1), a full pressure range of 100 percent greater than the anticipated operating pressure, and (2), a certified deviation accuracy of five (5) percent or less throughout the operating pressure range;

<sup>1</sup> "EPA" refers to the Ground Water Office Manager, U.S. Environmental Protection Agency Region IX, with the associated address shown in part II.D.4

<sup>2</sup> "Director" refers to the Water Division Director, EPA Region IX



- (c) A flow meter with measured cumulative volumes that are certified for a deviation accuracy of five (5) percent or less throughout the range of injection rates allowed by the permit.
- 4. Proposed Changes and Workovers. The Permittee shall give advance notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted injection well. Any changes in the well construction will require prior approval of the Director and a permit modification under the requirements of 40 CFR Part 144.39.

In addition, the Permittee shall provide all records of well completions, workovers, logging, or other subsequent test data, including required mechanical integrity testing, to the Director within thirty (30) days of completion of the activity. Appendix B contains samples of the appropriate reporting forms. Demonstration of mechanical integrity shall be performed within thirty (30) days of completion of workovers or alterations and prior to resuming injection activities in accordance with Part II, Section C.1.(a) of this permit.

## **B. CORRECTIVE ACTION**

No corrective action will be required on the other wells within the area of review (AOR) since those wells do not penetrate the injection zone. The AOR will be reevaluated upon completion of the well and annually thereafter and may be enlarged if the zone of endangering influence (ZEI), to be calculated from log and formation pressure data, exceeds the one-half mile radius of the AOR. Additional wellbores that may penetrate the expanded AOR will then be considered for corrective action in accordance with the provisions of 40 CFR §§ 144.55 and 146.7.

## **C. WELL OPERATION**

### **1. Mechanical Integrity.**

#### **(a) Method for Demonstrating Mechanical Integrity.**

- (i) All injection wells must have and maintain mechanical integrity consistent with 40 CFR §146.8. The Permittee must show that there are no significant leaks in the casing and tubing and that there is no significant fluid movement into any Underground Sources of Drinking Water (USDWs, per 40 CFR §144.3) through vertical channels adjacent to the injection wellbore or into the casing/wellbore annulus.
- (ii) The Permittee will demonstrate that no significant leaks exist by means of a shut-in annular pressure test. The casing/tubing annulus must hold a pressure equal to the maximum allowable injection pressure for a period of thirty (30) minutes with no more than a five (5) percent change in pressure and a differential of at least three hundred (300) psig pressure must be maintained between the tubing and casing/tubing annulus for the duration of the test.

- (iii) The Permittee will fulfill the requirements listed in 40 CFR §146.8 for demonstrating the absence of fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore. The Permittee will run a cement bond log to demonstrate the isolation of the injection interval and other formations from underground sources of drinking water. USDWs will be protected by means of cementing the long string casing/wellbore annulus from total depth (TD) feet to the surface and placement and cementing of surface casing from approximately 480 feet to surface, in addition to the installation of tubing and packer assemblies through which injection will occur.
- (b) Prohibition Without Demonstration. Injection into this well may continue after the effective date of this permit only if:
  - (i) the well has passed a mechanical integrity test (MIT) in accordance with Part II Section C.1.(a) of this permit and
  - (ii) the Permittee has received written notice from the Director that the MIT demonstration is satisfactory.

The Permittee shall notify the Director of intent to demonstrate mechanical integrity at least thirty (30) days prior to an official test, unless shorter notice is approved by the Director.

- (c) Subsequent Mechanical Integrity Demonstrations
  - (i) A demonstration of mechanical integrity in accordance with provisions of EPA REGION IX MECHANICAL INTEGRITY TEST (MIT) PART I: REQUIREMENTS FOR INTERNAL TEST, a copy of which is contained in Appendix D attached hereto, shall be conducted at least once every five (5) years during the life of the well. Mechanical integrity shall also be demonstrated within thirty (30) days of the time that a workover is conducted or the seal is broken at the wellhead assembly, the construction of the well is modified, or when a loss of mechanical integrity becomes evident during operation.
  - (ii) It shall be the Permittee's responsibility to arrange and conduct the mechanical integrity demonstrations. The Permittee shall notify the Director of intent to demonstrate mechanical integrity at least thirty (30) days in advance of the demonstration, or a shorter time if approved by the Director. A subsequent notification must be given to the Navajo Nation UIC office at least seventy-two (72) hours in advance of the MIT in order to arrange for a representative to witness the MIT. Results of the test shall be submitted to the Director as soon as possible, but not later than sixty (60) days after the demonstration.
  - (iii) In addition to any demonstration made under paragraph (I) above, the Director may require a demonstration of mechanical integrity at any time during the permitted life of the well.



(d) Loss of Mechanical Integrity. The Permittee shall notify the Director, in accordance with Part III, Section E, paragraph 10 of this permit, under any of the following circumstances:

- (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.

Furthermore, in the event of (i), (ii), or (iii), injection activities shall be terminated immediately and operation shall not be resumed until the Permittee has taken necessary actions to restore mechanical integrity to the well and the Director gives approval to recommence injection

2. Injection Interval(s). Injection shall be permitted for the Entrada Sandstone in the approximate gross subsurface interval of 6915 to 7115 feet, subject to minor modification after reviewing the well logs. Enlarging or changing the injection interval outside of that interval is considered a major permit modification and will require public notice and the Director's approval. Any alteration of the injection interval and other rework operations must be properly reported (EPA Form 7520-12, see Appendix B) and the well must demonstrate mechanical integrity before injection is resumed.
3. Injection Pressure Limitation(s). The injection pressure shall not exceed a surface (wellhead) injection pressure determined from a calculation of maximum allowable injection pressure equal to 0.2 psi/foot multiplied by the actual depth to the top of the injection interval. The actual formation fracture pressure may be determined from a fracture treatment of the injection zone, if undertaken by the operator; the maximum allowable injection pressure may be adjusted downward at that time, depending on the results of that determination. The maximum allowable injection pressure may be increased only if a valid step-rate test has been conducted and approved by the EPA. Appendix D contains acceptable step-rate reference materials. The test will be evaluated and a maximum allowable injection pressure will be determined by EPA, the results of which will be incorporated into this permit as the maximum allowable injection pressure. This will be considered a minor permit modification and will not be open for further public comment.
4. Injection Volume (Rate) Limitation.
  - (a) The maximum injection rate shall be limited to 6000 barrels per day, subject to the maximum allowable injection pressure. The average injection rate will be 5000 barrels per day.
  - (b) The Permittee may request an increase in the average and maximum rates allowed in paragraph (a). Any such request shall be made in writing and shall be appropriately justified to the Director.
  - (c) Should any increase in rate be requested, the Permittee shall demonstrate to the satisfaction of the Director that the increase in volume will not cause migration

of formation or injected fluids into any USDW above or below the injection zone, nor cause any injected fluids to move beyond the Area of Review.

5. Injection Fluid Limitation.

- (a) The Permittee shall not inject any hazardous wastes as defined by the Resource Conservation and Recovery Act (RCRA, see 40 CFR §261) at any time during the operation of the facility.
- (b) The well shall be used only for the injection of water produced in connection with the Gallup formation oil and Fruitland Coal seam gas production in the area, and produced only from wells owned and operated by the Permittee.
- (c) Fluids to be injected other than those described in paragraph (b) above shall be limited to occasional minor amounts of well treatment fluids such as dilute acids and corrosion inhibiting fluids. Injection of any fluids other than those described in paragraph (b) above shall be reported to the Director within thirty (30) days.

**D. MONITORING, RECORDKEEPING, AND REPORTING OF RESULTS**

1. Injection Well Monitoring Program. Samples and measurements shall be representative of the monitored activity. The Permittee shall utilize the applicable analytical methods described in Table I of 40 CFR §136.3 or, in certain circumstances, other methods that have been approved by the EPA Administrator. Monitoring shall consist of:

- (a) Annually, or whenever there is a change in injection fluids, the following analyses of injection fluids shall be performed:
  - (i) Total Dissolved Solids;
  - (ii) Major ions;
  - (iii) pH;
  - (iv) Specific Conductance;
  - (v) Specific Gravity; and
  - (vi) Viscosity.
- (b) Annually, measurement of static reservoir pressure; and
- (c) Weekly, observations of injection pressure, annulus pressure, flow rate and cumulative volume. Written records of these weekly observations shall be made at least monthly.

2. Monitoring Information. Records of any monitoring activity required under this permit shall include:

- (a) Date, exact place, and the time of sampling or field measurements;
- (b) Name of individual(s) who performed sampling or measurements;
- (c) Exact sampling method(s) used;

- (d) Date(s) the laboratory analyses were performed;
- (e) Name of individual(s) who performed the analyses;
- (f) Types of analyses; and
- (g) Results of analyses.

3. Recordkeeping.

**The Permittee shall retain the following records and shall have them available at all times for examination at the lease facility:**

- (a) Information on the nature and composition of all injected fluids until three (3) years after the plugging and abandonment has been carried out in accordance with the Plugging and Abandonment Plan shown in Appendix A,
- (b) All monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit, for a period of at least five (5) years from the date of the sample, measurement or report throughout the operating life of the well,
- (c) Monthly records of weekly observation records as required in Part II, Section D.1(c),
- (d) Records and results of MITs or any other tests required by the Director, and
- (e) Any well workover records.

The Permittee shall continue to retain such records, including those corresponding to the retention periods specified in paragraphs (a) and (b), unless it delivers the records to the Director or obtains written approval from the Director to discard the records.

4. Reporting.

Annually, the Permittee shall submit a report to the Director summarizing the results of the monitoring required by Part II, Sections A.2, D.1 and 2 of this permit. The results of annual measurement of static reservoir pressure and monthly records of flow rates, volumes, pressures, and injected fluid, and any major changes in the characteristics or sources of injected fluid shall be included in the Annual Report. The first Annual Report shall cover the period from the effective date of the permit through December 31, 2007 and shall be submitted by January 31, 2008. Subsequently, the Annual Report shall cover the period of January 1 through December 31, and shall be submitted by January 31 of the following year. Appendix B contains Form 7520-11, which may be copied and used to submit the annual summary of monitoring.

Monitoring reports and all other reports required by this permit shall be submitted to the following address:

U.S. Environmental Protection Agency, Region IX  
Ground Water Office Manager (Mail Code WTR-9)  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Copies of all reports shall also be provided to the following:

Underground Injection Control Program  
Navajo Nation EPA  
P.O. Box 1999  
Shiprock, NM 87420

**E. PLUGGING AND ABANDONMENT**

1. Notice of Plugging and Abandonment. The Permittee shall notify the Director forty-five (45) days before further conversion, workover, or abandonment of the well. The Director may require that the plugging and abandonment be witnessed by an EPA representative.
2. Plugging and Abandonment Plan. The Permittee shall plug and abandon the well as provided in the Plugging and Abandonment Plan and Schematic diagram in Appendix A. The EPA reserves the right to change the manner in which the well will be plugged if the well is modified during its permitted life or if the well is not made consistent with EPA requirements for construction and mechanical integrity. The Director may ask the Permittee to estimate and to update the estimated plugging cost periodically. Such estimates shall be based upon costs which a third party would incur to plug the well according to the plan.
3. Cessation of Injection Activities: After a cessation of operations of two (2) years, the Permittee shall plug and abandon the well in accordance with the Plugging and Abandonment Plan, unless it:
  - (a) has provided notice to the Director;
  - (b) has demonstrated that the well will be used in the future, and
  - (c) has described actions or procedures, satisfactory to the Director that will be taken to ensure that the well will not endanger underground sources of drinking water during the period of temporary abandonment.
4. Plugging and Abandonment Report. Within sixty (60) days after plugging the well, the Permittee shall submit a report on Form 7520-14 (Appendix B), or an equivalent form, to the Director. The report shall be certified as accurate by the person who performed the plugging operation and the report shall consist of either: (1) a statement that the well was plugged in accordance with the plan, or (2) where actual plugging differed from the plan, a statement specifying the different procedures followed.

## **F. FINANCIAL RESPONSIBILITY**

### **1. Demonstration of Financial Responsibility.**

The Permittee is required to maintain financial responsibility and resources to close, plug, and abandon the injection well as provided in the plugging and abandonment plan and in accordance with 40 CFR §144.52(a)(7). The Permittee shall not substitute an alternative demonstration of financial responsibility from that which the Director has approved, unless the Permittee has previously submitted evidence of that alternative demonstration to the Director and the Director has notified the Permittee in writing that the alternative demonstration is acceptable.

- (a) Plugging and abandonment costs for the subject well are covered by an Irrevocable Standby Letter of Credit (Wells Fargo Bank, N.A. #NZS592729) in the amount of \$36,000 and an associated standby trust agreement. The beneficiary of said financial instrument is the U.S. Environmental Protection Agency.
- (b) The financial responsibility mechanism shall be reviewed and updated periodically, upon request of the Director. The Permittee may be required to change to an alternate method of demonstrating financial responsibility, such as a surety bond or trust fund which names EPA as the beneficiary. Any such change must be approved in writing by the Director prior to the change.

### **2. Insolvency of Financial Institution.**

The Permittee must submit an alternate instrument of financial responsibility acceptable to the Director within sixty (60) days after either of the following events occurs:

- (a) The trustee financial institution issuing the financial instrument files for bankruptcy; or
- (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.

Failure to submit an acceptable financial demonstration will 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 the Director 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 the commencement of the proceeding. 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.

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

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

The Permittee is allowed to engage in underground injection in accordance with the conditions of this permit. The Permittee, as authorized by this permit, shall not construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR §142 or otherwise adversely affect the health of persons.

Any underground injection activity not authorized in this permit or otherwise authorized by permit or rule is prohibited. 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. Compliance with the terms of this permit does not constitute a defense to any enforcement action brought under the provisions of Section 1431 of the Safe Drinking Water Act (SDWA) or any other law governing protection of public health or the environment for any imminent and substantial endangerment to human health or the environment, nor does it serve as a shield to the Permittee's independent obligation to comply with all UIC regulations.

### **B. PERMIT ACTIONS**

#### **1. Modification, Revocation and Re-issuance, or Termination.**

The Director may, for cause or upon request from the Permittee, modify, revoke and reissue, or terminate this permit in accordance with 40 CFR Sections 124.5, 144.12, 144.39, and 144.40. 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 re-issuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

#### **2. Transfers.**

This permit may only be transferred after notice is provided to the Director and the Permittee complies with the requirements of 40 CFR §144.38. The Director may require modification or revocation and re-issuance 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 remainder of this permit shall not be affected.

#### **D. CONFIDENTIALITY**

In accordance with 40 CFR Part 2 and 40 CFR §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 in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

1. The name and address of the Permittee, or
2. Information which deals with the existence, absence, or level of contaminants in drinking water.

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

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and re-issuance, or modification. 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 be subject to such actions pursuant to RCRA. Any person who willfully violates permit conditions may be subject to criminal prosecution.
3. Need to Halt or Reduce Activity not a Defense. It shall not be a defense, for a 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 or 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 which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes 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. Duty to Provide Information. The Permittee shall furnish the Director, within a time specified, any information which the Director 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 the Director, upon request, copies of records required to be kept by this permit.
7. Inspection and Entry. The Permittee shall allow the Director, 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 must be kept under the conditions of this permit;
  - (c) inspect 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.
8. Records of the Permit Application. The Permittee shall maintain records of all data required to complete the permit application and any supplemental information submitted for a period of five (5) years from the effective date of this permit. This period may be extended by request of the Director at any time.
9. Signatory Requirements. All reports or other information requested by the Director shall be signed and certified by a responsible corporate officer or duly authorized representative according to 40 CFR §144.32.
10. Reporting of Noncompliance.
  - (a) Anticipated Noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
  - (b) 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 no later than thirty (30) days following each schedule date.
  - (c) Twenty-four Hour Reporting.
    - (i) The Permittee shall report to the Director any noncompliance which may endanger health or the environment. Information shall be provided within twenty-four (24) hours from the time the Permittee



becomes aware of the circumstances by telephoning the EPA project officer. The following information shall be included in the verbal report:

- (A) Any monitoring or other information which indicates that any contaminant may cause endangerment to an underground source of drinking water.
  - (B) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.
- (ii) A written submission shall also be provided 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 non compliance, including exact dates and times, and 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.
- (d) Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part II, Section D.1 and 2 of this permit.
- (e) Other Information. Where the Permittee becomes aware that it failed to submit all relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall submit such facts or information within two (2) weeks of the time such information becomes known.

## APPENDIX A - Plugging and Abandonment Plan (s)


 United States Environmental Protection Agency  
 Washington, DC 20460

**PLUGGING AND ABANDONMENT PLAN**

Name and Address of Facility

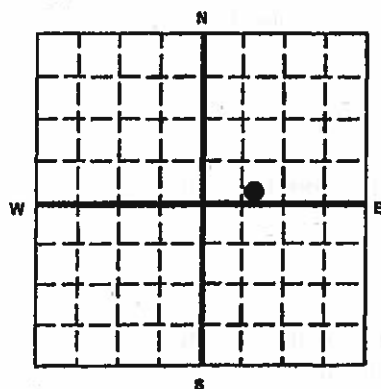
West Bisti SWD #1

Sec. 35, T26N, R13W, 2500' FNL-1855' FEL

Name and Address of Owner/Operator

Dugan Production Corp.

709 E. Murray Dr., Farmington, NM 87401

 Locate Well and Outline Unit on  
 Section Plat - 640 Acres


State

NM

County

San Juan

Permit Number

Surface Location Description

1/4 of SW 1/4 of NE 1/4 of Section 35, Township 26N, Range 13W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface 2500' FNL &amp; 1855' FEL of Sec. 35, T26N, R13W

Location \_\_\_\_ ft. from (N/S) \_\_\_\_ Line of quarter section

and \_\_\_\_ ft. from (E/W) \_\_\_\_ Line of quarter section.

TYPE OF AUTHORIZATION

☒ Individual Permit☐ Area Permit☐ Rule

Number of Wells \_\_\_\_

WELL ACTIVITY

☐ CLASS I☒ CLASS II☒ Brine Disposal☐ Enhanced Recovery☐ Hydrocarbon Storage☐ CLASS III

Lease Name

Well Number

West Bisti SWD #1

## CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
8-5/8	24#	480'	480'	12-1/4"
5-1/2	15.5#	6400'	6400'	7-7/8"
5-1/2	17#	765'	765'	7-7/8"

## METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☒ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☐ Other

## CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inches)	5-1/2"	5-1/2"	5-1/2"	5-1/2"	5-1/2"	5-1/2"	5-1/2"
Depth to Bottom of Tubing or Drill Pipe (ft)	6965'	5790'	4645'	2590'	1245'	895'	530'
Sacks of Cement To Be Used (each plug)	17-sks	17-sks	17-sks	34-sks	17-sks	17-sks	55-sks
Slurry Volume To Be Pumped (cu. ft.)	20-cf	20-cf	20-cf	20-cf	20-cf	20-cf	65-cf
Calculated Top of Plug (ft.)	6865'	5690'	4545'	1990'	1145'	795'	Surface
Measured Top of Plug (if tagged ft.)							
Slurry Wt. (Lb./Gal.)	15.6#	15.6#	15.6#	15.6#	15.6#	15.6#	15.6#
Type Cement or Other Material (Class III)	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5	Type 5

## LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
Proposed Perforations			
6915'	7115'		

Estimated Cost to Plug Wells

\$30,050.00

## Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

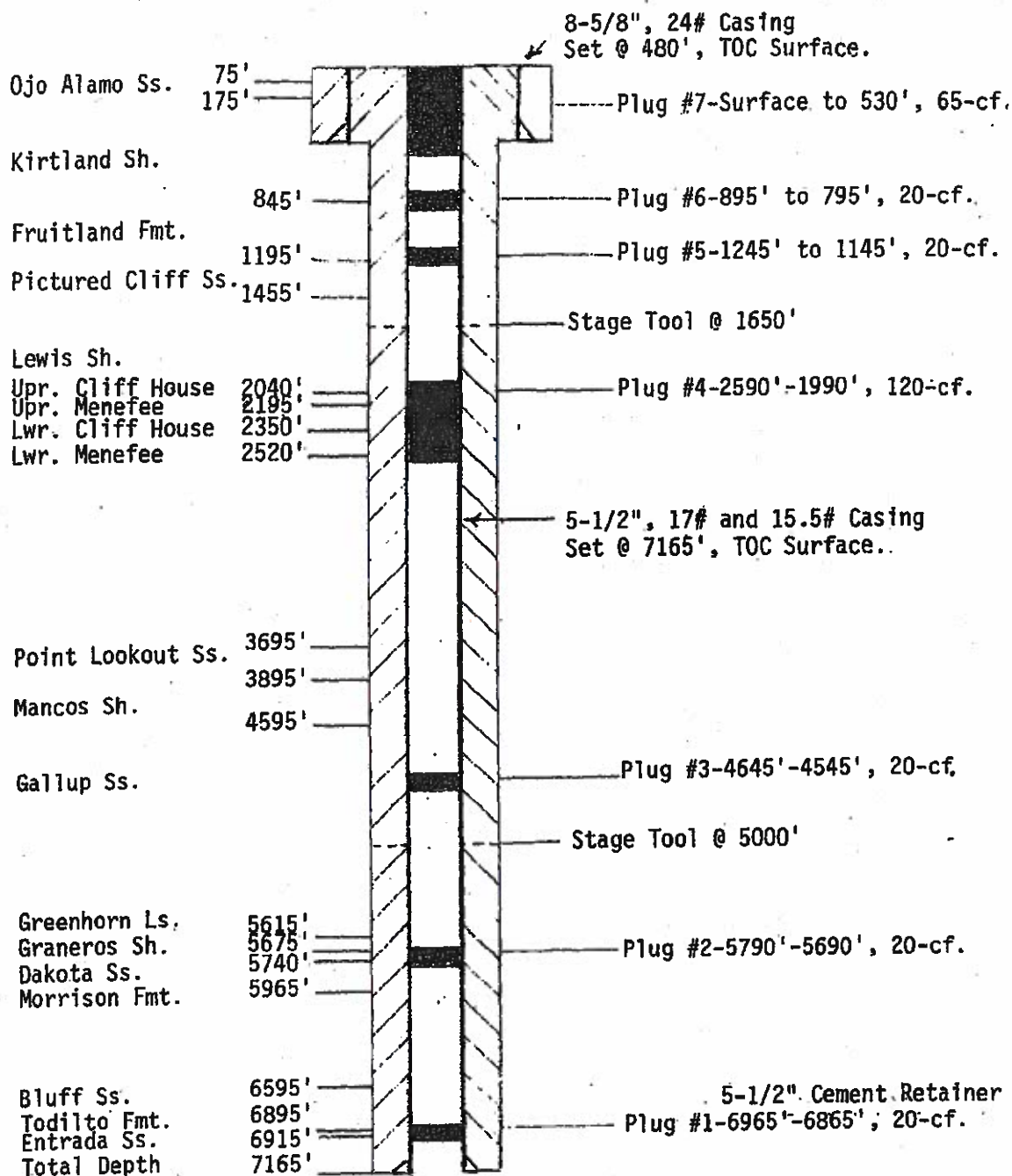
Kurt Fagrelus, VP Exploration

Signature

Date Signed

2-2-2007

## Well-Bore Diagram of Plugging and Abandonment Plan



Dugan Production Corp.  
 West Bisti SWD #1  
 Sec. 35, T26N, R13W  
 2500' FNL and 1855' FEL  
 San Juan County, New Mexico

Salt Water Disposal Application

## **APPENDIX B - Reporting Forms and Instructions**

1. EPA Form 7520 -7:APPLICATION TO TRANSFER PERMIT
2. EPA Form 7520-10:WELL COMPLETION REPORT
3. EPA Form 7520-11:ANNUAL WELL MONITORING REPORT
4. EPA Form 7520-12:WELL REWORK RECORD
5. EPA Form 7520-14:PLUGGING AND ABANDONMENT PLAN



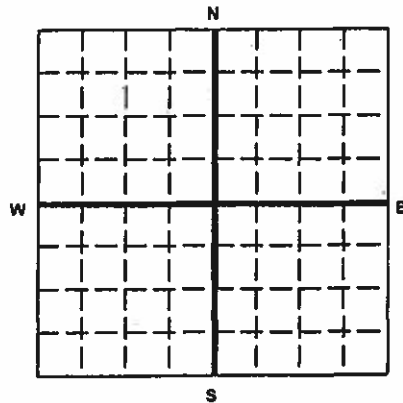
United States Environmental Protection Agency  
Washington, DC 20460

## Application To Transfer Permit

Name and Address of Existing Permittee

Name and Address of Surface Owner

Locate Well and Outline Unit on  
Section Plat - 640 Acres



State

County

Permit Number

Surface Location Description

☐ 1/4 of ☐ 1/4 of ☐ 1/4 of ☐ 1/4 of Section ☐ Township ☐ Range ☐

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

Location ☐ ft. from (N/S) ☐ Line of quarter section

and ☐ ft. from (E/W) ☐ Line of quarter section.

Well Activity

Well Status

Type of Permit

☐ Class I

☐ Operating

☐ Individual

☐ Class II

☐ Modification/Conversion

☐ Area

☐ Brine Disposal

☐ Proposed

Number of Wells ☐

☐ Enhanced Recovery

☐ Hydrocarbon Storage

☐ Class III

☐ Other

Lease Number

Well Number

Name(s) and Address(es) of New Owner(s)

Name and Address of New Operator

*Attach to this application a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them.*

*The new permittee must show evidence of financial responsibility by the submission of a surety bond, or other adequate assurance, such as financial statements or other materials acceptable to the Director.*

### Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed

## PAPERWORK REDUCTION ACT

The public reporting and record keeping burden for this collection of information is estimated to average 5 hours per response. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

### Well Class and Type Code

**Class I** Wells used to inject waste below the deepest underground source of drinking water.

**Type "I"** Nonhazardous industrial disposal well  
**"M"** Nonhazardous municipal disposal well  
**"W"** Hazardous waste disposal well injecting below USDWs  
**"X"** Other Class I wells (not included in Type "I," "M," or "W")

**Class II** Oil and gas production and storage related injection wells.

**Type "D"** Produced fluid disposal well  
**"R"** Enhanced recovery well  
**"H"** Hydrocarbon storage well (excluding natural gas)  
**"X"** Other Class II wells (not included in Type "D," "R," or "H")

**Class III** Special process injection wells.

**Type "G"** Solution mining well  
**"S"** Sulfur mining well by Frasch process  
**"U"** Uranium mining well  
**"X"** Other Class III wells (not included in Type "G," "S," or "U")

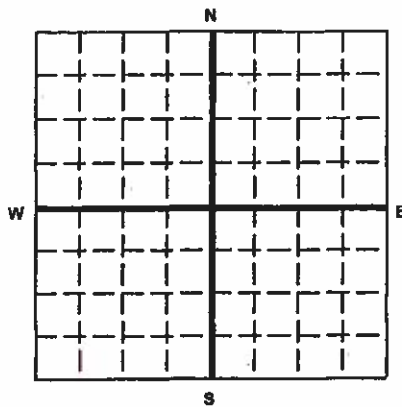
**Other Classes** Wells not included in classes above.  
Class V wells which may be permitted under § 144.12  
Wells not currently classified as Class I, II, III, or V


 United States Environmental Protection Agency  
 Washington, DC 20460

**COMPLETION REPORT FOR BRINE DISPOSAL,  
 HYDROCARBON STORAGE, OR ENHANCED RECOVERY**

Name and Address of Existing Permittee

Name and Address of Surface Owner

 Locate Well and Outline Unit on  
 Section Plat - 640 Acres


State

County

Permit Number

Surface Location Description

☐ 1/4 of ☐ 1/4 of ☐ 1/4 of ☐ 1/4 of Section ☐ Township ☐ Range ☐

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

 Location  ft. from (N/S)  Line of quarter section  
 and  ft. from (E/W)  Line of quarter section.

WELL ACTIVITY

TYPE OF PERMIT

☐ Brine Disposal☐ IndividualEstimated Fracture Pressure  
of Injection Zone☐ Enhanced Recovery☐ Area☐ Hydrocarbon StorageNumber of Wells 

Anticipated Daily Injection Volume (Bbls)

Injection Interval

Average

Maximum

Feet

to Feet

Anticipated Daily Injection Pressure (PSI)

Depth to Bottom of Lowermost Freshwater  
Formation (Feet)

Average

Maximum

Type of Injection Fluid (Check the appropriate block(s))

☐ Salt Water☐ Brackish Water☐ Fresh Water☐ Liquid Hydrocarbon☐ Other

Lease Name

Well Number

Name of Injection Zone

Date Drilling Began

Date Well Completed

Permeability of Injection Zone

Date Drilling Completed

Porosity of Injection Zone

## CASING AND TUBING

## CEMENT

## HOLE

OD Size

Wt/Ft - Grade - New or Used

Depth

Sacks

Class

Depth

Bit Diameter

## INJECTION ZONE STIMULATION

## WIRE LINE LOGS, LIST EACH TYPE

Interval Treated

Materials and Amount Used

Log Types

Logged Intervals

Complete Attachments A -- E listed on the reverse.

## Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed



## **ATTACHMENTS**

- A. Present a schematic or other appropriate drawing of the surface and subsurface construction details of the well as built.
- B. Describe the method and results of mechanical integrity testing.
- C. Present the results of that portion of those logs, test, and cores which specifically relate to (1) underground sources of drinking water and the confining zone(s) and (2) the injection and adjacent formations.
- D. Present the status of corrective action on defective wells in the area of review.
- E. Provide to EPA, with the completion report, one final print of all geophysical logs run.

## **PAPERWORK REDUCTION ACT**

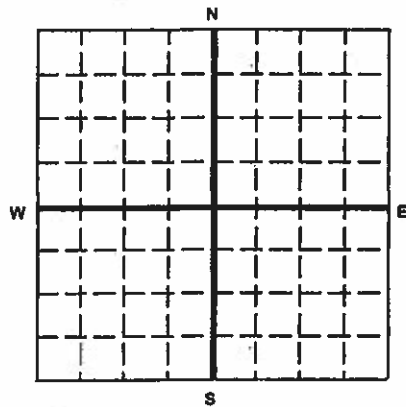
The public reporting and record keeping burden for this collection of information is estimated to average 4 hours per well. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.


 United States Environmental Protection Agency  
 Washington, DC 20460

**ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT**

Name and Address of Existing Permittee

Name and Address of Surface Owner

 Locate Well and Outline Unit on  
 Section Plat - 640 Acres


State

County

Permit Number

Surface Location Description

☐ 1/4 of ☐ 1/4 of ☐ 1/4 of ☐ 1/4 of Section ☐ Township ☐ Range ☐

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

 Location  ft. from (N/S)  Line of quarter section

 and  ft. from (E/W)  Line of quarter section.

WELL ACTIVITY

TYPE OF PERMIT

☐ Brine Disposal☐ Individual☐ Enhanced Recovery☐ Area☐ Hydrocarbon StorageNumber of Wells Lease Name Well Number 

INJECTION PRESSURE

TOTAL VOLUME INJECTED

TUBING - CASING ANNULUS PRESSURE  
(OPTIONAL MONITORING)

MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Certification**

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed

## **PAPERWORK REDUCTION ACT**

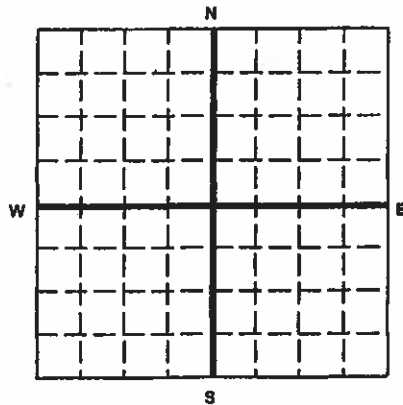
The public reporting and record keeping burden for this collection of information is estimated to average 25 hours annually for operators of Class I wells and 5 hours annually for operators of Class II wells. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.


 United States Environmental Protection Agency  
 Washington, DC 20460

**WELL REWORK RECORD**

Name and Address of Permittee

Name and Address of Contractor

 Locate Well and Outline Unit on  
 Section Plat - 640 Acres


State

County

Permit Number

Surface Location Description

 1/4 of  1/4 of  1/4 of  1/4 of Section  Township  Range 

Locate well in two directions from nearest lines of quarter section and drilling unit.

Surface

Location  ft. from (N/S)  Line of quarter sectionand  ft. from (E/W)  Line of quarter section.

## WELL ACTIVITY

- ☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage

Lease Name

Total Depth Before Rework

Total Depth After Rework

Date Rework Commenced

Date Rework Completed

## TYPE OF PERMIT

- ☐ Individual  
☐ Area

Number of Wells 

Well Number

## WELL CASING RECORD -- BEFORE REWORK

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

## WELL CASING RECORD -- AFTER REWORK (Indicate Additions and Changes Only)

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

 DESCRIBE REWORK OPERATIONS IN DETAIL  
 USE ADDITIONAL SHEETS IF NECESSARY

## WIRE LINE LOGS, LIST EACH TYPE

Log Types

Logged Intervals

**Certification**

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed

## **PAPERWORK REDUCTION ACT**

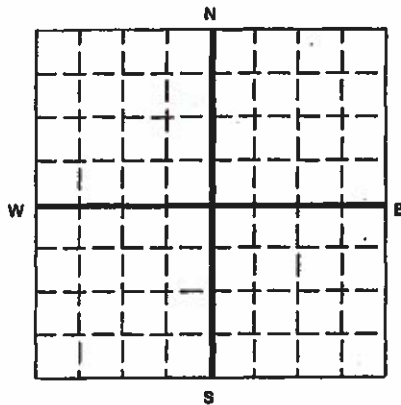
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 United States Environmental Protection Agency  
 Washington, DC 20460

# PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility

Name and Address of Owner/Operator

 Locate Well and Outline Unit on  
 Section Plat - 640 Acres


State

County

Permit Number

Surface Location Description

☐ 1/4 of ☐ 1/4 of ☐ 1/4 of ☐ 1/4 of Section ☐ Township ☐ Range ☐

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface

 Location ☐ ft. from (N/S) ☐ Line of quarter section  
 and ☐ ft. from (E/W) ☐ Line of quarter section.

## TYPE OF AUTHORIZATION

- ☐ Individual Permit  
☐ Area Permit  
☐ Rule

Number of Wells ☐

## WELL ACTIVITY

- ☐ CLASS I  
☐ CLASS II  
☐ Brine Disposal  
☐ Enhanced Recovery  
☐ Hydrocarbon Storage  
☐ CLASS III

Lease Name ☐Well Number ☐

## CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## METHOD OF EMPLACEMENT OF CEMENT PLUGS

- ☐ The Balance Method  
☐ The Dump Bailer Method  
☐ The Two-Plug Method  
☐ Other

## CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (Inches)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Depth to Bottom of Tubing or Drill Pipe (ft)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sacks of Cement To Be Used (each plug)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slurry Volume To Be Pumped (cu. ft.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calculated Top of Plug (ft.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Measured Top of Plug (If tagged ft.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Slurry Wt. (Lb./Gal.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type Cement or Other Material (Class III)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Estimated Cost to Plug Wells

## Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title (Please type or print)

Signature

Date Signed

#### **Paperwork Reduction Act Notice**

The public reporting and record keeping burden for this collection of information is estimated to average 19.5 hours annually for operators of Class I wells, 6 hours annually for operators of Class II wells, and 8 hours annually for operators of Class III wells. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Please send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822), Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA ICR number and OMB control number in any correspondence.

**APPENDIX C – Well Schematic(s)**  
**Permit application Exhibits M-1 and M-2, Injection Well Data Sheets with**  
**Wellbore Schematic**



# EXHIBIT M-1.

## INJECTION WELL DATA SHEET

OPERATOR: Dugan Production Corp.

WELL NAME & NUMBER: West Bisti SWD #1

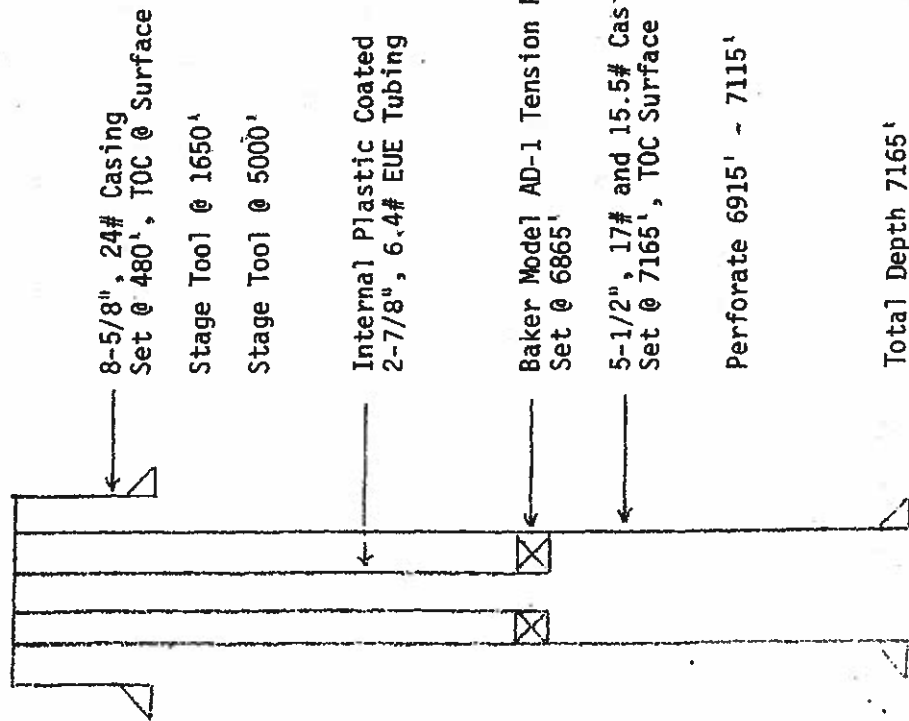
WELL LOCATION: 2500' FNL and 1855' FWL

Dugan Production Corp.  
West Bisti SWD #1  
Sec. 35, T26N, R13W  
2500' FNL and 1855' FEL  
San Juan County, New Mexico  
Salt Water Disposal Application

UNIT LETTER G SECTION 35 TOWNSHIP 26N RANGE 13W

### FOOTAGE LOCATION

### WELLBORE SCHEMATIC



### WELL CONSTRUCTION DATA

#### Surface Casing

Hole Size: 12-1/4" Casing Size: 8-5/8"  
Cemented with: 220 sx. or 300 ft  
Top of Cement: Surface Method Determined: Will Circulate

#### Intermediate Casing

Hole Size: Casing Size:  
Cemented with: sx. or ft  
Top of Cement: Method Determined:

#### Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2"  
Cemented with: 750 sx. or 1540 ft  
Top of Cement: Surface Method Determined: Will Circulate  
Total Depth: 7165'

#### Injection Interval

6915 feet to 7115

Total Depth 7165'

(Perforated or Open Hole; indicate which)

# EXHIBIT M-2.

## INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" Lining Material: Plastic

Type of Packer: Baker Model AD-1 set in tension (5-1/2")

Packer Setting Depth: 6865' (50' above uppermost perforation)

Other Type of Tubing/Casing Seal (if applicable): \_\_\_\_\_

### Additional Data

1. Is this a new well drilled for injection? ☒ Yes ☐ No

If no, for what purpose was the well originally drilled? \_\_\_\_\_

2. Name of the Injection Formation: Entrada Sandstone
3. Name of Field or Pool (if applicable): Not Applicable

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. New well, will be drilled for purpose of injection into Entrada Ss., no other zones will be perf'd.

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Fruitland Coal 800', Gallup Ss. 4600'.

Dugan Production Corp.  
West Bist SWD #1  
Sec. 35, T26N, R13W  
2500' FNL and 1855' FEL  
San Juan County, New Mexico  
Salt Water Disposal Application

#### **APPENDIX D – Reference Materials.**

- 1. MECHANICAL INTEGRITY TEST (MIT) PART I: REQUIREMENTS FOR INTERNAL TEST**
- 2. REGION 9 UIC PRESSURE FALLOFF REQUIREMENTS**
- 3. REGION 9 STEP RATE TEST POLICY – reference Society of Petroleum Engineers (SPE) Paper #16798, Systematic Design and Analysis of Step-Rate Tests to Determine Formation Parting Pressure**

**U.S.E.P.A. REGION IX  
MECHANICAL INTEGRITY TEST (MIT)  
PART I: REQUIREMENTS FOR INTERNAL TEST**

The U. S. Environmental Protection Agency (EPA) Region 9 requirements described below are effective as of May 1, 1992. For further reference, consult 40 CFR §146.8(b). Part I MIT may be demonstrated by one of two methods:

**METHOD A**

- 1) An annular pressure demonstration is performed at the system's maximum water injection pressure (pressure must be at least 300 psig).
- 2) The system's wells are tested at least once every five years or whenever packer reseating is needed. A test ensuing from packer reseating will be regarded as an official MIT demonstration.
- 3) Casing annuli and injections are monitored **monthly** and the results are included in the annual report to the director.

**METHOD B**

- 1) Test pressure is to be 1000 psig (it is not necessary to test to maximum water injection pressure).
- 2) Water injection pressure tests are conducted at least once every three years or whenever packer reseating is needed (see Method A (2)).
- 3) Casing annuli and injection pressure are monitored **weekly** and the results are included in the annual report to the director.

In applying either Method A or Method B, the operator must adhere to the following EPA specifications:

- All tests must last at least 30 minutes, during which time the pressure should not increase or decrease by more than 5%.
- A minimum differential pressure of 300 psig between tubing and tubing-casing annulus is to be maintained throughout the MIT.
- The EPA will consider alternative test parameters and frequencies when requested in writing. Requirements might be less stringent, for example, where there are no Underground Sources of Drinking Water (USDWs).
- The 30 days minimum notification period specified in federal regulations may be shortened by the EPA Regional Administrator. MIT information will be accepted as valid **only** if EPA has been given at least 14 days notice to make arrangements to witness the MIT.
- If a well fails the MIT, the well is to be shut in immediately and steps for remediation taken as soon as possible. The operator will still be bound to report any noncompliance as required in 40 CFR §144.28(b).
- Remediation may consist of squeeze cementing holes in the casing, running a liner inside the casing, or setting tandem packers to isolate a hole in the casing when it is not practical to squeeze the hole and the hole poses no danger to any USDWs. These and other alternatives will be considered on a case-by-case basis.
- If mechanical integrity is not achieved within the specified time period, the EPA may undertake an enforcement action. Time extensions to achieve compliance are permissible, but they must be justified and requested in writing.