



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 4, 2026

Danielle Shuryn, Compliance Division Manager
Albuquerque Bernalillo County Water Utility Authority
P.O. Box 568
Albuquerque, New Mexico 87103

RE: Draft Discharge Permit Renewal and Modification, DP-1887, Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Large-Scale Recharge Project

Dear Danielle Shuryn:

The New Mexico Environment Department (NMED) hereby provides notice to you of the proposed approval of Ground Water Discharge Permit Renewal and Modification, DP-1887, (copy enclosed), pursuant to Subsection H of 20.6.2.3108 NMAC. NMED will publish notice of the availability of the draft Discharge Permit in the near future for public review and comment and will forward a copy of that notice to you.

Prior to making a final ruling on the proposed Discharge Permit, NMED will allow 30 days from the date the public notice is published in the newspaper for any interested party, including the Discharge Permit applicant, i.e., yourself, to submit written comments and/or a request for a public hearing. A hearing request shall set forth the reasons why a hearing is requested. NMED will hold a hearing in response to a timely hearing request if the NMED Secretary determines there is substantial public interest in the proposed Discharge Permit.

Please review the enclosed draft Discharge Permit carefully. Please be aware that this Discharge Permit may contain conditions that require the permittee to implement operational, monitoring or closure actions by a specified deadline.

Please submit written comments or a request for hearing to my attention at the address below, via email to jennifer.fullam@env.nm.gov or to pps.general@env.nm.gov, or directly into the NMED Public Comment Portal at <https://nmed.commentinput.com/comment/search>. If NMED does not receive written comments or a request for hearing during the public comment period, the draft Discharge Permit will become final.

Thank you for your cooperation during the review process. Feel free to contact me with any questions at (505) 670-2496.

Sincerely,

Jennifer Fullam, Water Resource Supervisor

Encl: Draft Discharge Permit Renewal and Modification, DP-1887

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE

Ground Water Quality Bureau | 1190 Saint Francis Drive, PO Box 5469, Santa Fe, New Mexico 87502-5469
Telephone (505) 827-2900 | www.env.nm.gov/gwqb/



NEW MEXICO
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Draft: May 4, 2026

GROUND WATER QUALITY BUREAU
DISCHARGE PERMIT
Issued under 20.6.2 NMAC

Facility Name: Albuquerque Bernalillo County Water Utility Authority
(ABCWUA) Large-Scale Recharge Project

Discharge Permit Number: DP- 1887

Facility Location: 6000 Alexander Blvd. NE
Albuquerque

County: Bernalillo

Permittee: Albuquerque Bernalillo County Water Utility Authority
Mailing Address: P.O. Box 568
Albuquerque, New Mexico 87103

Facility Contact: Danielle Shuryn
Telephone Number/Email: (505) 289-3382 / dshuryn@abcwua.org

Permitting Action: Renewal and Modification

Permit Issuance Date: DATE

Permit Expiration Date: DATE

NMED Permit Contact: Jennifer Fullam
Telephone Number/Email: (505) 670-2496 / jennifer.fullam@env.nm.gov or
(505) 827-2900 / pps.general@env.nm.gov

Justin D. Ball
Chief, Ground Water Quality Bureau
New Mexico Environment Department

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ATTACHMENTS

- Discharge Permit Summary
- New Mexico Environment Department Ground Water Quality Bureau Monitoring Well Construction and Abandonment Guidelines, Revision 1.1, March 2011 (Monitoring Well Guidance)
- Table A-1 of NMED’s *Risk Assessment Guidance for Site Assessment and Remediation*

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this groundwater discharge permit Renewal and Modification (Discharge Permit or DP-1887) to the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Ground and Surface Water Protection Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from ABCWUA's Large-Scale Recharge Project (Facility) in order to protect groundwater and those segments of surface water gaining from groundwater inflow for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health. It is NMED's determination in issuing this Discharge Permit that the Permittee has met the requirements of Subsection C of 20.6.2.3109 NMAC. The Permittee is responsible for complying with the terms and conditions of this Discharge Permit pursuant to Section 20.6.2.3104 NMAC; failure to do so may result in enforcement action by NMED (20.6.2.1220 NMAC).

Described below are the activities that produce the discharge, the location of the discharge, and the quantity, quality, and flow characteristics.

The Facility discharges up to 7.1 million gallons per day (MGD) of dechlorinated potable drinking water into up to four Class V Underground Injection Control wells for aquifer storage and recovery.

The Discharge Permit modification consists of an increase in the maximum daily discharge volume from 6.48 MGD to 7.1 MGD; and the change in the location of the discharge, which includes two additional Aquifer Storage and Recovery (ASR) wells.

Discharge Permit Location Information:

Physical Address	6000 Alexander Blvd. NE, Albuquerque
Nearest Town/City	Albuquerque
Section, Township, Range	Section 34, Township 11 North, Range 3 East
County	Bernalillo
Depth to Groundwater	128 to 1,200 feet
Pre-Discharge TDS	309 to 1,040 milligrams per liter

Discharge Permit Issuance History:

Original Permit Issuance	October 29, 2019
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The application (i.e., discharge plan) associated with this Discharge Permit consists of the materials submitted by the Permittee dated April 11, 2024, and materials contained in the administrative record prior to issuance of this Discharge Permit.

The Permittee shall manage the discharge in accordance with all conditions and requirements of this Discharge Permit.

NMED reserves the right to require a Discharge Permit modification in the event NMED determines that the Permittee is or may be violating, or is likely to violate in the future, the requirements of 20.6.2 NMAC or the standards of Section 20.6.2.3103 NMAC. NMED reserves this right pursuant to Section 20.6.2.3109 NMAC. An NMED requirement to modify the Discharge Permit may result from a determination by the department that structural controls and/or management practices approved under this Discharge Permit are insufficiently protective of groundwater quality and human health. NMED reserves the right to require the Permittee to implement abatement of water pollution and remediate groundwater quality.

NMED issuance of this Discharge Permit does not relieve the Permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

This Discharge Permit may use the following acronyms and abbreviations.

Abbreviation	Explanation	Abbreviation	Explanation
BOD ₅	biochemical oxygen demand (5-day)	NMED	New Mexico Environment Department
CAP	Corrective Action Plan	NMSA	New Mexico Statutes Annotated
CFR	Code of Federal Regulations	NO ₃ -N	nitrate-nitrogen
CFU	colony forming unit	NTU	nephelometric turbidity units
Cl	chloride	QA/QC	Quality Assurance/Quality Control
EPA	United States Environmental Protection Agency	TDS	total dissolved solids
Gpd	gallons per day	TKN	total Kjeldahl nitrogen
LAA	land application area	total nitrogen	= TKN + NO ₃ -N
LADS	Land Application Data Sheet(s)	TRC	total residual chlorine
mg/L	milligrams per liter	TSS	total suspended solids
mL	milliliters	WQA	New Mexico Water Quality Act

Abbreviation	Explanation		Abbreviation	Explanation
MPN	most probable number		WQCC	Water Quality Control Commission
NMAC	New Mexico Administrative Code		WWTF	Wastewater Treatment Facility

II. FINDINGS

In issuing this Discharge Permit, NMED finds the following.

1. The Permittee is discharging effluent or leachate from the Facility so that such effluent or leachate may move into groundwater of the State of New Mexico that has an existing concentration of 10,000 mg/L or less of TDS, within the meaning of Subsection A of 20.6.2.3101 NMAC, without exceeding standards of 20.6.2.3103 NMAC for any water contaminant.
2. The Permittee is discharging effluent or leachate from the Facility directly or indirectly into groundwater pursuant to this Discharge Permit and Sections 20.6.2.3000 through 20.6.2.3114 NMAC.
3. The discharge from this Facility has the potential to contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC and is not subject to the exemption at Subsection 20.6.2.3105 NMAC.

III. AUTHORIZATION TO DISCHARGE

The Permittee is responsible for ensuring that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein pursuant to 20.6.2.3104 NMAC.

This Discharge Permit authorizes the Permittee to discharge up to 7.1 million gallons per day, but no more than 5,000 acre-feet per year, of dechlorinated potable drinking water originating from the San Juan-Chama surface water diversion off the Rio Grande to three Class V Underground Injection Control (UIC) aquifer storage and recovery wells and one Class V UIC vadose zone well.

[20.6.2.3104 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection D of 20.6.2.3109 NMAC]

IV. CONDITIONS

NMED issues this Discharge Permit for the discharge of water contaminants subject to the following conditions.

A. OPERATIONAL PLAN

#	Terms and Conditions
1.	The Permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 2 and 4 NMAC. [Subsection C of 20.6.2.3109 NMAC]
2.	The Permittee shall operate in a manner that does not violate standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC. [20.6.2.3101 NMAC, 20.6.2.3103 NMAC, Subsection C of 20.6.2.3109 NMAC]

Operational Actions with Implementation Deadlines

#	Terms and Conditions
3.	<p>A minimum of 90 days prior to construction of the aquifer storage and recovery Injection Wells (ASR-02 or ASR-03), the Permittee shall submit final construction plans and specifications for NMED’s review. The construction plans and specifications shall bear the seal and signature of a licensed New Mexico professional engineer (pursuant to New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority) and shall include the supporting design calculations.</p> <p>The submitted documentation shall include the following elements.</p> <ul style="list-style-type: none"> a) Details of the aquifer storage and recovery well construction and associated components (e.g. lift stations, valves, transfer lines, etc.); b) Flow meters to measure the volume of dechlorinated potable water injected to each of the injection wells (ASR-01, ASR-02, ASR-03, and VZ-01). c) Specifications for all equipment, materials and installation procedures to be used in the construction of the ASR wells (ASR-02 and ASR-03). d) Fences design detail around the Facility. <p>Prior to constructing the aquifer storage and recovery wells (ASR-02 and ASR-03) and their associated components, the Permittee shall obtain written verification from NMED that the plans and specifications meet the requirements of this Discharge Permit.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3106 NMAC, Subsection C of 20.6.2.3107 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
4.	<p>Prior to discharging to the additional aquifer storage and recovery wells (ASR-02 and ASR-03), the Permittee shall complete construction in accordance with the final</p>

#	Terms and Conditions
	<p>construction plans and specifications required by this Discharge Permit. The Permittee shall notify NMED at least five working days prior to commencement of construction to allow NMED personnel to be onsite for inspection.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3109 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
5.	<p>Within 30 days of completing construction of the additional aquifer storage and recovery wells (ASR-02 and ASR-03), the Permittee shall submit record drawings to NMED that bear the seal and signature of a licensed New Mexico professional engineer (pursuant to the New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority) for the constructed aquifer storage and recovery wells (ASR-02 and ASR-03).</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, Subsection C of 20.6.2.3109 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
6.	<p>Five business days prior to discharging to the aquifer storage and recovery wells ASR-02 and ASR-03, the Permittee shall submit written notification to NMED stating the date the discharge is to commence.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>

Operating Conditions

#	Terms and Conditions
7.	<p>Dechlorinated potable water to be discharged into an injection well shall not contain a constituent or exhibit a physical parameter (which could include pH, redox condition or temperature) which may cause an exceedance in groundwater of any primary state drinking water maximum contaminant level (MCL) as specified in the Drinking Water Regulations, 20.7.10 NMAC, or the standard of 20.6.2.3103 NMAC, whichever is more stringent. These standards are summarized on the attached Table 1.</p> <p>[Subsection C of 20.6.2.3109 NMAC, Subsection A(4) of 20.6.2.5004 NMAC]</p>
8.	<p>The Permittee shall dechlorinate the potable water prior to discharge into an injection well.</p> <p>[Subsections C of 20.6.2.3109 NMAC, Subsection A(4) of 20.6.2.5004 NMAC]</p>

#	Terms and Conditions
9.	<p>The Permittee shall maintain fences around the Facility and locks on the injection wells to restrict access by the general public and animals. The fences shall consist of a minimum of six-foot chain link or field fencing and locking gates. The Permittee shall maintain the fences to serve the stated purpose throughout the term of this Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
10.	<p>The Permittee shall maintain signs around the Facility indicating that access is restricted to authorized personnel. The Permittee shall post signs at the Facility entrance and other areas where there is potential for public access. The Permittee shall print signs in English and Spanish and shall ensure the signs remain visible and legible for the term of this Discharge Permit.</p> <p>[Subsections B and C of 20.6.2.3109 NMAC, NMSA 1978, § 74-6-5.D]</p>
11.	<p>The Permittee shall utilize Water Supply Level 4 with Distribution Systems Level 3 operators, certified by the State of New Mexico as required pursuant to 20.7.4 NMAC, to operate the water treatment and distribution system associated with the Facility. A certified operator or a direct supervisee of a certified operator shall perform the operations and maintenance of all or any part of the system.</p> <p>The Permittee shall notify the NMED within 24 hours if at any time the Permittee no longer has a certified operator maintaining the system.</p> <p>[Subsection C of 20.6.2.3109 NMAC, 20.7.4 NMAC]</p>

B. MONITORING AND REPORTING

#	Terms and Conditions
12.	<p>The Permittee shall conduct the monitoring, reporting, and other requirements listed below in accordance with the monitoring requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
13.	<p>METHODOLOGY – Unless otherwise specified by this Discharge Permit, or approved in writing by NMED, the Permittee shall use sampling and analytical techniques that conform with the references listed in Subsection B of 20.6.2.3107 NMAC.</p> <p>[Subsection B of 20.6.2.3107 NMAC]</p>

Due Dates for Monitoring Reports

#	Terms and Conditions
14.	<p>Annual monitoring - The Permittee shall perform monitoring and other Permit required actions during the following periods and shall submit annual reports to NMED by the following due date:</p> <ul style="list-style-type: none"> • January 1st through June 30th – due by August 1st; and <p>[Subsection A of 20.6.2.3107 NMAC]</p>

Monitoring Actions with Implementation Deadlines

#	Terms and Conditions
15.	<p>Prior to discharging dechlorinated potable water to the new aquifer storage and recovery wells (ASR-02 and ASR-03) at the Facility, the Permittee shall install the following flow meters.</p> <ol style="list-style-type: none"> a) One totalizing flow meter installed on the discharge line from the aquifer storage and recovery well house to the aquifer storage and recovery well (ASR-02). b) One totalizing flow meter installed on the discharge line from the aquifer storage and recovery well house to the aquifer storage and recovery well (ASR-03). <p>The Permittee shall submit confirmation of meter installation, type, calibration, and locations prior to discharging.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
16.	<p>Prior to discharging to the aquifer storage and recovery wells, ASR-02 and ASR-03, the Permittee shall submit a written groundwater monitoring well location proposal for NMED review and approval. The proposal shall designate the installation locations of the monitoring wells required by this Discharge Permit. The proposal shall include, at a minimum, the following information.</p> <ol style="list-style-type: none"> a) A map showing the proposed location of the monitoring wells in relation to the boundary of the source it is intended to monitor. b) A written description of the specific location proposed for the monitoring wells including the distance (in feet) and direction of the monitoring wells from the edge of the source it is intended to monitor and the latitude and longitude coordinates for each well in decimal format. Examples include: 35 feet north-northwest of the northern berm of the synthetically lined impoundment and 35.898306 and -107.281519; 45 feet due south of the leachfield and 35.898306 and -107.281519; and 30 feet southeast of the reuse area and 35.898306 and -107.281519.

#	Terms and Conditions
	<p>c) A statement describing the groundwater flow direction beneath the Facility, and documentation and/or data supporting the determination.</p> <p>The Permittee must have NMED’s approval of all monitoring well locations prior to their installation.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
17.	<p>Prior to discharging to the aquifer storage and recovery wells, ASR-02 and ASR-03, the Permittee shall install the following new monitoring wells.</p> <p>a) One monitoring well (MW-02S) hydrologically downgradient of aquifer storage and recovery wells, ASR-02 and ASR-03 and screened within first water and the vadose zone.</p> <p>b) One monitoring well (MW-02D) located hydrologically downgradient of aquifer storage and recovery wells, ASR-02 and ASR-03 and screened within the regional aquifer.</p> <p>The Permittee shall complete the wells in accordance with the attached Monitoring Well Guidance.</p> <p>Unless otherwise noted in this Discharge Permit, the requirement to install a monitoring well downgradient of a source is <u>not</u> contingent upon construction of the Facility, or discharge from the Facility.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
18.	<p>Prior to discharging to the aquifer storage and recovery wells, ASR-02 and ASR-03, and following the installation of the monitoring wells required by this Discharge Permit (MW-02S and MW-02D), the Permittee shall sample groundwater in the monitoring wells and analyze the samples for the following:</p> <p>a) calcium, dissolved</p> <p>b) magnesium, dissolved</p> <p>c) sodium, dissolved</p> <p>d) potassium, dissolved</p> <p>e) carbonate</p> <p>f) bicarbonate</p> <p>g) sulfate</p> <p>h) chloride</p> <p>i) fluoride</p> <p>j) arsenic, dissolved and total</p> <p>k) chromium, dissolved</p>

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	<p>l) iron, dissolved and total m) manganese, dissolved n) nitrate-nitrogen o) TKN p) uranium, dissolved q) total organic carbon r) dissolved organic carbon s) <i>Escherichia coli</i> (<i>E. coli</i>) bacteria t) Alkalinity u) dissolved oxygen v) oxidation/reduction potential w) pH x) temperature y) specific conductance and turbidity</p> <p>The Permittee shall also analyze groundwater for all the contaminants with numerical standards in 20.6.2.3103(A)(1) NMAC, and narrative toxic pollutant standards toxic pollutants in 20.6.2.3103(A)(2) NMAC. The list of toxic pollutants resides in 20.6.2.7(T)(2) NMAC.</p> <p>The Permittee shall perform groundwater sample collection, preservation, transport, and analysis according to the following procedure.</p> <p>a) Measure the depth groundwater from the top of the well casing to the nearest one-hundredth of a foot. b) Purge three well volumes of water from the well prior to sample collection. c) Obtain samples from the well for analysis. d) Properly prepare, preserve, and transport samples. e) Analyze samples in accordance with the methods authorized in this Discharge Permit.</p> <p>The Permittee shall employ a laboratory which is capable of analyzing the sample using methods with method detection limits and reporting limits less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC or, for narrative toxic pollutant standards, the Tap Water Screening Levels identified in Table A-1 of NMED's <i>Risk Assessment Guidance for Site Assessment and Remediation</i>.</p> <p>Within 45 days of the installation of the monitoring wells the Permittee shall submit a well completion report to NMED. A well completion report shall at a minimum include: the Office of the State Engineer permit, well construction and lithologic logs, latitude and longitude coordinates for each well in decimal format, depth-to-most-shallow groundwater measurements, analytical results including the laboratory QA/QC summary</p>

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	<p>report, and a facility layout map showing the location and number of each well. The Permittee shall ensure the well completion report addresses each numbered item in the General Drilling and Well Specifications in the attached Monitoring Well Guidelines.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
19.	<p>Prior to discharging to the aquifer storage and recovery wells, ASR-02 and ASR-03, the Permittee shall perform a professional survey of all groundwater monitoring wells approved by NMED for Discharge Permit injection and monitoring purposes. The survey shall be tied or referenced to a U.S. Geological Survey (USGS) or other permanent benchmark. Survey data shall include northing, easting and elevation to the nearest one-hundredth of a foot or shall be in accordance with the “Minimum Standards for Surveying in New Mexico” (12.8.2 NMAC). The survey shall bear the seal and signature of a licensed New Mexico professional surveyor (pursuant to the New Mexico Engineering and Surveying Practice Act and the rules promulgated under that authority).</p> <p>The Permittee shall utilize the survey to establish an elevation at the top-of-casing, with a permanent marking indicating the point of elevation.</p> <p>The Permittee shall measure the depth-to-most-shallow groundwater to the nearest one-hundredth of a foot in all surveyed wells and referenced to mean sea level, and the data shall be used to develop a groundwater elevation contour, i.e., potentiometric surface, map showing the location of all monitoring wells and the direction and gradient of groundwater flow in the uppermost aquifer below the Facility. The Permittee shall submit the data and groundwater elevation contour map to NMED within 30 days of survey completion.</p> <p>[Subsection A of 20.6.2.3107 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
20.	<p>The Permittee shall sample the dechlorinated potable water after dechlorination prior to injection for the presence of perfluorinated chemicals (PFCs).</p> <p>Within 180 days of the issuance date of this Discharge Permit (by DATE), the Permittee shall collect a single grab sample from the aquifer storage and recovery well house after dechlorination and prior to injection. The Permittee shall analyze the sample for the following PFCs:</p> <ul style="list-style-type: none"> • perfluorohexane sulfonic acid (PFHxS) (CAS 355-46-4) • perfluorooctane sulfonate (PFOS) (CAS 1763-23-1) • perfluorooctanoic acid (PFOA) (CAS 335-67-1)

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	<p>The Permittee shall properly collect, prepare, preserve, transport, and analyze the sample in accordance with Method 1633, or an equivalent method that uses liquid chromatography and tandem mass spectrometry (LC/MS/MS). The reporting limit shall be low enough to identify whether the combined concentration of the perfluorinated chemicals is less than the Tap Water Screening Level identified in the <i>NMED Risk Assessment Guidance for Site Assessments and Investigations</i>, Table A-1 available on the NMED Hazardous Waste Bureau’s website under Guidance Documents. The Permittee shall take appropriate measures to avoid cross contamination while collecting and transporting the sample. The selected laboratory should be able to provide guidance that ensures sample integrity. The Permittee shall submit a copy of the laboratory report, including analytical results, the QA/QC summary, and the Chain of Custody to NMED within 30 days of laboratory report receipt.</p> <p>[Subsection H of 20.6.2.3109 NMAC, Subsection A of 20.6.2.3107 NMAC]</p>

Groundwater Monitoring Conditions

#	Terms and Conditions
21.	<p>The Permittee shall perform annual groundwater sampling in the following groundwater monitoring wells:</p> <ul style="list-style-type: none"> a) MW-01S, located approximately 125 feet northwest of aquifer storage and recovery well ASR-01. MW-01S is nested with MW-01D with MW-01S screened from 155 to 175 below ground surface (bgs) b) MW-01D, located approximately 125 feet northwest of aquifer storage and recovery well ASR-01. MW-01D is nested with MW-01S with MW-01D screened from 295 to 315 (bgs) c) MW-02S, intended to be located hydrologically downgradient of aquifer storage and recovery well ASR-02 and ASR-03 screened within first water and the vadose zone. d) MW-02D, intended to be located hydrologically downgradient of aquifer storage and recovery well ASR-02 and ARS-02 screened in the regional aquifer. <p>The permittee shall analyze the samples for the following constituents:</p> <ul style="list-style-type: none"> a) calcium (dissolved) b) magnesium (dissolved) c) sodium (dissolved) d) potassium (dissolved) e) carbonate (dissolved) f) bicarbonate (dissolved)

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	<p>g) sulfate (dissolved) h) chloride (dissolved) i) fluoride (dissolved) j) arsenic (total and dissolved) k) chromium (dissolved) l) iron (total and dissolved) m) manganese (dissolved) n) nitrate as nitrogen o) uranium (dissolved) p) Total Organic Carbon (TOC) q) Dissolved Organic Carbon (DOC) r) <i>Escherichia coli</i> (<i>E.coli</i>) bacteria s) Total Residual Chloride (TRC) t) bromate u) bromodichloromethane v) bromoform w) chloroform x) total trihalomethanes y) total haloacetic acids (HAA5) z) alkalinity (reported in milligrams per liter of calcium carbonate) aa) dissolved oxygen bb) oxidation/reduction potential cc) pH dd) temperature ee) specific conductance ff) turbidity</p> <p>Within one year following issuance of this Discharge Permit (by DATE), the Permittee shall also analyze groundwater for all the contaminants with numerical standards in 20.6.2.3103(A)(1) NMAC, and narrative toxic pollutant standards toxic pollutants in 20.6.2.3103(A)(2) NMAC. The list of toxic pollutants resides in 20.6.2.7(T)(2) NMAC.</p> <p>The Permittee shall perform groundwater sample collection, preservation, transport, and analysis according to the following procedures.</p> <ol style="list-style-type: none"> a) Measure the depth-to-most-shallow groundwater in the nested well from the top of the well casing to the nearest one-hundredth of a foot. b) Purge three well volumes of water from the well prior to sample collection. c) Obtain samples from the well for analysis. d) Properly prepare, preserve, and transport samples. e) Analyze samples in accordance with the methods authorized in this Discharge

#	Terms and Conditions
	<p style="text-align: center;">Permit.</p> <p>The Permittee shall submit the depth to groundwater measurements and the laboratory analytical data results including the laboratory QA/QC summary report and Chain of Custody for each well, and a Facility layout map showing the location and number of each well to NMED in the annual monitoring reports.</p> <p>The Permittee shall employ a laboratory which is capable of analyzing the sample using methods with method detection limits and reporting limits less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC or, for narrative toxic pollutant standards, the Tap Water Screening Levels identified in Table A-1 of NMED's <i>Risk Assessment Guidance for Site Assessment and Remediation</i>.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
22.	<p>The Permittee shall develop a groundwater elevation contour map, i.e., potentiometric surface map, on an annual basis using the top of casing elevation data from the injection and monitoring well survey and the most recent depth-to-most-shallow groundwater measurements, referenced to mean sea level, obtained during the groundwater sampling required by this Discharge Permit.</p> <p>The groundwater elevation contour map shall depict the groundwater flow direction based on the groundwater elevation contours. The Permittee shall estimate groundwater elevations between monitoring well locations using common interpolation methods. The Permittee shall use a contour interval appropriate to the data but shall not be greater than two feet. Groundwater elevation contour maps shall use arrows to depict the groundwater flow direction based on the orientation of the groundwater elevation contours and shall locate and identify each monitoring well and contaminant source.</p> <p>The Permittee shall submit to NMED a groundwater elevation contour map in the annual monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
23.	<p>NMED shall have the option to perform downhole inspections of all groundwater monitoring wells identified in this Discharge Permit. NMED shall establish the inspection date and notify the Permittee. The Permittee shall remove any existing dedicated pumps at least 48 hours prior to NMED inspection to allow adequate settling time of sediment agitated from pump removal.</p>

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	<p>Should the Permittee decide to install a pump in a monitoring well without a dedicated pump, the Permittee shall notify NMED at least 90 days prior to pump installation so that NMED can schedule a downhole well inspection prior to pump placement.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>

Facility Monitoring Conditions

#	Terms and Conditions
24.	<p>The Permittee shall on a monthly basis measure the volume of dechlorinated potable water discharged to the aquifer storage and recovery wells (ASR-01, ASR-02, and ASR-03) and the vadose zone well (VZ-01) during the monitoring period.</p> <p>To determine the discharge volume, the Permittee shall obtain readings from a totalizing flow meters located on the discharge lines from the aquifer storage and recovery well house to the aquifer storage and recovery wells on a monthly basis and calculate the monthly and average daily volume discharged to the aquifer storage and recovery wells (ASR-01, ASR-02, and ASR-03) and the vadose zone well (VZ-01). The Permittee shall submit calendar monthly meter readings, calculated monthly discharge volumes and average daily discharge volumes to NMED in the annual monitoring reports.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
25.	<p>All flow meters shall be capable of having their accuracy verified under working (i.e., real-time in-the-field) conditions. The Permittee shall develop a field verification method for each flow meter and shall utilize that method to check the accuracy of each respective meter. The Permittee shall perform field calibrations, at a minimum, within 90 days of the issuance date of this Discharge Permit (by DATE), and then every on an annual basis thereafter. The Permittee shall also perform field calibrations upon repair or replacement of a flow measurement device.</p> <p>The Permittee shall calibrate each flow meter to its manufacturer’s recommended specification which shall be no less accurate than plus or minus 10 percent of actual flow, as measured under field conditions. An individual knowledgeable in flow measurement shall perform field calibration and the installation/operation of the device in use. The Permittee shall prepare a flow meter calibration report for each flow measurement device calibration event. The flow meter calibration report shall include the following information.</p> <ol style="list-style-type: none"> a) The location and meter identification. b) The method of flow meter field calibration employed.

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	<p>c) The measured accuracy of each flow meter prior to adjustment indicating the positive or negative offset as a percentage of actual flow as determined by an in-field calibration check.</p> <p>d) The measured accuracy of each flow meter following adjustment, if necessary, indicating the positive or negative offset as a percentage of actual flow of the meter.</p> <p>e) Any flow meter repairs made during the previous year or during field calibration.</p> <p>f) The name of the individual performing the calibration and the date of the calibration.</p> <p>The Permittee shall maintain records of flow meter calibration(s) at a location accessible for review by NMED during Facility inspections.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
26.	<p>The Permittee shall visually inspect flow meters on a monthly basis for evidence of malfunction. The Permittee shall maintain a log of the inspections that includes a date of the inspection, findings and repairs, and the name of the inspector. The Permittee shall make the log available to NMED upon request.</p> <p>If a visual inspection indicates a flow meter is not functioning as required by this Discharge Permit, the Permittee shall repair or replace the meter within 30 days of discovery. For <i>repaired</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the repair that includes a description of the malfunction; a statement verifying the repair; and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit. For <i>replacement</i> meters, the Permittee shall submit a report to NMED with the next monitoring report following the replacement that includes a design schematic for the device and a flow meter field calibration report completed in accordance with the requirements of this Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
27.	<p>The Permittee shall collect samples of potable water prior to injection into the aquifer storage and recovery wells (ASR-01, ASR-02, and ASR-03) and the vadose zone well (VZ-01), at the ASR Injection Point sampling port (WWASR01) after dechlorination. Samples shall be collected on an annual basis and analyzed for:</p> <ul style="list-style-type: none"> a) calcium (dissolved) b) magnesium (dissolved) c) sodium (dissolved) d) potassium (dissolved) e) carbonate (dissolved) f) bicarbonate (dissolved)

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	<p>g) sulfate (dissolved) h) chloride (dissolved) i) fluoride (dissolved) j) arsenic (total and dissolved) k) chromium (dissolved) l) iron (total and dissolved) m) manganese (dissolved) n) nitrate as nitrogen o) uranium (dissolved) p) Total Organic Carbon (TOC) q) Dissolved Organic Carbon (DOC) r) <i>Escherichia coli</i> (<i>E.coli</i>) bacteria s) Total Residual Chloride (TRC) t) bromate u) bromodichloromethane v) bromoform w) chloroform x) total trihalomethanes y) total haloacetic acids (HAA5) z) alkalinity (reported in milligrams per liter of calcium carbonate) aa) dissolved oxygen bb) oxidation/reduction potential cc) pH dd) temperature ee) specific conductance ff) turbidity</p> <p>Within one year following issuance of this Discharge Permit (by DATE), the Permittee shall also analyze samples for the numerical standards in 20.6.2.3103(A)(1) NMAC, and narrative toxic pollutant standards toxic pollutants in 20.6.2.3103(A)(2) NMAC. The list of toxic pollutants resides in 20.6.2.7(T)(2) NMAC.</p> <p>The Permittee shall ensure the samples are properly prepared, preserved, transported, and analyzed in accordance with the methods authorized in this Discharge Permit. The Permittee shall submit the laboratory analytical data results, including the QA/QC summary and Chain of Custody, to NMED in the subsequent annual monitoring report.</p> <p>The Permittee shall employ a laboratory which is capable of analyzing the sample using methods with method detection limits and reporting limits less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC or, for narrative toxic</p>

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	<p>pollutant standards, the Tap Water Screening Levels identified in Table A-1 of NMED's <i>Risk Assessment Guidance for Site Assessment and Remediation</i>.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>
28.	<p>The permittee shall measure the static ground water level or potentiometric surface as required by the State Engineer's USR-4 Permit and submit to NMED in the annual monitoring report due August 1st of each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
29.	<p>On an annual basis, the Permittee shall collect a non-filtered grab sample of dechlorinated potable water from a sample point after the aquifer storage and recovery well house but prior to the injection point and analyze the for the following organic water contaminants:</p> <ul style="list-style-type: none"> • atrazine (CAS 1912-24-9) • benzene (CAS 71-43-2) • benzo-a-pyrene (CAS 50-32-8) • carbon tetrachloride (CAS 56-23-5) • chloroform (CAS 67-66-3) • 1,2-dichlorobenzene (CAS 95-50-1) • 1,4-dichlorobenzene (CAS 106-46-7) • 1,1-dichloroethane (CAS 75-34-3) • 1,2-dichloroethane (EDC, CAS 107-06-2) • 1,1-dichloroethene (1,1-DCE, CAS 75-35-4) • cis-1,2-dichloroethene (CAS 156-59-2) • trans-1,2-dichloroethene (CAS 156-60-5) • 1,2-dichloropropane (PDC, CAS 78-87-5) • ethylene dibromide (EDB, CAS 106-93-4) • methylene chloride (CAS 75-09-2) • PAHs: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes • phenols • polychlorinated biphenyls (PCBs, CAS 1336-36-3) • pentachlorophenol (CAS 87-86-5) • toluene (CAS 108-88-3) • styrene (CAS 100-42-5) • 1,1,2,2-tetrachloroethane (CAS 79-34-5) • tetrachloroethene (PCE, CAS 127-18-4) • 1,2,4-trichlorobenzene (CAS 120-82-1) • 1,1,1-trichloroethane (1,1,1-TCA, CAS 71-55-6) • 1,1,2-trichloroethane (CAS 79-00-5) • trichloroethene (TCE, CAS 79-01-6)

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	<ul style="list-style-type: none"> • 1,4-dioxane (CAS 123-91-1) (using EPA Method 8270D-SIM) • ethylbenzene (CAS 100-41-4) • vinyl chloride (CAS 75-01-4) • total xylenes (CAS 1330-20-7) <p>The Permittee shall properly collect, prepare, preserve, transport, and analyze the samples in accordance with the methods authorized in this Discharge Permit. The Permittee shall analyze samples using methods with method detection limits that are less than the corresponding numerical groundwater standards identified in 20.6.2.3103 NMAC. The reporting limit for 1,4-dioxane shall be less than the Tap Water Screening Level for 1,4-dioxane identified in the <i>NMED Risk Assessment Guidance for Site Assessments and Investigations</i>, Table A-1 (available on the NMED Hazardous Waste Bureau’s website under Guidance Documents).</p> <p>If the results of two consecutive sampling events indicate no detection of 1,4-dioxane above the reporting limit, the Permittee may request to reduce the sampling frequency.</p> <p>The Permittee shall submit a summary of measured concentrations compared with the corresponding groundwater standards, and a copy of the laboratory report including the laboratory analytical data results, the QA/QC summary and the Chain of Custody to NMED in the monitoring reports due by August 1st each year.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsections C and H of 20.6.2.3109 NMAC]</p>

C. CONTINGENCY PLAN

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30.	<p>In the event that groundwater monitoring indicates that groundwater exceeds a standard identified in Section 20.6.2.3103 NMAC, the Permittee shall collect a confirmatory sample from the monitoring well within 15 days of receipt of the initial sampling results to confirm the initial sampling results.</p> <p>Within 60 days of confirmation of groundwater contamination, the Permittee shall submit to NMED a Corrective Action Plan (CAP) that proposes, at a minimum, contaminant source control measures and an implementation schedule. The Permittee shall implement the CAP as approved by NMED.</p> <p>This condition shall apply until the Permittee completes groundwater monitoring for a minimum of eight (8) consecutive quarterly samples demonstrating groundwater does not exceed the standards of Section 20.6.2.3103 NMAC.</p>

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	<p>Violation of the groundwater standard beyond 180 days after the confirmation of groundwater contamination may cause NMED to require the Permittee to abate water pollution consistent with the requirements and provisions of Section 20.6.2.4101, Section 20.6.2.4103, Subsections C and E of 20.6.2.4106, Section 20.6.2.4107, Section 20.6.2.4108 and Section 20.6.2.4112 NMAC.</p> <p>[20.6.2.3103 NMAC, Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>
31.	<p>In the event that groundwater exceeds a groundwater protection standard identified in Section 20.6.2.3103 NMAC as a result of this discharge, the Permittee shall submit to NMED a Corrective Action Plan (CAP) that proposes, at a minimum, contaminant source control measures and an implementation schedule. The Permittee shall implement the CAP following approval by NMED.</p> <p>The NMED may require the Permittee to abate water pollution consistent with the requirements and provisions of Section 20.6.2.4101, Section 20.6.2.4103, Subsections C and E of 20.6.2.4106, Section 20.6.2.4107, Section 20.6.2.4108 and Section 20.6.2.4112 NMAC.</p> <p>[20.6.2.3103 NMAC, Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>
32.	<p>In the event that information available to NMED indicates that a well is not constructed in a manner consistent with the attached Monitoring Well Guidance, contains insufficient water to effectively monitor groundwater quality, or is otherwise not completed in a manner that is protective of groundwater quality, the Permittee shall install a replacement well(s) within 120 days following notification from NMED.</p> <p>The Permittee shall survey the replacement monitoring well(s) within 30 days following well completion.</p> <p>The Permittee shall install replacement well(s) at locations approved by NMED prior to installation and shall complete replacement well(s) in accordance with the attached Monitoring Well Guidance. The Permittee shall submit well construction and lithologic logs, survey data and a groundwater elevation contour map to NMED within 60 days following well completion.</p> <p>The Permittee shall properly plug and abandon monitoring well(s) requiring replacement upon completion of the replacement monitoring well(s). The Permittee shall complete</p>

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	<p>the well plugging and abandonment, and shall document the abandonment procedures, in accordance with the attached Monitoring Well Guidance and all applicable local, state, and federal regulations. The Permittee shall submit a copy of the well abandonment documentation to NMED within 60 days following the replacement well(s) completion.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
33.	<p>In the event that groundwater flow information obtained pursuant to this Discharge Permit indicates that a monitoring well is not appropriately located, e.g., hydrologically downgradient of the discharge location it is intended to monitor, the Permittee shall install a replacement well within 120 days following notification from NMED. The Permittee shall survey the replacement monitoring well within 30 days following well completion.</p> <p>The Permittee shall install the replacement well at the location approved by NMED prior to installation and shall complete the replacement well in accordance with the attached Monitoring Well Guidance. The Permittee shall submit construction and lithologic logs, survey data and a groundwater elevation contour map within 60 days following well completion.</p> <p>The Permittee shall properly plug and abandon a monitoring well requiring replacement upon completion of the replacement monitoring well. The Permittee shall complete the well plugging and abandonment, and shall document the abandonment procedures, in accordance with the attached Monitoring Well Guidance and all applicable local, state, and federal regulations. The Permittee shall submit a copy of the well abandonment documentation to NMED within 60 days following the replacement well completion.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
34.	<p>In the event that the Facility exceeds the authorized discharge volume set in this Discharge Permit, the Permittee shall initiate the following Contingency Plan.</p> <p><u>Contingency Plan</u></p> <ul style="list-style-type: none">a) Notify NMED within seven days of the discovery of the discharge volume exceedance that the Facility exceeded the authorized discharge volume.b) The Permittee shall conduct a physical inspection of the discharge system to detect abnormalities and report the findings to NMED within 30 days of the discovery of the discharge volume exceedance. The Permittee shall correct any abnormalities detected with NMED's concurrence.

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	<p>c) If the Permittee does not detect any abnormalities and with NMED’s concurrence, the Permittee shall submit a discharge permit modification for the increase in discharge quantity to NMED within 90 days of the discovery of the discharge volume exceedance. The discharge permit modification must include demonstration that the volume increase is sufficient for the design capacity or plans and specifications to upgrade the system to accommodate the discharge volume increase.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
35.	<p>In the event that analytical results of a dechlorinated potable water sample indicate any of the following exceedances, the Permittee shall collect and submit for analysis a second, confirmatory, sample within 48 hours of the receipt of the initial sampling results:</p> <ul style="list-style-type: none"> a) an exceedance of the discharge limits set in this permit; b) exhibit a physical parameter which may cause an exceedance in ground water of any primary state drinking water MCL; or c) or exceed a standard in 20.6.2.3103 NMAC. <p>In the event the second sample confirms the exceedance, the Permittee shall implement the following contingencies for the confirmed water contaminant or physical parameter identified.</p> <ul style="list-style-type: none"> a) Within 7 days of receipt of the confirmatory sample analysis, the Permittee shall: <ul style="list-style-type: none"> i) notify NMED that the Permittee has identified a confirmed exceedance of a dechlorinated potable water limit set in this discharge permit and is initiating the Contingency Plan; and ii) submit a copy of the initial and confirmatory analytical results indicating an exceedance to NMED. b) The Permittee shall examine the operation and maintenance log, required by the Record Keeping conditions of this Discharge Permit, for improper operational procedures. The Permittee shall correct any abnormalities discovered. The Permittee shall submit a report to NMED detailing the inspection and any corrective actions taken within 30 days of implementation of this contingency c) The Permittee shall conduct a physical inspection of the treatment system to detect abnormalities. The Permittee shall correct any abnormalities discovered. The Permittee shall submit a report to NMED detailing the inspection and any corrective actions taken within 30 days of implementation of this contingency. d) The Permittee shall increase the sampling frequency and analysis for the water contaminant or physical parameter exceeding to once per month. e) The results of the sampling and analysis shall be submitted to NMED with the same requirements and submittal dates as the annual reporting required under this

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	<p>discharge permit.</p> <p>f) The permittee may submit a written request to NMED, for approval, to revert to the sampling and analysis frequency required by the conditions of the discharge permit upon six consecutive months without an exceedance for the water contaminant or physical parameter of concern. The permittee shall continue sampling monthly until NMED provides approval to revert to the frequency required in this discharge permit.</p> <p>g) In the event that any analytical result from monthly dechlorinated potable water sampling indicates exceedances of the water contaminant or physical parameter for two or more consecutive months, the Permittee shall submit a CAP to NMED for approval within 90 days of receipt of the analytical results for the second consecutive month's sample. The CAP shall include operational procedures and/or upgrades necessary to achieve the limits set forth in this discharge permit. The Permittee shall submit the CAP including a schedule for completion of corrective actions and The Permittee shall initiate implementation of the CAP following approval by NMED.</p> <p>When analytical results from three consecutive months of sampling do not exceed the discharge limit, the Permittee may request NMED authorize a return to a quarterly monitoring frequency.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection C of 20.6.2.3109 NMAC]</p>
36.	<p>In the event that a release occurs that is not authorized under this Discharge Permit (commonly known as a "spill"), the Permittee shall take measures to mitigate damage from the unauthorized discharge and initiate the notifications and corrective actions required in Section 20.6.2.1203 NMAC and summarized below. A release is defined as 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.</p> <p>Within <u>24 hours</u> following discovery of the unauthorized discharge, the Permittee shall verbally notify NMED and provide the following information.</p> <p>a) The name, address, and telephone number of the person or persons in charge of the Facility, as well as of the owner and/or operator of the Facility.</p> <p>b) The name and address of the Facility.</p> <p>c) The date, time, location, and duration of the unauthorized discharge.</p> <p>d) The source and cause of unauthorized discharge.</p> <p>e) A description of the unauthorized discharge, including its estimated chemical composition.</p> <p>f) The estimated volume of the unauthorized discharge.</p> <p>g) Any actions taken to mitigate immediate damage from the unauthorized discharge.</p>

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	<p>Within <u>one week</u> following discovery of the unauthorized discharge, the Permittee shall submit written notification to NMED providing the information listed above and any pertinent updates.</p> <p>Within <u>15 days</u> following discovery of the unauthorized discharge, the Permittee shall submit a CAP to NMED describing any corrective actions previously taken and corrective actions to be taken relative to the unauthorized discharge. The CAP shall include the following information.</p> <ul style="list-style-type: none"> a) A description of proposed actions to mitigate damage from the unauthorized discharge. b) A description of proposed actions to prevent future unauthorized discharges of this nature. c) A schedule for completion of proposed actions. <p>In the event that the unauthorized discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within 180 days after notice is required to be given pursuant to Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, NMED may require the Permittee to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC.</p> <p>The Permittee shall not construe anything in this condition as relieving them of the obligation to comply with all requirements of Section 20.6.2.1203 NMAC.</p> <p>[20.6.2.1203 NMAC]</p>
37.	<p>In the event that NMED or the Permittee identifies any failures of the discharge plan, i.e., the application, or this Discharge Permit not specifically noted herein, NMED may require the Permittee to submit a CAP and a schedule for completion of corrective actions to address the failure(s). Additionally, NMED may require a discharge permit modification to achieve compliance with 20.6.2 NMAC.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection E of 20.6.2.3109 NMAC]</p>

D. CLOSURE PLAN

Permanent Facility Closure Conditions

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38.	<p>The Permittee shall perform the following closure measures in the event the Facility, or a component of the Facility, is proposed to be permanently closed.</p> <p>Within <u>90 days</u> of ceasing to discharge to the treatment system, the Permittee shall complete the following closure measures.</p> <ul style="list-style-type: none">a) Plug the line leading to the system so that a discharge can no longer occur.b) Evaporate, or dispose of water and liquids in the system components in accordance with all local, state, and federal regulations.c) Contain, transport, and dispose of solids removed from the treatment system in accordance with all local, state, and federal regulations, including 40 CFR Part 503. The Permittee shall maintain a record of all solids transported for off-site disposal. <p>Within <u>180 days</u> of ceasing to discharge to the injection wells (ASR-01, ASR-02, ASR-03 or VZ-01), the Permittee shall complete the following closure measures.</p> <ul style="list-style-type: none">a) Remove all lines leading to and from the treatment system, or permanently plug and abandon them in place.b) Remove or demolish all treatment system components, and re-grade the area with suitable fill to blend with surface topography, promote positive drainage and prevent ponding. <p>The Permittee shall continue groundwater monitoring until the Permittee meets the requirements of this condition and groundwater monitoring confirms for a minimum of eight consecutive quarterly groundwater sampling events that groundwater does not exceed the standards of Section 20.6.2.3103 NMAC. This period is referred to as “post-closure.”</p> <p>If at any time monitoring results show an exceedance of a groundwater quality standard in Section 20.6.2.3103 NMAC, the Permittee shall implement the Contingency Plan required by this Discharge Permit.</p> <p>Following notification from NMED that the Permittee may cease post-closure monitoring, the Permittee shall plug and abandon the monitoring well(s) in accordance with the attached Monitoring Well Guidance.</p> <p>When the Permittee has met all closure and post-closure requirements and verified appropriate actions with date stamped photographic evidence or an associated NMED inspection, the Permittee may submit to NMED a written request, including photographic evidence, for termination of the Discharge Permit.</p> <p>[Subsection A of 20.6.2.3107 NMAC, Subsection D of 20.6.2.4103 NMAC, 40 CFR Part 503]</p>

E. GENERAL TERMS AND CONDITIONS

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39.	<p>RECORD KEEPING - The Permittee shall maintain a written record of the following:</p> <ul style="list-style-type: none">• Information and data used to complete the application for this Discharge Permit;• Information, data, and documents demonstrating completion of closure activities;• Any releases (commonly known as “spills”) not authorized under this Discharge Permit and reports submitted pursuant to 20.6.2.1203 NMAC;• The operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of injection related materials;• Facility record drawings (plans and specifications) showing the actual construction of the Facility and bear the seal and signature of a licensed New Mexico professional engineer;• Copies of logs, inspection reports, and monitoring reports completed and/or submitted to NMED pursuant to this Discharge Permit;• The volume of injection water, wastewater or other wastes discharged pursuant to this Discharge Permit;• Groundwater quality and injection water quality data collected pursuant to this Discharge Permit;• Copies of construction records (well log) for all sampled groundwater monitoring wells pursuant to this Discharge Permit;• The maintenance, repair, replacement or calibration of any monitoring equipment or flow measurement devices required by this Discharge Permit; and• Data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit, including:<ul style="list-style-type: none">○ the dates, location and times of sampling or field measurements;○ the name and job title of the individuals who performed each sample collection or field measurement;○ the sample analysis date of each sample;○ the name and address of the laboratory, and the name of the signatory authority for the laboratory analysis;○ the analytical technique or method used to analyze each sample or collect each field measurement;○ the results of each analysis or field measurement, including raw data;○ the results of any split, spiked, duplicate or repeat sample; and○ a copy of the laboratory analysis chain-of-custody as well as a description of the quality assurance and quality control procedures used.

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	<p>The Permittee shall maintain the written record at a location accessible to NMED during a Facility inspection for a minimum of five years. The Permittee shall make the record available to NMED upon request.</p> <p>[Subsections A and D of 20.6.2.3107 NMAC]</p>
40.	<p>SUBMITTALS – The Permittee shall submit both a paper copy and an electronic copy of all notification and reporting documents required by this Discharge Permit, e.g., monitoring reports. The Permittee shall submit paper and electronic documents to the NMED Permit Contact identified on the Permit cover page.</p> <p>[Subsection A of 20.6.2.3107 NMAC]</p>
41.	<p>INSPECTION and ENTRY – The Permittee shall allow NMED to inspect the Facility and its operations that are subject to this Discharge Permit and the WQCC regulations. NMED may upon presentation of proper credentials, enter at reasonable times upon or through any premises in which a water contaminant source is located or in which any maintained records required by this Discharge Permit, the regulations of the federal government, or the WQCC are located.</p> <p>The Permittee shall allow NMED to have access to and reproduce for their use any copy of the records, and to perform assessments, sampling or monitoring during an inspection for the purpose of evaluating compliance with this Discharge Permit and the WQCC regulations.</p> <p>No person shall construe anything in this Discharge Permit as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other local, state or federal regulations.</p> <p>[Subsection D of 20.6.2.3107 NMAC, NMSA 1978, §§ 74-6-9.B and 74-6-9.E]</p>
42.	<p>DUTY to PROVIDE INFORMATION - The Permittee shall, upon NMED’s request, allow for NMED’s inspection/duplication of records required by this Discharge Permit and/or furnish to NMED copies of such records.</p> <p>[Subsection D of 20.6.2.3107 NMAC]</p>
43.	<p>MODIFICATIONS and/or AMENDMENTS – In the event the Permittee proposes a change to the Facility or the Facility’s discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the Facility, the Permittee shall notify NMED prior to implementing such changes. The Permittee shall obtain NMED’s approval</p>

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	<p>(which may require modification of this Discharge Permit) prior to implementing such changes.</p> <p>[Subsection C of 20.6.2.3107 NMAC, Subsections E and G of 20.6.2.3109 NMAC]</p>
44.	<p>PLANS and SPECIFICATIONS – In the event the Permittee proposes to construct a system or change a process unit of an existing system such that the quantity or quality of the discharge will change substantially from that authorized by this Discharge Permit, the Permittee shall submit construction plans and specifications of the proposed system or process unit to NMED for approval prior to the commencement of construction.</p> <p>In the event the Permittee implements changes to the system authorized by this Discharge Permit that result in only a minor effect on the character of the discharge, the Permittee shall report such changes (including the submission of record drawings where applicable) to NMED prior to implementation.</p> <p>[Subsections A and C of 20.6.2.1202 NMAC, NMSA 1978, §§ 61-23-1 through 61-23-32]</p>
45.	<p>CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the Permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10 and 74-6-10.1]</p>
46.	<p>CRIMINAL PENALTIES – No person shall:</p> <ul style="list-style-type: none"> • Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or maintained under the WQA; • Falsify, tamper with or render inaccurate any monitoring device, method or record maintained under the WQA; or

#	Terms and Conditions
	<ul style="list-style-type: none"> • Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation. <p>Any person who knowingly violates or knowingly causes or allows another person to violate the requirements of this condition is guilty of a fourth-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who is convicted of a second or subsequent violation of the requirements of this condition is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition or knowingly causes another person to violate the requirements of this condition and thereby causes a substantial adverse environmental impact is guilty of a third-degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15. Any person who knowingly violates the requirements of this condition and knows at the time of the violation that he is creating a substantial danger of death or serious bodily injury to any other person is guilty of a second degree felony and shall be sentenced in accordance with the provisions of NMSA 1978, § 31-18-15.</p> <p>[20.6.2.1220 NMAC, NMSA 1978, §§ 74-6-10.2.A through 74-6-10.2.F]</p>
47.	<p>COMPLIANCE with OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the Permittee of the obligation to comply with any other applicable federal, state, and/or local laws, regulations, zoning requirements, nuisance ordinances, permits or orders.</p> <p>[NMSA 1978, § 74-6-5.L]</p>
48.	<p>RIGHT to APPEAL - The Permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty days of the receipt of postal notice of this Discharge Permit and shall include a statement of the issues raised and the relief sought. Unless the Permittee files a timely petition for review, the decision of NMED shall be final and not subject to judicial review.</p> <p>[20.6.2.3112 NMAC, NMSA 1978, § 74-6-5.O]</p>
49.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this Facility or any portion thereof, the Permittee shall:</p> <ul style="list-style-type: none"> • Notify the proposed transferee in writing of the existence of this Discharge Permit; • Include a copy of this Discharge Permit with the notice; and • Deliver or send by certified mail to NMED a copy of the notification and proof that the proposed transferee has received such notification.

#	Terms and Conditions
	<p>The Permittee shall continue to be responsible for any discharge from the Facility, until both ownership and possession of the Facility have been transferred to the transferee.</p> <p>[20.6.2.3111 NMAC]</p>
50.	<p>PERMIT FEES – The Permittee shall be aware that the payment of permit fees is due at the time of Discharge Permit approval. The Permittee may pay the permit fees in a single payment or they may pay the fee in equal installments on a yearly basis over the term of the Discharge Permit. The Permittee shall remit single payments to NMED no later than 30 days after the Discharge Permit issuance date. The Permittee shall remit initial installment payments to NMED no later than 30 days after the Discharge Permit issuance date; with subsequent installment payments remitted to NMED no later than the anniversary of the Discharge Permit issuance date.</p> <p>Permit fees are associated with <u>issuance</u> of this Discharge Permit. No person shall construe anything in this Discharge Permit as relieving the Permittee of the obligation to pay all permit fees assessed by NMED. A Permittee that ceases discharging or does not commence discharging from the Facility during the term of the Discharge Permit shall pay all permit fees assessed by NMED. NMED shall suspend or terminate an approved Discharge Permit if the Permittee fails to remit an installment payment by its due date.</p> <p>[Subsection F of 20.6.2.3114 NMAC, NMSA 1978, § 74-6-5.K]</p>



New Mexico Environment Department Ground Water Quality Bureau Discharge Permit Summary

Facility Information

Facility Name	Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Large-Scale Recharge Project
Discharge Permit Number	DP-1887
Legally Responsible Party	Albuquerque Bernalillo County Water Utility Authority Danielle Shuryn, Compliance Division Manager P.O. Box 568 Albuquerque, New Mexico 87103 (505) 289-3382

Treatment, Disposal and Site Information

Primary Waste Type	Dechlorinated Potable Water
Facility Type	Aquifer Storage Recovery

Treatment Methods

Type	Designation	Description & Comments
Water Treatment Plant	San Juan-Chama Water Treatment Plant	Regulated in accordance with the federal Safe Drinking Water Act and the NM Drinking Water Regulations. Dechlorinated prior to injection

Discharge Locations

Type	Designation	Description & Comments
Class V UIC Well	ASR-01	Aquifer Storage and Recovery Direct Injection Well. Located at 35.141121, -106.61504. Used for both injection of dechlorinated San Juan Chama Water Treatment Plant water and extraction.
Class V UIC Well	ASR-02	Aquifer Storage and Recovery Direct Injection Well. Proposed to be located at 35.1415, -106.606667. Used for both injection of dechlorinated San Juan Chama Water Treatment Plant water and extraction.
Class V UIC Well	ASR-03	Aquifer Storage and Recovery Direct Injection Well. Proposed to be located at 35.144278, -106.607. Used for both injection of dechlorinated San Juan Chama Water Treatment Plant water and extraction.
Class V UIC Well	VZ-01	Aquifer Storage and Recovery Direct Injection Well. Located at 35.141646, -106.615013. Used only for injection of dechlorinated San Juan Chama Water Treatment Plant water.

Flow Metering Locations

Type	Designation	Description & Comments
Totalizing Flow Meter	ASRW1IWF	Located on the discharge line to Class V UIC Well ASR-01
Totalizing Flow Meter	ASRW2IWF	Located on the discharge line to Class V UIC Well ASR-02
Totalizing Flow Meter	ASRW3IWF	Located on the discharge line to Class V UIC Well ASR-03



**New Mexico Environment Department Ground Water Quality Bureau
Discharge Permit Summary**

Totalizing Flow Meter	VDSW1IWF	Located on the discharge line to Class V UIC Well VZ-01
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Ground Water Monitoring Locations

Type	Designation	Description & Comments
Monitoring Well	MW-01S	Nested well, located at 35.141115, -106.615122, south of the San Juan-Chama Water Treatment Plant. Screened from 155 to 175 feet bgs.
Monitoring Well	MW-01D	Nested well located at 35.141115, -106.615122, south of the San Juan-Chama Water Treatment Plant. Screened from 295 to 315 feet bgs.
Monitoring Well	MW-02S	Well to be located hydrologically downgradient of ASR-02 and ASR-03 screened at point of first water within the vadose zone.
Monitoring Well	MW-02D	Well to be located hydrologically downgradient of ASR-02 and ASR-03 screened at point of first water within the regional aquifer.

Depth-to-Ground Water 128 to 1,200 feet
Total Dissolved Solids (TDS) 309 to 1,040 mg/L

Permit Information

Original Permit Issued	October 29, 2019
Current Action	Renewal and Modification
Application Received	April 11, 2024
Public Notice Published	[not yet published]
Permit Issued (Issuance Date)	[issuance date]
Permitted Discharge Volume	7,100,000 gallons per day

NMED Contact Information

Mailing Address	Ground Water Quality Bureau P.O. Box 5469 Santa Fe, New Mexico 87502-5469
GWQB Telephone Number	(505) 827-2900
NMED Lead Staff	Jennifer Fullam
Lead Staff Telephone Number	(505) 670-2496
Lead Staff Email	Jennifer.fullam@env.nm.gov or pps.general@env.nm.gov

**NEW MEXICO ENVIRONMENT DEPARTMENT
GROUND WATER QUALITY BUREAU
MONITORING WELL CONSTRUCTION AND ABANDONMENT GUIDELINES**

Purpose: These guidelines identify minimum construction and abandonment details for installation of water table monitoring wells under groundwater Discharge Permits issued by the NMED's Ground Water Quality Bureau (GWQB) and Abatement Plans approved by the GWQB. Proposed locations of monitoring wells required under Discharge Permits and Abatement Plans and requests to use alternate installation and/or construction methods for water table monitoring wells or other types of monitoring wells (e.g., deep monitoring wells for delineation of vertical extent of contaminants) must be submitted to the GWQB for approval prior to drilling and construction.

General Drilling Specifications:

1. All well drilling activities must be performed by an individual with a current and valid well driller license issued by the State of New Mexico in accordance with 19.27.4 NMAC. Use of drillers with environmental well drilling experience and expertise is highly recommended.
2. Drilling methods that allow for accurate determinations of water table locations must be employed. All drill bits, drill rods, and down-hole tools must be thoroughly cleaned immediately prior to the start of drilling. The borehole diameter must be drilled a minimum of 4 inches larger than the casing diameter to allow for the emplacement of sand and sealant.
3. After completion, the well should be allowed to stabilize for a minimum of 12 hours before development is initiated.
4. The well must be developed so that formation water flows freely through the screen and is not turbid, and all sediment and drilling disturbances are removed from the well.

Well Specifications (see attached monitoring well schematic):

5. Schedule 40 (or heavier) polyvinyl chloride (PVC) pipe, stainless steel pipe, carbon steel pipe, or pipe of an alternate appropriate material that has been approved for use by NMED must be used as casing. The casing must have an inside diameter not less than 2 inches. The casing material selected for use must be compatible with the anticipated chemistry of the groundwater and appropriate for the contaminants of interest at the facility. The casing material and thickness selected for use must have sufficient collapse strength to withstand the pressure exerted by grouts used as annular seals and thermal properties sufficient to withstand the heat generated by the hydration of cement-based grouts. Casing sections may be joined using welded, threaded, or mechanically locking joints; the method selected must provide sufficient joint strength for the specific well installation. The casing must extend from the top of the screen to at least one foot above ground surface. The top of the casing must be fitted with a removable cap, and the exposed casing must be protected by a locking steel well shroud. The shroud must be large enough in diameter to allow easy access for removal of the cap. Alternatively, monitoring wells may be completed below grade. In this case, the casing must extend from the top of the screen to 6 to 12 inches below the ground surface; the monitoring wells must be sealed with locking, expandable well plugs; a flush-mount, watertight well vault that is rated to withstand traffic loads must be emplaced around the wellhead; and the cover must be secured with at least one bolt. The vault cover must indicate that the wellhead of a monitoring well is contained within the vault.
6. A 20-foot section (maximum) of continuous-slot, machine slotted, or other manufactured PVC or stainless steel well screen or well screen of an alternate appropriate material that has been approved for use by NMED must be installed across the water table. Screens created by cutting slots into solid casing with saws or other tools must not be used. The screen material selected for use must be compatible with the anticipated chemistry of the ground water and appropriate for the contaminants of interest at the facility. Screen sections may be joined using welded, threaded, or mechanically

- locking joints; the method selected must provide sufficient joint strength for the specific well installation and must not introduce constituents that may reasonably be considered contaminants of interest at the facility. A cap must be attached to the bottom of the well screen; sumps (i.e., casing attached to the bottom of a well screen) should not be installed. The bottom of the screen must be installed no more than 15 feet below the water table; the top of the well screen must be positioned not less than 5 feet above the water table. The well screen slots must be appropriately sized for the formation materials and should be selected to retain 90 percent of the filter pack. A slot size of 0.010 inches is generally adequate for most installations.
7. Casing and well screen must be centered in the borehole by placing centralizers near the top and bottom of the well screen.
 8. A filter pack must be installed around the screen by filling the annular space from the bottom of the screen to 2 feet above the top of the screen with clean silica sand. The filter pack must be properly sized to prevent fine particles in the formation from entering the well; clean medium to coarse silica sand is generally adequate as filter pack material for 0.010-inch slotted well screen. For wells deeper than 30 feet, the sand must be emplaced by a tremmie pipe. The well should be surged or bailed to settle the filter pack and additional sand added, if necessary, before the bentonite seal is emplaced.
 9. A bentonite seal must be constructed immediately above the filter pack by emplacing bentonite chips or pellets (3/8-inch in size or smaller) in a manner that prevents bridging of the chips/pellets in the annular space. The bentonite seal must be 3 feet in thickness and hydrated with clean water. Adequate time should be allowed for expansion of the bentonite seal before installation of the annular space seal.
 10. The annular space above the bentonite seal must be sealed with cement grout or a bentonite-based sealing material acceptable to the State Engineer pursuant to 19.27.4 NMAC. A tremmie pipe must be used when placing sealing materials at depths greater than 20 feet below the ground surface. Annular space seals must extend from the top of the bentonite seal to the ground surface (for wells completed above grade) or to a level 3 to 6 inches below the top of casing (for wells completed below grade).
 11. For monitoring wells finished above grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the shroud and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the wellhead. The installation of steel posts around the well shroud and wellhead is recommended for monitoring wells finished above grade to protect the wellhead from damage by vehicles or equipment. For monitoring wells finished below grade, a concrete pad (2-foot minimum radius, 4-inch minimum thickness) must be poured around the well vault and wellhead. The concrete and surrounding soil must be sloped to direct rainfall and runoff away from the well vault.

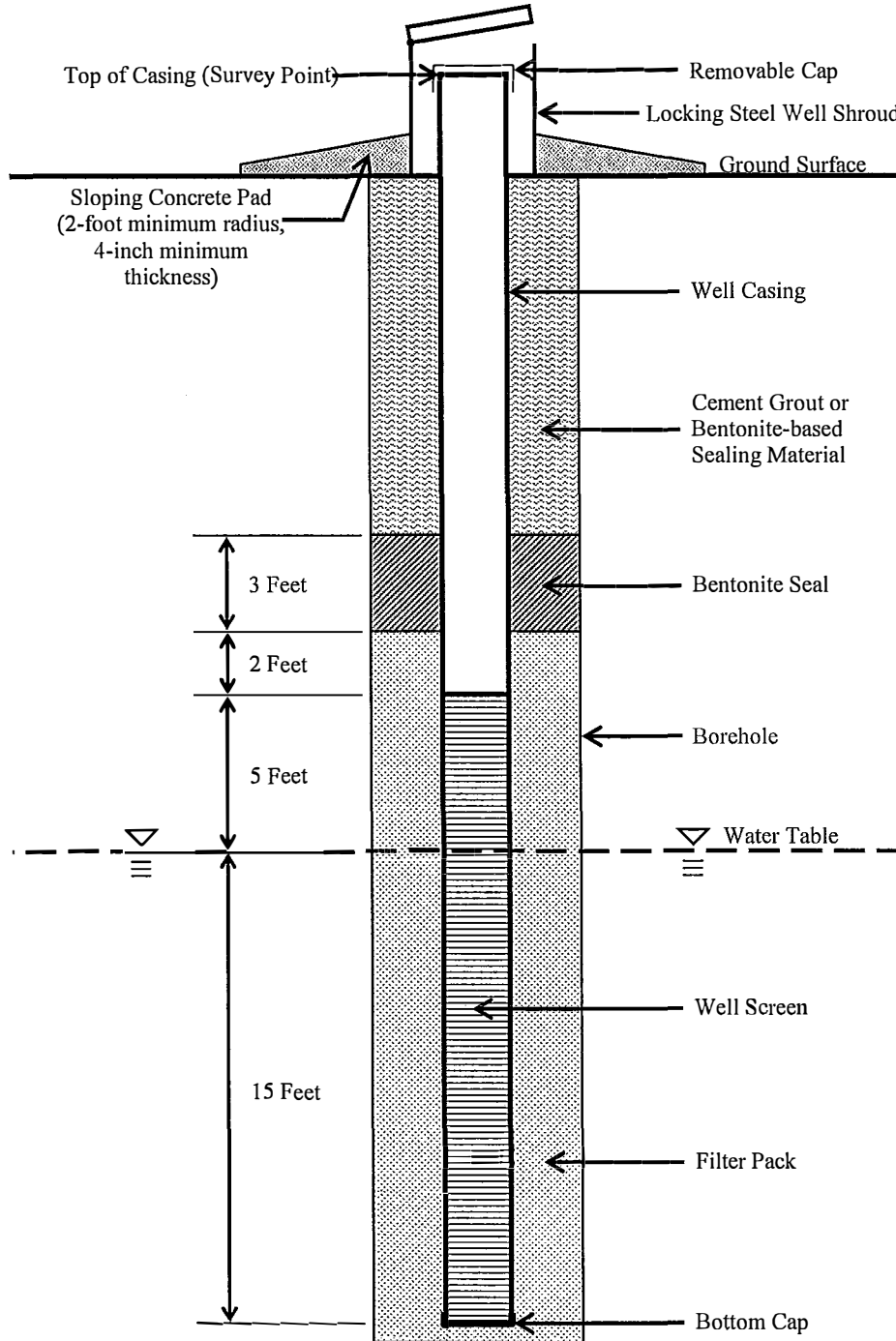
Abandonment:

12. Approval for abandonment of monitoring wells used for ground water monitoring in accordance with Discharge Permit and Abatement Plan requirements must be obtained from NMED prior to abandonment.
13. Well abandonment must be accomplished by removing the well casing and placing neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer for wells that encounter water pursuant to 19.27.4 NMAC from the bottom of the borehole to the ground surface using a tremmie pipe. If the casing cannot be removed, neat cement grout, bentonite-based plugging material, or other sealing material approved by the State Engineer must be placed in the well using a tremmie pipe from the bottom of the well to the ground surface.
14. After abandonment, written notification describing the well abandonment must be submitted to the NMED. Written notification of well abandonment must consist of a copy of the well plugging record submitted to the State Engineer in accordance with 19.27.4 NMAC, or alternate documentation containing the information to be provided in a well plugging record required by the State Engineer as specified in 19.27.4 NMAC.

Deviation from Monitoring Well Construction and Abandonment Requirements: Requests to construct water table monitoring wells or other types of monitoring wells for groundwater monitoring under groundwater Discharge Permits or Abatement Plans in a manner that deviates from the specified requirements must be submitted in writing to the GWQB. Each request must state the rationale for the proposed deviation from these requirements and provide detailed evidence supporting the request. The GWQB will approve or deny requests to deviate from these requirements in writing.

MONITORING WELL SCHEMATIC

(Not to Scale)



May 2022 NMED SSLs

Chemical	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (µg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
Acenaphthene	83-32-9		3.48E+03		5.05E+04		1.51E+04		5.35E+02	8.25E+01
Acetaldehyde	75-07-0	3.38E+02	2.49E+02	1.64E+03	1.17E+03	7.61E+03	2.17E+02	2.55E+01	1.88E+01	6.58E-02
Acetone	67-64-1		6.63E+04		9.60E+05		2.42E+05		1.41E+04	4.98E+01
Acetophenone	98-86-2		7.82E+03		1.30E+05		3.54E+04		1.92E+03	9.64E+00
Acrolein	107-02-8		4.54E-01		2.16E+00		4.01E-01		4.15E-02	1.46E-04
Acrylonitrile	107-13-1	4.93E+00	3.99E+01	2.46E+01	1.90E+02	1.29E+02	3.52E+01	5.23E-01	4.15E+00	1.95E-03
Alachlor	15972-60-8	9.51E+01	6.16E+02	4.58E+02	9.16E+03	3.36E+03	2.69E+03	1.37E-01	1.86E+02	2.57E-02
Aldrin	309-00-2	3.11E-01	1.85E+00	1.50E+00	2.75E+01	1.09E+01	8.07E+00	1.98E-03	3.31E-02	4.88E-03
Aluminum	7429-90-5		7.80E+04		1.29E+06		4.14E+04		1.99E+04	5.97E+05
2-Amino-4,6-dinitrotoluene	35572-78-2		7.70E+00		1.27E+02		1.73E+01		1.93E+00	2.30E-02
4-Amino-2,6-dinitrotoluene	19406-51-0		7.64E+00		1.25E+02		1.73E+01		1.93E+00	2.30E-02
Ammonium Picrate	131-74-8		1.23E+02		1.83E+03		3.21E+01		3.95E+01	2.81E+00
Anthracene	120-12-7		1.74E+04		2.53E+05		7.53E+04		1.72E+03	8.51E+02
Antimony	7440-36-0		3.13E+01		5.19E+02		1.42E+02		7.26E+00	6.56E+00
Arsenic	7440-38-2	7.07E+00	1.30E+01	3.59E+01	2.08E+02	2.16E+02	4.12E+01	8.55E-01	3.55E+00	5.83E+00
Atrazine	1912-24-9	2.32E+01	2.16E+03	1.12E+02	3.21E+04	8.19E+02	9.42E+03	3.39E+00	7.02E+02	3.41E-02
Barium	7440-39-3		1.56E+04		2.55E+05		4.39E+03		3.28E+03	2.70E+03
Benzene	71-43-2	1.78E+01	1.14E+02	8.72E+01	7.29E+02	4.23E+02	1.42E+02	4.55E+00	3.32E+01	4.18E-02
Benzidine	92-87-5	5.18E-03	1.85E+02	1.12E-01	2.75E+03	8.12E-01	8.07E+02	1.09E-03	5.89E+01	4.27E-05
Benzo(a)anthracene	56-55-3	1.53E+00		3.23E+01		2.40E+02		1.20E-01		6.37E-01
Benzo(a)pyrene	50-32-8	1.12E+00	1.74E+01	2.36E+01	2.51E+02	1.73E+02	1.50E+01	2.51E-01	6.02E+00	4.42E+00
Benzo(b)fluoranthene	205-99-2	1.53E+00		3.23E+01		2.40E+02		3.43E-01		6.17E+00
Benzo(k)fluoranthene	207-08-9	1.53E+01		3.23E+02		2.31E+03		3.43E+00		6.05E+01
Beryllium	7440-41-7	6.44E+04	1.56E+02	3.13E+05	2.58E+03	2.71E+03	1.48E+02		1.24E+01	1.96E+02
a-BHC (a-Hexachlorocyclohexane, a-HCH)	319-84-6	8.45E-01	4.93E+02	4.07E+00	7.33E+03	2.97E+01	2.15E+03	6.93E-02	9.18E+01	6.08E-03
b-BHC (b-Hexachlorocyclohexane, b-HCH)	319-85-7	2.96E+00		1.43E+01		1.04E+02		2.43E-01		2.13E-02
t-BHC (t-Hexachlorocyclohexane, Lindane)	58-89-9	5.63E+00	2.12E+01	2.83E+01	3.34E+02	1.98E+02	9.43E+01	4.15E-01	3.60E+00	3.64E-02
1,1-Biphenyl	92-52-4	8.48E+02	3.91E+04	4.43E+03	6.49E+05	3.02E+04	1.77E+05	3.71E+01	8.34E-01	1.31E-01
Bis(2-chloroethyl) ether	111-44-4	3.11E+00		1.57E+01		1.95E+00		1.37E-01		6.05E-04
Bis(2-chloroisopropyl) ether	108-60-1	9.93E+01		5.19E+02		3.54E+03		9.81E+00		4.75E-02
Bis(2-ethylhexyl)phthalate (di(2-ethylhexyl)phthalate, DEHP)	117-81-7	3.80E+02	1.23E+03	1.83E+03	1.83E+04	1.34E+04	5.38E+03	5.56E+01	4.01E+02	2.00E+02
Bis(chloromethyl) ether	542-88-1	2.08E-03		1.02E-02		4.81E-02		7.20E-04		3.00E-06
Boron	7440-42-8		1.56E+04		2.59E+05		5.14E+04		3.95E+03	2.51E+02
Bromodichloromethane	75-27-4	6.19E+00	1.56E+03	3.02E+01	2.60E+04	1.43E+02	7.08E+03	1.34E+00	3.77E+02	6.21E-03
Bromomethane	74-83-9		1.77E+01		9.45E+01		1.79E+01		7.54E+00	3.43E-02
1,3-Butadiene	106-99-0	9.48E-01	2.30E+00	4.63E+00	1.08E+01	2.21E+01	2.02E+00	7.08E-01	4.17E+00	8.13E-03
2-Butanone (Methyl ethyl ketone, MEK)	78-93-3		3.74E+04		4.11E+05		9.17E+04		5.56E+03	2.01E+01
tert-Butyl methyl ether (MTBE)	1634-04-4	9.75E+02	3.78E+04	4.82E+03	1.78E+05	2.42E+04	3.31E+04	1.43E+02	6.26E+03	5.53E-01
Cadmium	7440-43-9	8.59E+04	7.05E+01	4.17E+05	1.11E+03	3.61E+03	7.21E+01		6.24E+00	9.39E+00
Carbofuran	1563-66-2		3.08E+02		4.58E+03		1.35E+03		9.36E+01	5.91E-01
Carbon disulfide	75-15-0		1.55E+03		8.54E+03		1.62E+03		8.10E+02	4.42E+00
Carbon tetrachloride (Tetrachloromethane)	56-23-5	1.07E+01	1.44E+02	5.25E+01	1.02E+03	2.52E+02	2.02E+02	4.55E+00	4.92E+01	3.67E-02
Chlordane	12789-03-6	1.77E+01	3.53E+01	8.90E+01	5.56E+02	6.23E+02	1.53E+02	4.48E-01	1.27E+00	2.03E+00
2-Chloroacetophenone	532-27-4		1.72E+05		8.12E+05		2.81E+02			

Chemical	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (µg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
2-Chloro-1,3-butadiene	126-99-8	1.75E-01	3.80E+01	8.48E-01	1.82E+02	3.95E+00	3.40E+01	1.87E-01	3.70E+01	1.97E-03
1-Chloro-1,1-difluoroethane	75-68-3		1.09E+05		5.15E+05		9.58E+04		1.04E+05	1.07E+03
Chlorobenzene (Monochlorobenzene)	108-90-7		3.78E+02		2.16E+03		4.12E+02		7.76E+01	1.08E+00
1-Chlorobutane	109-69-3		3.13E+03		5.19E+04		1.42E+04		6.31E+02	4.53E+00
Chlorodifluoromethane	75-45-6		1.02E+05		4.83E+05		8.98E+04		1.04E+05	8.55E+02
Chloroform (Trichloromethane)	67-66-3	5.90E+00	3.06E+02	2.87E+01	2.00E+03	1.34E+02	3.91E+02	2.29E+00	9.72E+01	1.09E-02
Chloromethane	74-87-3	4.11E+01	2.68E+02	2.01E+02	1.26E+03	9.56E+02	2.35E+02	2.03E+01	1.88E+02	9.52E-02
b-Chloronaphthalene	91-58-7		6.26E+03		1.04E+05		2.83E+04		7.33E+02	5.70E+01
o-Chloronitrobenzene	88-73-3	1.78E+01	1.84E+02	8.55E+01	2.72E+03	6.28E+02	8.39E+01	2.36E+00	5.49E+01	3.44E-02
p-Chloronitrobenzene	100-00-5	8.45E+02	6.16E+01	4.07E+03	9.16E+02	2.99E+04	2.57E+02	1.10E+02	1.79E+01	2.57E-01
2-Chlorophenol	95-57-8		3.91E+02		6.49E+03		1.77E+03		9.10E+01	1.15E+00
2-Chloropropane	75-29-6		2.86E+02		1.35E+03		2.51E+02		2.09E+02	1.26E+00
o-Chlorotoluene	95-49-8		1.56E+03		2.60E+04		7.08E+03		2.33E+02	3.56E+00
Chromium III	16065-83-1		1.17E+05		1.95E+06		5.31E+05		1.36E+04	4.91E+08
Chromium VI	18540-29-9	3.05E+00	2.35E+02	7.21E+01	3.89E+03	6.69E+01	4.98E+02	5.01E-01	2.67E+01	1.92E-01
Chromium (Total)		9.66E+01	4.52E+04	5.05E+02	3.14E+05	4.68E+02	1.34E+02	5.70E+00	1.17E+04	2.05E+05
Chrysene	218-01-9	1.53E+02		3.23E+03		2.31E+04		3.43E+01		1.86E+02
Cobalt	7440-48-4	1.72E+04	2.34E+01	8.34E+04	3.88E+02	7.22E+02	3.67E+01		5.98E+00	5.40E+00
Copper	7440-50-8		3.13E+03		5.19E+04		1.42E+04		7.90E+02	9.15E+02
Crotonaldehyde	123-73-9	3.66E+00	7.82E+01	1.91E+01	1.30E+03	1.30E+02	3.54E+02	4.04E-01	1.98E+01	1.42E-03
Cumene (isopropylbenzene)	98-82-8		2.36E+03		1.42E+04		2.74E+03		4.47E+02	1.14E+01
Cyanide	57-12-5		1.12E+01		6.33E+01		1.21E+01		1.46E+00	7.13E-01
Cyanogen	460-19-5		7.82E+01		1.30E+03		3.54E+02		1.99E+01	8.01E-02
Cyanogen bromide	506-68-3		7.04E+03		1.17E+05		3.19E+04		1.80E+03	1.06E+01
Cyanogen chloride	506-77-4		3.91E+03		6.49E+04		1.77E+04		9.99E+02	5.88E+00
Cyclohexane	110-83-8		3.91E+02		6.49E+03		1.77E+03		6.86E+01	1.49E+00
DDD	72-54-8	2.22E+01		1.07E+02		7.78E+02		3.17E-01		1.12E+00
DDE	72-55-9	1.57E+01		7.55E+01		5.49E+02		4.62E-01		1.63E+00
DDT	50-29-3	1.87E+01	3.62E+01	9.50E+01	5.77E+02	6.59E+02	1.62E+02	2.29E+00	1.00E+01	1.16E+01
Dibenz(a,h)anthracene	53-70-3	1.53E-01		3.23E+00		2.40E+01		3.43E-02		1.97E+00
1,2-Dibromo-3-chloropropane	96-12-8	8.58E-02	5.88E+00	1.18E+00	4.11E+01	5.53E+00	8.29E+00	3.34E-03	3.72E-01	1.39E-03
Dibromochloromethane	124-48-1	1.39E+01	1.23E+03	6.74E+01	1.83E+04	3.40E+02	5.38E+03	1.68E+00	3.78E+02	7.55E-03
1,2-Dibromoethane (Ethylene dibromide, EDB)	106-93-4	6.72E-01	1.35E+02	3.31E+00	7.38E+02	1.63E+01	1.40E+02	7.47E-02	1.69E+01	3.52E-04
1,4-Dichloro-2-butene	764-41-0	1.15E-01		5.58E-01		2.59E+00		1.34E-02		9.99E-05
1,2-Dichlorobenzene (ortho-Dichlorobenzene)	95-50-1		2.15E+03		1.30E+04		2.50E+03		3.02E+02	9.08E+00
1,4-Dichlorobenzene (para-Dichlorobenzene)	106-46-7	1.29E+03	5.48E+03	6.73E+03	9.08E+04	4.59E+04	2.48E+04	4.82E+00	5.63E+02	1.12E+00
3,3-Dichlorobenzidine	91-94-1	1.18E+01		5.70E+01		4.10E+02		1.25E+00		1.24E-01
Dichlorodifluoromethane (Fluorocarbon-12)	75-71-8		1.82E+02		8.65E+02		1.61E+02		1.97E+02	7.23E+00
1,1-Dichloroethane (1,1-DCA)	75-34-3	7.86E+01	1.56E+04	3.83E+02	2.60E+05	1.82E+03	7.08E+04	2.75E+01	3.74E+03	1.36E-01
1,2-Dichloroethane (Ethylene dichloride, EDC)	107-06-2	8.32E+00	5.56E+01	4.07E+01	2.86E+02	1.95E+02	5.38E+01	1.71E+00	1.30E+01	2.38E-02
cis-1,2-Dichloroethene (cis-1,2-DCE)	156-59-2		1.56E+02		2.60E+03		7.08E+02		3.65E+01	3.52E-01
trans-1,2-Dichloroethene (trans-1,2-DCE)	156-60-5		2.10E+02		1.10E+03		2.06E+02		6.79E+01	5.03E-01
1,1-Dichloroethene (1,1-DCE)	75-35-4		4.40E+02		2.26E+03		4.24E+02		2.84E+02	1.95E+00
2,4-Dichlorophenol	120-83-2		1.85E+02		2.75E+03		8.07E+02		4.53E+01	8.25E-01

Chemical	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (µg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
Lead (tetraethyl-)	78-00-2		6.16E-03		9.16E-02		3.54E-02		1.24E-03	9.41E-05
Maleic hydrazide	123-33-1		3.08E+04		4.58E+05		1.35E+05		1.00E+04	3.57E+01
Manganese	7439-96-5		1.05E+04		1.60E+05		4.64E+02		2.02E+03	2.63E+03
Mercury (elemental)	7439-97-6		2.38E+01		1.12E+02		2.07E+01		6.26E-01	2.09E+00
Mercury (methyl)	22967-92-6		7.82E+00		1.30E+02		3.54E+01		1.96E+00	7.58E-03
Mercury (salts)	7487-94-7		2.35E+01		3.89E+02		7.71E+01		4.92E+00	5.13E+00
Methacrylonitrile	126-98-7		7.70E+00		1.23E+02		3.28E+01		1.91E+00	7.43E-03
Methomyl	16752-77-5		1.54E+03		2.29E+04		6.73E+03		4.98E+02	1.87E+00
Methyl acetate	79-20-9		7.82E+04		1.30E+06		3.54E+05		1.99E+04	7.11E+01
Methyl acrylate	96-33-3		3.50E+02		1.85E+03		3.48E+02		3.90E+01	1.43E-01
Methyl isobutyl ketone	108-10-1		5.81E+03		8.16E+04		2.02E+04		1.24E+03	4.80E+00
Methyl methacrylate	80-62-6		1.11E+04		5.65E+04		1.06E+04		1.39E+03	5.22E+00
Methyl styrene (alpha)	98-83-9		5.48E+03		9.08E+04		2.48E+04		7.65E+02	1.89E+01
Methyl styrene (mixture)	25013-15-4		2.73E+02		2.20E+03		4.49E+02		3.73E+01	9.40E-01
Methylcyclohexane	108-87-2		5.50E+03		2.59E+04		4.82E+03		6.72E+03	3.16E+02
Methylene bromide (Dibromomethane)	74-95-3		5.79E+01		2.88E+02		5.39E+01		8.00E+00	3.35E-02
Methylene chloride (Dichloromethane)	75-09-2	7.66E+02	4.09E+02	1.44E+04	5.13E+03	8.96E+04	1.21E+03	1.18E+02	1.06E+02	4.71E-01
1-Methylnaphthalene	90-12-0	1.72E+02	4.06E+03	8.13E+02	5.89E+04	6.06E+03	1.76E+04	1.14E+01	6.11E+02	8.93E-01
2-Methylnaphthalene	91-57-6		2.32E+02		3.37E+03		1.00E+03		3.51E+01	2.76E+00
Molybdenum	7439-98-7		3.91E+02		6.49E+03		1.62E+03		9.87E+01	3.98E+01
Naphthalene	91-20-3	2.26E+01	1.62E+02	1.08E+02	8.43E+02	6.33E+02	1.59E+02	1.17E+00	6.11E+00	5.83E-02
Nickel	7440-02-0	5.95E+05	1.56E+03	2.89E+06	2.57E+04	2.50E+04	7.53E+02		3.72E+02	4.85E+02
Nitrate	14797-55-8		1.25E+05		2.08E+06		5.66E+05		3.16E+04	4.25E+02
Nitrite	14797-65-0		7.82E+03		1.30E+05		3.54E+04		1.97E+03	2.66E+01
Nitrobenzene	98-95-3	6.04E+01	1.31E+02	2.93E+02	1.54E+03	1.35E+03	3.53E+02	1.40E+00	1.25E+01	1.44E-02
Nitroglycerin	55-63-0	3.13E+02	6.16E+00	1.51E+03	9.16E+01	1.11E+04	2.69E+01	4.47E+01	1.96E+00	1.36E-02
p-Nitrophenol										
2-Nitropropane	79-46-9	1.34E+00		6.52E+00		3.03E+01		9.68E-02		9.94E-06
N-Nitrosodiethylamine	55-18-5	7.94E-03		1.71E-01		1.25E+00		1.67E-03		9.94E-06
N-Nitrosodimethylamine	62-75-9	2.34E-02	4.93E-01	5.03E-01	7.33E+00	3.66E+00	2.14E+00	4.91E-03	1.60E-01	2.04E-05
N-Nitrosodi-n-butylamine	924-16-3	7.81E-01		3.77E+00		2.46E+01		2.73E-02		8.42E-04
N-Nitrosodiphenylamine	86-30-6	1.09E+03		5.24E+03		3.79E+04		1.22E+02		1.00E+01
N-Nitrosopyrrolidine	930-55-2	2.54E+00		1.22E+01		8.89E+01		3.70E-01		2.30E-03
m-Nitrotoluene	99-08-1		6.16E+00		9.16E+01		2.69E+01		1.74E+00	2.50E-02
o-Nitrotoluene	88-72-2	3.16E+01	7.04E+01	1.65E+02	1.17E+03	1.13E+03	3.19E+02	3.14E+00	1.61E+01	4.58E-02
p-Nitrotoluene	99-99-0	3.33E+02	2.47E+02	1.60E+03	3.67E+03	1.18E+04	1.08E+03	4.27E+01	7.07E+01	6.13E-01
Pentachlorobenzene	608-93-5		4.93E+01		7.33E+02		2.15E+02		3.07E+00	3.52E-01
Pentachlorophenol (PCP)	87-86-5	9.85E+00	2.34E+02	4.45E+01	3.18E+03	3.46E+02	9.89E+02	4.13E-01	2.21E+01	1.52E-01
Perchlorate	14797-73-0		5.48E+01		9.08E+02		2.48E+02		1.38E+01	1.17E-01
Polyfluoroalkyl and Perfluoroalkyl Compounds (PFAS) - Refer to Section 5.3 on use of these preliminary screening levels										
Perfluorobutanesulfonate	45187-15-3		1.85E+01		3.74E+02		8.07E+01		6.02E+00	2.09E-02
Perfluorobutanesulfonic acid (PFBS)	375-73-5		1.85E+01		3.74E+02		8.07E+01		6.02E+00	2.09E-02
Perfluorohexanesulfonate	108427-53-8		1.23E+00		2.49E+01		5.38E+00		4.01E-01	1.39E-03
Perfluorohexanesulfonic acid (PFHxS)	355-46-4		1.23E+00		2.49E+01		5.38E+00		4.01E-01	1.39E-03

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Perfluorononanoate	72007-68-2		1.85E-01		3.74E+00		8.07E-01		6.02E-02	5.02E-03
Perfluorononanoic acid (PFNA)	375-95-1		1.85E-01		3.74E+00		8.07E-01		6.02E-02	5.02E-03
Perfluorooctanesulfonate	45298-90-6		1.85E-01		3.74E+00		8.07E-01		6.02E-02	2.09E-04
Perfluorooctanesulfonic acid (PFOS)	1763-23-1		1.85E-01		3.74E+00		8.07E-01		6.02E-02	2.09E-04
Perfluorooctanoate	45285-51-6	7.61E+01	1.85E-01	4.98E+02	3.74E+00	2.69E+03	8.07E-01	1.11E+01	6.02E-02	1.83E-02
Perfluorooctanoic acid (PFOA)	335-67-1	7.61E+01	1.85E-01	4.98E+02	3.74E+00	2.69E+03	8.07E-01	1.11E+01	6.02E-02	1.83E-02
Potassium perfluorobutanesulfonate	29420-49-3		1.85E+01		3.74E+02		8.07E+01		6.02E+00	5.70E-02
Potassium perfluorooctanesulfonate	2795-39-3		1.85E-01		3.74E+00		8.07E-01		6.02E-02	2.09E-04
Phenanthrene	85-01-8		1.85E+03		2.75E+04		8.07E+03		1.70E+02	8.59E+01
Phenol	108-95-2		1.85E+04		2.75E+05		7.74E+04		5.76E+03	5.23E+01
Picric Acid (2,4,6-Trinitrophenol)	88-89-1		1.23E+02		1.83E+03		5.38E+02		3.95E+01	2.81E+00
Polychlorinatedbiphenyls (PCBs)										
Aroclor 1016	12674-11-2	6.96E+01	3.98E+00	3.04E+02	5.74E+01	2.44E+03	1.72E+01	2.24E+00	1.40E+00	2.01E+00
Aroclor 1221	11104-28-2	1.81E+00		8.57E+00		5.53E+01		5.61E-02		1.43E-02
Aroclor 1232	11141-16-5	1.86E+00		8.82E+00		5.76E+01		5.61E-02		1.43E-02
Aroclor 1242	53469-21-9	2.43E+00		1.09E+01		8.53E+01		7.86E-02		1.84E-01
Aroclor 1248	12672-29-6	2.43E+00		1.07E+01		8.53E+01		7.86E-02		1.81E-01
Aroclor 1254	11097-69-1	2.43E+00	1.14E+00	1.10E+01	1.64E+01	8.53E+01	4.91E+00	7.86E-02	4.01E-01	3.08E-01
Aroclor 1260	11096-82-5	2.43E+00		1.11E+01		8.53E+01		7.86E-02		8.25E-01
2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170)	35065-30-6	3.75E-01	3.98E-01	1.77E+00	5.74E+00	1.31E+01	1.72E+00	5.99E-02	1.40E-01	6.42E-01
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	35065-29-3	3.75E+00	3.98E+00	1.77E+01	5.74E+01	1.31E+02	1.72E+01	5.99E-01	1.40E+00	6.29E+00
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	39635-31-9	1.25E+00	1.33E+00	5.81E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	4.15E-01
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	52663-72-6	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.48E-01
2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157)	69782-90-7	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.53E-01
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156)	38380-08-4	1.25E+00	1.33E+00	5.75E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.53E-01
3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169)	32774-16-6	1.25E-03	1.33E-03	5.78E-03	1.91E-02	4.37E-02	5.73E-03	3.95E-05	4.01E-04	2.48E-04
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	65510-44-3	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.55E-01
2',3',4,4',5-Pentachlorobiphenyl (PCB 118)	31508-00-6	1.25E+00	1.32E+00	5.64E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.52E-01
2',3,3',4,4'-Pentachlorobiphenyl (PCB 105)	32598-14-4	1.25E+00	1.32E+00	5.64E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.55E-01
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	74472-37-0	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.55E-01
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	57465-28-8	3.75E-04	3.98E-04	1.72E-03	5.74E-03	1.31E-02	1.72E-03	1.19E-05	1.20E-04	4.55E-05
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	32598-13-3	3.75E-01	3.98E-01	1.77E+00	5.74E+00	1.31E+01	1.72E+00	5.99E-02	1.40E-01	1.41E-01
3,4,4',5-Tetrachlorobiphenyl (PCB 81)	70362-50-4	1.25E-01	1.32E-01	5.66E-01	1.91E+00	4.37E+00	5.73E-01	3.95E-03	4.01E-02	9.27E-03
Prometon	1610-18-0		9.25E+02		1.37E+04		4.04E+03		2.50E+02	1.92E+00
Propylene oxide	75-56-9	2.56E+01	9.14E+02	1.33E+02	4.31E+03	8.55E+02	7.99E+02	2.66E+00	6.26E+01	9.65E-03
Pyrene	129-00-0		1.74E+03		2.53E+04		7.53E+03		1.17E+02	1.92E+02
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	121-82-4	8.31E+01	3.01E+02	4.28E+02	4.89E+03	2.96E+03	1.35E+03	9.66E+00	7.96E+01	5.93E-02
Selenium	7782-49-2		3.91E+02		6.49E+03		1.75E+03		9.87E+01	1.02E+01
Silver	7440-22-4		3.91E+02		6.49E+03		1.77E+03		8.12E+01	1.38E+01
Simazine	122-34-9	4.44E+01	3.08E+02	2.14E+02	4.58E+03	1.57E+03	1.35E+03	6.07E+00	9.40E+01	4.83E-02
Strontium	7440-24-6		4.69E+04		7.79E+05		2.12E+05		1.18E+04	8.33E+03
Styrene (Ethenylbenzene)	100-42-5		7.26E+03		5.13E+04		1.02E+04		1.21E+03	2.06E+01
Sulfolane (thiolane 1,1 dioxide)	126-33-0		6.16E+01		9.16E+02		2.65E+02		2.00E+01	7.49E-02
2,3,7,8-TCDD	1746-01-6	4.90E-05	5.06E-05	2.38E-04	8.08E-04	1.72E-03	2.26E-04	1.19E-06	1.20E-05	2.24E-04

Chemical	CAS	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (µg/L)	Tap Water, Noncancer (µg/L)	Cw, DAF 20 (mg/kg)
2,3,7,8-TCDF	51207-31-9	4.90E-04		2.43E-03		1.72E-02		1.84E-06		7.69E-06
1,2,4,5-Tetrachlorobenzene	95-94-3		1.85E+01		2.75E+02		8.07E+01		1.66E+00	1.17E-01
1,1,1,2-Tetrachloroethane	630-20-6	2.81E+01	2.35E+03	1.37E+02	3.89E+04	6.59E+02	1.06E+04	5.74E+00	4.77E+02	3.60E-02
1,1,2,2-Tetrachloroethane	79-34-5	7.98E+00	1.56E+03	3.94E+01	2.60E+04	1.97E+02	7.08E+03	7.57E-01	3.60E+02	4.81E-03
Tetrachloroethene (Perchloroethylene, PCE)	127-18-4	3.37E+02	1.11E+02	1.65E+03	6.29E+02	7.91E+03	1.20E+02	1.13E+02	4.03E+01	3.21E-01
N,N,N',N''-tetramethylphosphoramidate (TMPA)	16853-36-4		6.16E+00		9.16E+01		2.69E+01		2.00E+00	6.95E-03
Tetryl (Trinitrophenylmethyl nitramine)	479-45-8		1.56E+02		2.59E+03		7.06E+02		3.94E+01	5.59E+00
Thallium	7440-28-0		7.82E-01		1.30E+01		3.54E+00		1.97E-01	2.85E+00
Toluene (Methylbenzene)	108-88-3		5.23E+03		6.13E+04		1.40E+04		1.09E+03	1.21E+01
Toxaphene	8001-35-2	4.84E+00		2.33E+01		1.70E+02		1.58E-01		6.96E+00
Tribromomethane (Bromoform)	75-25-2	6.74E+02	1.23E+03	1.76E+03	1.83E+04	2.37E+04	5.38E+03	3.29E+01	3.76E+02	1.47E-01
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		5.08E+04		2.43E+05		4.53E+04		5.50E+04	3.20E+03
1,2,4-Trichlorobenzene	120-82-1	2.40E+02	8.29E+01	1.25E+03	4.23E+02	8.54E+03	7.91E+01	1.15E+01	3.98E+00	3.10E+00
1,1,1-Trichloroethane (TCA)	71-55-6		1.44E+04		7.25E+04		1.36E+04		8.00E+03	5.11E+01
1,1,2-Trichloroethane (1,2,-TCA)	79-00-5	1.88E+01	2.61E+00	9.21E+01	1.24E+01	4.30E+03	2.30E+00	2.75E+00	4.15E-01	2.68E-02
Trichloroethylene (trichloroethene, TCE)	79-01-6	1.55E+01	6.77E+00	1.12E+02	3.65E+01	5.37E+03	6.90E+00	2.59E+00	2.82E+00	3.10E-02
Trichlorofluoromethane (Fluorocarbon-11)	75-69-4		1.23E+03		6.03E+03		1.13E+03		1.14E+03	1.57E+01
2,4,5-Trichlorophenol	95-95-4		6.16E+03		9.16E+04		2.69E+04		1.17E+03	6.62E+01
2,4,6-Trichlorophenol	88-06-2	4.84E+02	6.16E+01	2.33E+03	9.16E+02	1.70E+04	2.69E+02	4.11E+01	1.19E+01	6.74E-01
1,1,2-Trichloropropane	598-77-6		3.91E+02		6.49E+03		1.77E+03		8.81E+01	5.59E-01
1,2,3-Trichloropropane	96-18-4	5.10E-02	7.09E+00	1.21E+00	3.40E+01	8.26E+00	6.31E+00	8.35E-03	6.20E-01	5.82E-05
Triethylamine	121-44-8		1.93E+02		9.09E+02		1.69E+02		1.46E+01	7.31E-02
2,4,6-Trinitrotoluene (TNT)	118-96-7	2.11E+02	3.60E+01	1.07E+03	5.73E+02	7.50E+03	1.61E+02	2.53E+01	9.80E+00	8.61E-01
Uranium (soluble salts)	--		2.34E+02		3.88E+03		2.77E+02		5.92E+01	5.33E+02
Vanadium	7440-62-2		3.94E+02		6.53E+03		6.14E+02		6.31E+01	1.26E+03
Vinyl acetate	108-05-4		2.56E+03		1.24E+04		2.30E+03		4.09E+02	1.50E+00
Vinyl bromide	593-60-2	5.78E+00	9.66E+00	2.80E+01	4.55E+01	1.30E+02	8.46E+00	3.74E+00	6.26E+00	1.97E-02
Vinyl chloride (Chloroethene)	75-01-4	7.42E-01	1.13E+02	2.84E+01	8.16E+02	1.61E+02	1.62E+02	3.24E-01	4.43E+01	1.34E-02
m-Xylene	108-38-3		7.64E+02		3.73E+03		6.96E+02		1.93E+02	2.97E+00
o-Xylene	95-47-6		8.05E+02		3.94E+03		7.36E+02		1.93E+02	2.98E+00
p-Xylene	106-42-3		7.92E+02		3.87E+03		7.23E+02		1.93E+02	2.99E+00
Xylenes	1330-20-7		8.71E+02		4.28E+03		7.98E+02		1.93E+02	1.54E+02
Zinc	7440-66-6		2.35E+04		3.89E+05		1.06E+05		5.96E+03	7.41E+03
Essential Nutrients										
Calcium			1.30E+07		3.24E+07		8.85E+06			
Chloride			1.20E+07		5.84E+07		1.59E+07			
Magnesium			1.56E+07		5.68E+06		1.55E+06			
Phosphorus			1.56E+07		6.49E+07		1.77E+07			
Potassium			1.56E+07		7.62E+07		2.08E+07			
Sodium			7.82E+06		3.73E+07		1.02E+07			