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**[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER
R5-2024-XXXX**



ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	TENTATIVE
Program:	Non-15
Region 5 Office:	Fresno
Discharger(s):	Vulcan Materials Company and Calmat Co.
Facility:	Austin Quarry
Address:	40450 Highway 145, Madera, CA 93636
County:	Madera County
Parcel Nos.:	051-183-002; 051-183-003
CIWQS Place ID:	866404
Prior Order(s):	(none)

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____ October 2024.

PATRICK PULUPA,
Executive Officer

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GLOSSARY

Antidegradation Policy.....	Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16
APN.....	Assessor Parcel Number
Basin Plan.....	Water Quality Control Plan for the Sacramento River and San Joaquin River Basins
Bgs.....	Below Ground Surface
BPTC.....	Best Practicable Treatment and Control
CEQA.....	California Environmental Quality Act, Public Resources Code section 21000 et seq.
COA.....	Condition of Approval
CUP.....	Conditional Use Permit
BTOC.....	Below Top of Casing
DWR.....	California Department of Water Resources
EC.....	Electrical Conductivity
EIR.....	Environmental Impact Report
FEMA.....	Federal Emergency Management Agency
gpd.....	gallons per day
GAMA.....	Groundwater Ambient Monitoring and Assessment
HMBP.....	Hazardous Materials Business Plan Program
µg/L.....	Micrograms per Liter
µmhos/cm.....	Micromhos per Centimeter
mg/L.....	Milligrams per Liter
msl.....	Mean Sea Level
MRP.....	Monitoring and Reporting Program

MW.....	Monitoring Well
MCL.....	Maximum Contaminant Level per Title 22
N.....	Nitrogen
ND.....	Non-Detect
NOAA.....	National Oceanic and Atmospheric Administration
OAL.....	Office of Administrative Law
RWD.....	Report of Waste Discharge
RCRA.....	Resource Conservation and Recovery Act
SPCC.....	Spill Prevention, Control, and Countermeasure
SPRRs.....	Standard Provisions and Reporting Requirements
SB-001.....	Stormwater Basin 01
SB-002.....	Stormwater Basin 02
SP-001.....	Settling Pond 01
SP-002.....	Settling Pond 02
SP-003.....	Settling Pond 03
SERC.....	State Emergency Response Commission
SWPPP.....	Stormwater Pollution Prevention Plan
TDS.....	Total Dissolved Solids
Title 22.....	California Code of Regulations, Title 22
Title 23.....	California Code of Regulations, Title 23
Title 27.....	California Code of Regulations, Title 27
WDRs.....	Waste Discharge Requirements
WQO.....	Water Quality Objective

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

Introduction

1. Vulcan Materials Company and Calmat Co. submitted a 16 March 2020 Report of Waste Discharge (RWD) for aggregate washing operations conducted at Austin Quarry (Facility), an aggregate mining facility located approximately 2.3 miles east of Bonadelle Ranchos-Madera Ranchos in Madera County, Section 5, Township 11 South, Range 20 East, Mount Diablo Base and Meridian (MDB&M). The Facility is comprised of the Madera County Assessor Parcel Numbers (APNs) 051-183-002 and 081-183-003.
2. As the owners and operators of the Facility and land, Vulcan Materials Company and Calmat Co. (hereafter Dischargers) are responsible for compliance with the Waste Discharge Requirements (WDRs) prescribed in this Order.
3. The following materials are attached and incorporated as part of this Order:
 - a. ATTACHMENT A — Site Location Map
 - b. ATTACHMENT B — Facility Site Map
 - c. ATTACHMENT C — Mining Phases Map
 - d. ATTACHMENT D — Groundwater Monitoring
 - e. ATTACHMENT E — Process Flow Schematic
 - f. Information Sheet
 - g. [Standard Provisions & Reporting Requirements dated 1 March 1991 \(SPRRs\)](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/std_provisions/wdr-mar1991.pdf)
4. Also attached is **Monitoring and Reporting Program R5-2024-XXXX** (MRP), which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP and subsequent revisions thereto as ordered by the Executive Officer or Adopted by the Central Valley Water Board.

5. WDRs are needed for this Facility to ensure the discharge meets the requirements of current water quality plans and policies.

Regulatory History

6. A RWD was submitted to the Central Valley Water Board on 16 March 2020 on behalf of the Dischargers. The RWD was prepared and stamped by Lisa Skutecki (RCE No. 72219) of Brown and Caldwell. Operations at the Facility began in January of 2022 and include the mining of aggregate for construction use. Process wastewater is generated at the Facility from aggregate wash operations, which is discharged to onsite settling ponds.
7. This Facility does not have previous WDRs but was issued MRP R5-2020-0813 by the Executive Officer on 3 July 2020. The MRP was issued to monitor and characterize the Facility's discharge until the Central Valley Water Board adopted WDRs for this Facility.
8. Madera County issued a Conditional Use Permit (CUP) 2009-017 for the Facility, which included several Conditions of Approval (COAs) for the Project's implementation. COAs include groundwater monitoring, groundwater balance, biological protection, air permitting, implementation of a Storm Water Pollution Prevention Plan (SWPPP), Hazardous Materials Business Plan (HMBP), a Spill Prevention, Control and Countermeasure Plan (SPCC), and Preventative Maintenance and Best Management Practices (BMPs).
9. An onsite septic system will service the Facility's domestic wastewater needs and is permitted through the County of Madera, Department of Environmental Health Division.
10. A pre-requirement inspection was conducted at the Facility on 7 February 2024. Staff observed that the Facility process wastewater system was as described in the March 2020 RWD. To date, the Discharger has demonstrated compliance with MRP requirements.

Facility and Discharges

Existing Facility and Discharges

11. Aggregate mining at the Facility began in January 2022 and consists of excavation, blasting, sorting, crushing, washing, storage, and transport of extracted aggregate. The Discharger anticipates that mining operations will be conducted in six phases, as shown on **Attachment C**. The duration of operations at each phase is variable and unknown, though the Discharger projects that mining operations at the Facility will last approximately 100 years. The Facility covers approximately 258 acres and includes an office, equipment shop, wash

area, settling ponds, and mining areas. The plant includes a series of crushers, screens, stockpiles, finish plant, secondary plant, rewash/chip plant, and support facilities such as a maintenance shop, loadout facility, a scale house, and truck scales with offices.

12. Operations vary based on market factors, but the Facility can process up to 2.5 million tons of aggregate per year according to the RWD.
13. The Facility includes a closed loop process water system which includes one 300,000-gallon freshwater storage tank filled from an onsite supply well, a clarifier, three settling ponds, freshwater basin, and two runoff collection basins. Stormwater that accumulates within the Facility is directed to one of two onsite stormwater retention basins (SB-001 and SB-002) that are independent of the process water system. Water for the wash process may also be sourced from groundwater or surface water encountered in the current mining phase that is pumped to the freshwater storage tank.
14. Fresh water from the storage tank is used to wash the aggregate and the used wash water is then conveyed through a static screen before it is sent to the clarifier. A polymer flocculant is added to the clarifier to aid in the settling of suspended solids, such as silts and clays. No other additives, chemical or otherwise, are reported to be used in the wash process. Clarified water is routed back to the freshwater storage tanks where it may be reused for washing, while clarifier waste, including process water and particulate, flows to one of three process water retention basins located along the southern boundary of the site. As solids/fines settle out in the ponds, decanted water is collected and pumped back to the clarifier for reuse. Solids/fines that settle out the settling basins are removed and stockpiled for future use. The process wastewater is reused as much as possible within the closed loop system of the wash process. When additional water is needed for the washing operations, water is supplied by the "Northwest Well." The source well location is shown in **Attachment B**.
15. According to the RWD, the estimated average wash water flow rate to the ponds is 338 gallons per minute (gpm). During 2023, a max daily flow of 141,123 gpd and an average daily flow of 55,751 gpd were reported, with operating times varying from five to seven hours per day. The total reported volume of water discharged to the ponds during 2023 was approximately 14.5 million gallons. The Discharger expects to increase operating hours to 16 hours a day and anticipates maximum daily flows to reach approximately 325,000 gpd.
16. Monthly monitoring data collected from the settling ponds are summarized below for 2022 to 2023. The Facility's third settling pond was constructed and used late in 2022; therefore, the following data only reflect Settling Pond One (SP-001) and Settling Pond Two (SP-002), and limited data with respect to Settling Pond Three (SP-003).

Table 1 - Settling Ponds Water Quality (2022-2023)

Parameters	Units	SP-001	SP-002	SP-003
EC	µmhos/cm	469 (18) [247-652]	433.5 (20) [258-699]	410.8 (12) [233-600]
TDS	mg/L	296 (15) [163-453]	308.7 (17) [171-464]	277.8 (12) [154-412]
Alkalinity (as CaCO ₃)	mg/L	107 (3) [35-150]	122.3 (3) [96-140]	97 (1)
Bicarbonate (as CaCO ₃)	mg/L	107 (3) [35-150]	121 (3) [96-140]	97 (1)
Calcium	mg/L	53 (3) [42-65]	49.2 (3) [42-55]	80 (1)
Chloride	mg/L	43 (3) [16-92]	18 (3) [14-20]	19 (1)
Iron	mg/L	0.31 (3) [0.12-0.48]	1.89 (2) [0.38-3.4]	16 (1)
Magnesium	mg/L	16.5 (3) [11-22]	16.7 (3) [14-19]	20 (1)
Manganese	mg/L	0.048 (3) [0.012-0.0569]	0.05 (3) [0.0125-0.096]	0.29 (1)
Nitrate (as N)	mg/L	12.2 (3) [6.8-23]	16.1 (3) [6.3-19]	18 (1)
Sodium	mg/L	28.5 (3) [16-36]	34.9 (3) [34-36]	53 (1)

The number in the parentheses reflects the number of sample results used to calculate the average result, and the range of results is bracketed.

17. Monthly flow data to the settling ponds were collected during 2022 and 2023, as presented in Table 2 below.

Table 2 - Settling Ponds Flow Monitoring

Month	2022 Total Influent (Gallons)	2023 Total Influent (Gallons)
January	13,000	522,014
February	11,500	757,930
March	1,103	524,947
April	1,173	276,648
May	2,959	858,293
June	2,009	1,099,423

July	2,009	1,048,590
August	3,115	1,261,371
September	4,221	1,835,847
October	1,442	3,104,712
November	-- (see 1 below)	1,422,993
December	-- (see 1 below)	1,782,407
Annual Average	4,108	1,207,931

1. Flows to settling ponds were not monitored during construction of Settling Pond 3. Discharge was sent to Settling Pond 1 during construction and was reported to be similar to average monthly flows but was not measured.
18. The Discharger removes surface water and groundwater encountered during mining operations and directs some of it to the storage tank where it is mixed with freshwater and used for the aggregate wash process. Encountered water is used to supplement water used in the wash process as needed, and the remaining water encountered from the mining pits is sent to SB-002, which is located within Phase 6 of the mining plan (see **Attachment C**).

Site-Specific Conditions

Topography, Climate and Land Use

19. The Facility is located just south of Highway 145, and approximately 1 mile west of Highway 41. A review of historical aerial imagery indicates that the Facility and surrounding areas were largely unused land until 2020 when the Discharger began construction of the Facility. The primary land use category in the Facility vicinity is agricultural, and the nearest residential communities are approximately 2.5 miles west, and 3 miles south of the Facility.
20. The Facility's southern boundary borders the Madera Canal, which provides irrigation water to the north from Friant Dam. This conveyance is part of the US Bureau of Reclamation's Central Valley Project.
21. A 2009 geotechnical study indicates that the geology underlying the Facility consists of a thin veneer of alluvium (observed to be 5-10 feet thick), which is underlain by fluvial and lacustrine deposits of the Turlock Lake Formation, which is underlain by bedrock. Alluvium was encountered from the surface to as deep as 10 feet bgs, and generally consists of gravels, sand, silt, and clays. Turlock Lake Formation deposits include fine-grained sandstones, mudstones, and thin interbeds of gravel, and were encountered from the base of the alluvium to as deep as 140 ft bgs. The underlying bedrock is composed of a dark gray intrusive igneous rock that is separated into weathered and fresh (i.e., competent) units.

22. Land surface elevations range from 415 feet above mean sea level (msl) to 467 feet msl.
23. The Facility is located in an arid climate characterized by dry summers and mild winters. Based on data from the nearest weather station (Madera), the Facility has an annual average precipitation of 11.5 inches, and a mean pan evaporation of 79.83 inches per year. According to National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Atlas 14, Vol. 6 (rev. 2014), 24-hour rainfall events for 100-year and 1,000-year return periods are estimated to be 3.76 and 5.25 inches of precipitation, respectively.
24. According to the Federal Emergency Management Agency's (FEMA) [Flood Insurance Rate Map](https://msc.fema.gov/portal) (<https://msc.fema.gov/portal>), the Facility is in an area designated as "Zone X." Areas in Zone X are outside of the one percent annual change of flood with average depth less than one foot.

Groundwater and Subsurface Conditions

25. According to the RWD, groundwater beneath the Facility is present from the shallow alluvial deposits to the fractured bedrock. Review of groundwater elevation contours available from the Department of Water Resources Sustainable Groundwater Management Act Data Viewer, indicates that the regional groundwater flow direction near the Facility is variable. The reported local groundwater flow direction is towards the south; though, the Environmental Impact Report (EIR) completed for the Facility described local groundwater encountered from 10 to 60 ft bgs with a groundwater flow direction to the southwest.
26. The County of Madera requires the Discharger to monitor groundwater levels near the Facility to ensure that groundwater levels are not adversely affected by the aggregate mining operations. The groundwater monitoring network at the Facility consists of seven monitoring wells, including the Northwest Well, Well 2008-A, MW-1, MW-2, MW-4, MW-5, and MW-7. Well locations are shown on **Attachment D**. The Discharger also collects groundwater elevation data from nearby domestic wells (DW-1 through DW-6) as required by Madera County's Conditional Use Permit. Average daily depth to groundwater measurements collected from the Facility's monitoring wells and nearby domestic wells from October 2022 to September 2023 are summarized in Table 3 below. Wells DW-1 and DW-5 average groundwater depth measurements are from October 2021 to September 2022, as there was no data for those wells due to site access limitations during the 2022-2023 reporting period.

Table 3 - Depth to Groundwater (2022-2023)

Well	Average Depth to Water (ft btoc)	Depth of Well (ft bgs)	Location
MW-1	25.83 (286)	387.2	Off-Site
MW-2	48.29 (197)	389.45	Off-Site
MW-3	59.56 (284)	387.85	Off-Site
MW-4	14.08 (277)	425.36	Austin Quarry
MW-5	6.72 (364)	416.75	Austin Quarry
MW-7	10.83 (285)	422.78	Austin Quarry
NW Well	98.28 (284)	420.9	Austin Quarry
2008-A	19.34 (177)	427.4	Austin Quarry
DW-1 (2021-2022)	141.47 (297)	402.19	Off-Site
DW-2	149.15 (296)	406.74	Off-Site
DW-3	136.44 (351)	402.31	Off-Site
DW-4	43.98 (281)	402.39	Off-Site
DW-5 (2021-2022)	48.23 (218)	409.16	Off-Site
DW-6	136.53 (281)	401.24	Off-Site

Number in parentheses in Table 3 above is the number of data points used to calculate average depth to groundwater over 2022-2023

27. The Northwest Well supplies the freshwater storage tank used for the aggregate washing operations and was drilled on 26 May 2005 to a depth of 420.9 feet and has an 8-inch diameter steel casing. The Northwest Well is sampled monthly for EC and TDS, and 2021-2023 water quality results are shown below in Table 4. Additionally, 2022-2023 groundwater extraction volumes for the Northwest Well are provided in Table 5.

Table 4 - Supply Water Quality

Parameter	Units	2021	2022	2023
Electrical Conductivity (EC)	µmhos/cm	390 (1)	330.5 (18) [312-351]	327 (12) [302-384]
Total Dissolved Solids (TDS)	mg/L	270 (1)	220 (8) [208-238]	218 (12) [201-260]
Alkalinity	mg/L	130 (1)	N/A	N/A
Bicarbonate	mg/L	130 (1)	N/A	N/A
Calcium	mg/L	41 (1)	N/A	N/A

Chloride	mg/L	15 (1)	N/A	N/A
Iron	mg/L	<0.03 (1)	N/A	N/A
Magnesium	mg/L	12 (1)	N/A	N/A
Nitrate	mg/L	5.9 (1)	N/A	N/A
Sodium	mg/L	23 (1)	N/A	N/A

28. The Discharger extracts encountered groundwater and surface water from the current mining phase for reuse in the aggregate wash process. This water is sent to the 300,000-gallon freshwater storage tank. During 2023, the Discharger reported an average of 32,165 gallons per day was extracted from the pit to the freshwater tank and monthly total extraction totals are presented in Table 5 below.

Table 5 - Supply Well and Mining Pit Dewatering

Month	2022 Total Well Extraction (gallons)	2023 Total Well Extraction (gallons)	2023 Pit Dewatering to Tank (gallons)
January	293,301	182,803	0
February	509,940	298,840	123,172
March	336,343	89,283	0
April	14,047	899,676	0
May	1,212,540	1,082,478	0
June	859,672	809,415	1,829,004
July	580,219	292,615	1,222,595
August	1,502,881	1,596,998	0
September	967,073	1,175,998	2,421,402
October	1,507,063	763,144	1,789,576
November	554,598	288,053	977,288
December	711,661	1,016,005	0
Annual Average	764,694	707,912	696,919

Statutory Authority

29. This Order is adopted pursuant to Water Code section 13263, subdivision (a), which provides in pertinent part as follows:

The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge..., with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed.

30. Compliance with section 13263, subdivision (a), including implementation of applicable water quality control plans, is discussed in the findings below.
31. The ability to discharge waste is a privilege, not a right, and adoption of this Order shall not be construed as creating a vested right to continue discharging waste. (Wat. Code, § 13263, subd. (g).)
32. This Order and its associated Monitoring and Reporting Program (MRP) are also adopted pursuant to Water Code section 13267, subdivision (b)(1), which provides as follows:

[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.

33. The reports required under this Order, as well as under the separately issued MRP, are necessary to verify and ensure compliance with WDRs. The burden associated with such reports is reasonable relative to the need for their submission.

Basin Plan Implementation

34. Pursuant to Water Code section 13263, subdivision (a), WDRs must “implement any relevant water quality control plans... and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.”

Beneficial Uses of Water

35. This Order implements the Central Valley Water Board’s Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), which designates beneficial uses for surface water and groundwater and establishes narrative and numerical water quality objectives necessary to preserve such beneficial uses. (See Water Code, § 13241 et seq. § 13241 et seq.).
36. The Facility is within the Berenda Creek Hydrologic Area (No. 545.30) of the San Joaquin Valley Floor Hydrologic Unit, as depicted on interagency hydrologic

maps prepared by the State Water Board and Department of Water Resources, revised in August 1986. Local drainage is to Little Dry Creek, which is tributary to the San Joaquin River. Per the Basin Plan, existing and potential beneficial uses of the San Joaquin River from Friant Dam to Mendota Pool include municipal and domestic supply (MUN), agriculture irrigation and stock watering (AGR), industrial process supply (PRO), contact and non-contact water recreations (REC-1 and REC-2), warm and cold freshwater habitat (WARM and COLD), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and wildlife habitat (WILD).

37. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

Water Quality Objectives

38. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
39. The numeric WQO for bacteria is expressed as the most probable number (MPN) of coliform organisms per 100 mL of water. For MUN-designated groundwater, the objective is an MPN of 2.2 organisms over any seven-day period.
40. The narrative WQO for chemical constituents in groundwater generally provides that groundwater shall not contain constituents in concentrations adversely affecting beneficial uses. For MUN-designated waters, the Basin Plan further provides that water, at a minimum, meet the primary and secondary maximum contaminant levels (MCLs) specified in California Code of Regulations, title 22 (Title 22).¹ (See Title 22, §§ 64431, 64444, 64449.)
41. The narrative WQO for toxicity provides that groundwater shall be maintained free of toxic substances in concentrations producing detrimental physiological responses in human, animal, plant or aquatic life associated with designated beneficial uses.
42. To the extent necessary, narrative WQOs are quantified, on a site-specific basis, as numeric limits for constituents with potential to adversely impact designated

¹ The Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

uses. In determining a site-specific numeric limit, the Central Valley Water Board considers relevant published criteria.

Salt and Nitrate Control Programs

43. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Resolution R5-2018-0034). The Basin Plan amendments became effective on 17 January 2020 and were revised by the Central Valley Water Board in 2020 with [Resolution R5-2020-0057](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf) (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf).
44. For the Nitrate Control Program, dischargers of nitrate to groundwater basins or sub-basins may comply with the new nitrate program either individually (Pathway A) or collectively with other dischargers (Pathway B). The Facility is within the Madera Management Zone, a Priority 2 management zone. Notices to Comply were sent to Dischargers in this management zone in December 2023. However, some sand and gravel processing facilities within the Central Valley have been determined to be exempt from the Nitrate Control Program because the typical washing process that occurs at such facilities has not been observed to result in increasing nitrogen concentrations in the wastewater.
45. Reported concentrations of nitrate as nitrogen from the settling ponds indicate increasing and elevated nitrate as nitrogen concentrations in the process wash water. The Discharger has stated that the elevated concentrations are indicative of natural groundwater variations; however, nearby available groundwater data do not support this claim.
46. The EIR mentions that several alluvial and bedrock wells at the Facility site were sampled for nitrate (as NO_3) during 2010. Sample results converted to nitrate as N for all wells were below the MCL of 10 mg/L, with the exception of one sample from an alluvial well near the southern border of the Facility (MW-7), from which nitrate as N was observed to be 136 mg/L. The approximate converted range of nitrate as nitrogen concentrations from the other wells sampled during 2010 was 3.8 to 9.5 mg/L. No further explanation of this instance of elevated nitrate concentration from MW-7 was provided in the EIR.
47. The RWD indicates that blasting is conducted at the Facility in mining phases that consist of more competent rock. Ammonium Nitrate Fuel Oil (ANFO) and other nitrate compounds are typically used as blasting agents and may be a source of elevated nitrate concentrations; though, further monitoring is needed to investigate. The Discharger agreed to sample additional potential nitrogen streams, such as from the clarifier prior to entering the settling ponds, and water

sourced from current mining phase during its July 2024 sampling event. Results of the July 2024 sampling event are presented in Table 6 below.

Table 6 - July 2024 Nitrogen Sampling Event

Sample Location	Nitrate as N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)
NW Well	4.2	ND	4.2
Pit Water	16	ND	16
Settling Pond 003	9	ND	9
Clarifier Effluent	14	ND	14

48. The attached MRP includes nitrogen monitoring of the Northwest Well, effluent from the clarifier, the final settling pond, and water sourced from the current mining phase prior to entering the storage tank. Furthermore, this Order requires a Nitrogen Source Evaluation and Minimization Plan be completed based on monitoring results to determine the need for complying with the Nitrate Control Program.
49. For the Salt Control Program, currently dischargers of salt must comply with Phase I of the Salt Control Program, which consists of two pathways, either the Conservative Salinity Permitting Approach or Alternative Salinity Permitting Approach. During Phase I of the Alternative Salinity Permitting Approach, rather than complying with conservative limits, permittees must support facilitation and completion of a basin-wide effort known as the Prioritization and Optimization Study (P&O Study) to develop a long-term salinity strategy for the Central Valley. The Discharger was issued a Notice to Comply for the Salt Control Program (**CV-SALTS ID: 3645**) on 2 October 2023. Central Valley Water Board records indicate that the Dischargers submitted a Notice of Intent to participate in the P&O Study on 22 May 2024. To minimize salinity impacts, this Order does the following:
 - a. Sets a performance-based effluent limitation of 700 $\mu\text{mhos/cm}$ for EC, calculated as an annual average concentration of process wastewater within the settling ponds. This performance-based limit is based on 150% of the 2022 – 2023 average EC observed in SP-001 and SP-002 (467 $\mu\text{mhos/cm}$).
50. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs. As such this Order may be amended or modified to incorporate any newly applicable requirements to ensure that the goals of the Salt and Nitrate Control Programs are met.

51. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of “high quality waters” unless it is shown that the discharge(s) causing such degradation will be consistent with the maximum benefit to the people of California, will not unreasonably affect beneficial uses, and will not result in water quality worse than applicable WQOs. Any discharge to high quality waters must meet requirements that will result in the best practicable treatment or control (BPTC) necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.
52. Groundwater quality samples were collected at the Facility during 2010 and reported in the 2016 Final EIR. This data, along with municipal and domestic well data within four miles from the Facility and available from the State Water Board’s Groundwater Ambient Monitoring and Assessment are presented in Table 6 below. In general, groundwater quality with respect to EC and nitrate is good, with the exception of one sample from an onsite well (MW-7), as discussed in Finding 46, and from a well (CA2000834_001_001) that is almost 3 miles north of the Facility.

Table 7 - Available Groundwater Data

Well ID	Nitrate as N (mg/L)	EC (µmhos/cm)	Sample Year(s)	Location
MW-1	5.2 (1)	277 (1)	2010	Downgradient
MW-2	4.4 (1)	236 (1)	2010	Downgradient
MW-3	3.8 (1)	215 (1)	2010	Downgradient
MW-4	9.5 (1)	571 (1)	2010	Onsite
MW-5	7.5 (1)	340 (1)	2010	Onsite
MW-7	136 (1)	3180 (1)	2010	Onsite
MW-2008-A	5.0 (1)	343 (1)	2010	Onsite
MW-2008-B	9.5 (1)	434 (1)	2010	Onsite
Northwest Well	5.8 (1)	377 (1)	2010	Onsite
CA2000850_001_001	0.4 (2)	--	2022-2023	Downgradient
CA2000834_001_001	10.9 (10)	--	2022-2024	Upgradient

1. Number in parenthesis is the number of samples used to calculate average result

53. Constituents of concern (COCs) that have the potential to degrade groundwater include salinity (EC and TDS) and nitrate, as discussed below. Average concentrations of these COCs are summarized for the process wash water and source water, as compared to applicable water quality objectives, in Table 8.

Table 8 - Constituents with Potential for Degradation

Constituent	Units	Effluent (see 1 below)	WQOs/MCL	Source Water (see 2 below)
Total Dissolved Solids (TDS)	mg/L	270 (44)	500	222 (21)
EC	µmhos/cm	390 (50)	700	332 (21)
Nitrate as N	mg/L	14.7 (7)	10	5.9(1)

1. Effluent average concentrations were collected in 2022 and 2023. The number in parenthesis indicates the number of samples averages were taken from.
2. Source water average concentrations of EC and TDS were collected in 2022 and 2023. Nitrate as N was collected in 2021.
 - a. **Salinity.** Average EC and TDS concentrations from the process wash water are about 15 and 18 percent greater than the observed source water concentrations, respectively. However, TDS effluent concentrations are only about half the applicable water quality objectives for the respective COCs.

To comply with the Salt Control Program, the Discharger elected to participate in the P&O Study, a basin-wide planning effort to develop a long-term salinity strategy for the Central Valley. Meanwhile, to help ensure that the Discharger continues to implement salinity reduction and control measures and protect groundwater quality, this Order includes a performance-based EC effluent limit of 700 µmhos/cm calculated as an annual average concentration to ensure the Facility’s effluent salinity concentrations do not increase. Furthermore, this Order requires the Discharger to continue to comply with the Salt Control Program (i.e., participate in the P&O Study).
 - b. **Nitrate.** Nitrate concentrations from recent settling pond samples are elevated and above the Primary Maximum Contaminant Level of 10 mg/L. As discussed in Findings 45 through 48, the source of the elevated nitrate concentrations is unclear and more frequent testing is required to better understand the source of elevated nitrate levels. This Order requires the Discharger to complete a Nitrogen Source Evaluation and Minimization Plan.
54. The Discharger implements, or will implement, as required by this Order the following measures, which the Central Valley Water Board has determined

constitutes BPTC. These measures will minimize the extent of water quality degradation resulting from the Facility's discharge:

- a. Providing treatment (clarifier and settling ponds) of aggregate wash water;
 - b. Maintaining a minimum of two-feet of freeboard;
 - c. Recycling the treated aggregate wash water; and
 - d. Compliance with the Slat Control Program
55. Developing local aggregate facilities is consistent with the maximum benefit to the people of the state. Locating aggregate supplies near large construction projects reduces haul distances, thus reducing traffic congestion, fuel consumption, and greenhouse gas emissions. The Discharger's operation provides approximately 30 jobs. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the state and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.
56. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

California Environmental Quality Act

57. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., on, Madera County certified a final Environmental Impact Report (EIR; State Clearinghouse No. 2010071036) for Austin Quarry Project on 29 July 2016. For purposes of the EIR, the "project" includes the following pertinent elements:
- a. Construction of a shop, administration building, aggregate facilities;
 - b. Weight scales; and
 - c. Settling ponds, freshwater recharge basin.
58. Mitigation Measure 3.7-1(h), identified by the EIR, includes implementing measures to minimize the potential for water quality impacts from blasting agents. According to this mitigation measure, the Discharger shall use certified individuals to handle blasting, use water repellent blasting material, when necessary, and ensure best practices to minimize potential water quality degradation from blasting, in accordance with guidance developed by the Institute of Makers of Explosives.

59. This Order implements all applicable mitigation and monitoring measures specified in the EIR. The Central Valley Water Board, as a responsible agency under CEQA, was consulted in the lead agency's development of the Environmental Impact Report. The discharges and other activities authorized under this Order also fall within the scope of the proposed Project, as contemplated in the Final EIR.

Other Regulatory Considerations

Water Code Section 13149.2

60. These WDRs regulate a facility that may impact a disadvantaged community and tribal community and includes an alternative compliance path that allows the Discharger time to come into compliance with applicable water quality objectives (i.e., salinity). The Discharger has elected to participate in the Alternative Salinity Permitting Approach for the Salt Control Program, which provides an alternative approach for compliance with salinity limits through implementation of specific requirements (i.e., support facilitation and completion of the P&O Study). Pursuant to Water Code section 13149.2, and as discussed in the following finding, the Central Valley Water Board reviewed readily available information concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of these WDRs.
61. The Central Valley Water Board anticipates that the issuance of this Order will result in water quality impacts within the scope of the Board's authority. The Facility's proposed effluent quality has an average EC around 400 $\mu\text{mhos/cm}$ and TDS average around 270 mg/L. These concentrations generally are below the WQO for groundwaters designated for MUN (municipal and domestic supply). These WDRs require the Discharger to 1) be an active participation in the P&O Study and comply with the Salt Control Program, which is intended to identify long-term salinity management and control practices and/or technologies and 2) maintain current discharge concentrations for salt (e.g., establishing a performance-based salinity limit).

Human Right to Water

62. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Although this Order is not subject to Water Code section 106.3, as it does not revise, adopt, or establish a policy, regulation, or grant criterion (see § 106.3, subd. (b)), it nevertheless promotes the policy by requiring discharges to meet MCLs for drinking water (excluding salinity), which are designed to protect human health and ensure that water is safe for domestic use. For salinity, this Order requires compliance with the Salt Control Program. Although the Basin

Plans' Exceptions Policy for Salinity allows participants in the Salt Control Programs to obtain limited-term exceptions from the MCLs for salinity, the Salt Control Program is consistent with the Human Right to Water Policy because its over-arching management goals and priorities include long-term restoration of impacted groundwater basins and sub-basins where reasonable, feasible, and practicable.

Threat-Complexity Rating

63. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **3-B**
- a. Threat Category "3" reflects waste discharges that could either degrade water quality without violating water quality objectives, or cause beneficial use impairments that are minor relative to Categories 1 and 2.
 - b. Complexity Category "B" reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems (except for septic systems with subsurface disposal), or (2) any Class II or Class III WMUs.

Title 27 Exemption

64. This Order, which prescribes WDRs discharges of wastewater, is exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (b).)

Scope of Order

65. This Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein. This Order is also strictly limited in applicability to those individuals and/or entities specifically designated herein as "Discharger," subject only to the discretion to designate or substitute new parties in accordance with this Order.
66. Pursuant to Water Code section 13264, subdivision (a), the Dischargers are prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (RWD) per Water Code section 13260.
67. Failure to file a new RWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.

Procedural Matters

68. All of the above information, as well as the information contained in the attached Information Sheet (incorporated herein), was considered by the Central Valley Water Board in prescribing the WDRs set forth below.
69. The Dischargers, interested agencies and other interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (See Wat. Code, § 13167.5.)
70. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.
71. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

It is Hereby Ordered, pursuant to Water Code sections 13263 and 13267, that the Discharger and their agents, employees and successors shall comply with the following.

A. Standard Provisions

Except as expressly provided herein, the Discharger shall comply with the [Standard Provisions and Reporting Requirements dated 1 March 1991 \(SPRRs\)](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/st_provisions/wdr-mar1991.pdf), (https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/st_provisions/wdr-mar1991.pdf) which are incorporated herein.

B. Discharge Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.
2. Waste classified as "hazardous" (per Cal. Code Regs., tit. 22, §66261.1 et seq.), shall not be discharged at the Facility under any circumstance.
3. Waste constituents shall not be discharged or otherwise released from the Facility (including during treatment and storage activities) in a manner that results in:
 - a. Violations of the Groundwater Limitations of this Order; or
 - b. Conditions of "nuisance" or "pollution," as defined per Water Code section 13050.

4. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
5. Concrete processing of any kind is prohibited.
6. The use of any chemical additives in the aggregate wash process is prohibited.
7. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.
8. Discharge of domestic wastewater to the excavation areas or ponds is prohibited.

C. Flow Limitations

1. Process wastewater discharged from the clarifier to the settling ponds (monitored at EFF-001 in the MRP) shall not exceed a maximum daily flow of 325,000 gpd.

D. Salinity Limitations

1. To comply with the Salt Control Program, the Discharger has selected the Alternative Salinity Permitting Approach (i.e., participate in the Prioritization and Optimization [P&O] Study). Therefore, as discussed in the above Findings, these WDRs establish an EC performance-based effluent limitation of **700 $\mu\text{mhos/cm}$** (as an annual average concentration of effluent discharged to the settling ponds [monitored at SP-002 in the MRP]).

E. Discharge Specifications

1. All systems and equipment shall be operated to optimize discharge quality.
2. Effluent flows to any ponds shall not result in freeboard less than two feet, as measured from the water surface to the lowest point of overflow. If the freeboard is expected to be exceeded, discharges must cease or be directed to an alternative pond until sufficient capacity is available to resume discharging.
3. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
4. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any

pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

5. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
6. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.5 and D.6.
7. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
8. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.

F. Groundwater Limitations

Discharge of waste at or from any portion of the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or background quality, whichever is greater:

1. The Primary or Secondary MCLs established in Title 22, excluding salinity.

2. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

G. Solids Disposal Specifications

1. For the purpose of this Order, residual solids including the solid and semisolids removed during the treatment process.
2. Residual solids shall be removed from screens, treatment systems, vaults, and ponds as needed to ensure optimal operation, prevent nuisance conditions, and maintain adequate storage capacity.
3. Any handling and storage of residual solids shall be temporary and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soil in a mass or concentration that will violate the groundwater limitations of this Order.
4. Any proposed change in solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

H. Provisions

1. The Discharger shall comply with **MRP R5-2024-XXXX**, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
2. A copy of this Order, including the MRP, Information Sheet, Attachments, and SPRRs, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
3. The Discharger shall comply with the Salt Control Program by maintaining good standing with the P&O Study.
4. If flows to the Facility have been increasing, or are projected to increase, the Discharger shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by 31 January.

5. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
6. **<60 days from adoption>**, develop and implement a **Nitrogen Source Evaluation and Minimization Plan** for the proposed discharge. The Plan shall identify nitrogen control measures that could reduce the nitrogen concentrations of the proposed discharge. The Plan shall provide a description of the tasks, cost, and time required to investigate and implement the various elements in the Nitrogen Evaluation and Minimization Plan. At a minimum, the plan shall include:
 - i. An estimate of all the sources that contribute, or potentially contribute, to the nitrogen concentrations in Facility's proposed process wastewater discharge.
 - ii. An analysis of the methods/alternatives that could be used to reduce the sources of nitrogen that discharge into the facility process wastewater streams.
 - iii. A description of the tasks, costs, and time required to investigate and implement various elements in the Nitrogen Evaluation and Minimization Plan.
 - iv. A plan for monitoring the results of the Nitrogen Evaluation and Minimization Plan.
7. The Discharger shall submit the technical reports and work plans required by this Order for consideration and shall incorporate comments from the Central Valley Water Board may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the

Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
11. As described in the SPRRs, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
12. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission (SERC) within 15 days, pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
13. In the event of any change in control or ownership of the Facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
14. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state

that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

15. In order to rescind WDRs that are no longer necessary because the discharge to land permitted under this Order has ceased, the Discharger must contact the Central Valley Water Board to discuss appropriate wastewater treatment system closure requirements.
16. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of [the law and regulations applicable to filing petitions](#) are available on the Internet (at the address below) and will be provided upon request.

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

ATTACHMENTS

ATTACHMENT A — Site Location Map

ATTACHMENT B — Facility Site Map

[Tentative] Waste Discharge Requirements Order R5-2024-####
Vulcan Materials Company and Calmat Co.
Austin Quarry
Madera County

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ATTACHMENT C — Mining Phases Map

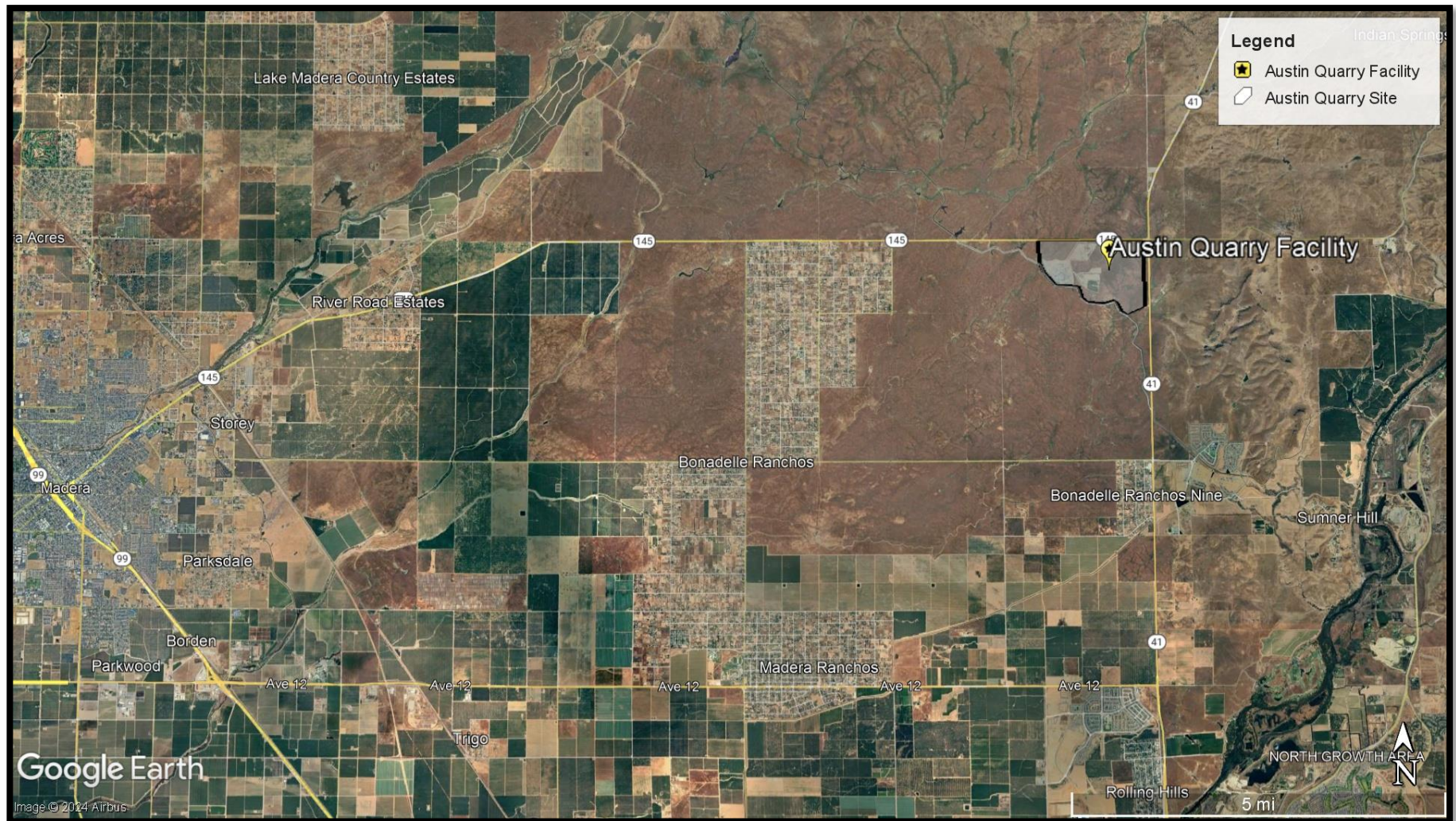
ATTACHMENT D — Groundwater Monitoring Network

ATTACHMENT E — Process Flow Schematic

Information Sheet

Monitoring and Reporting Program R5-2024-XXXX

ATTACHMENT A — Site Location Map



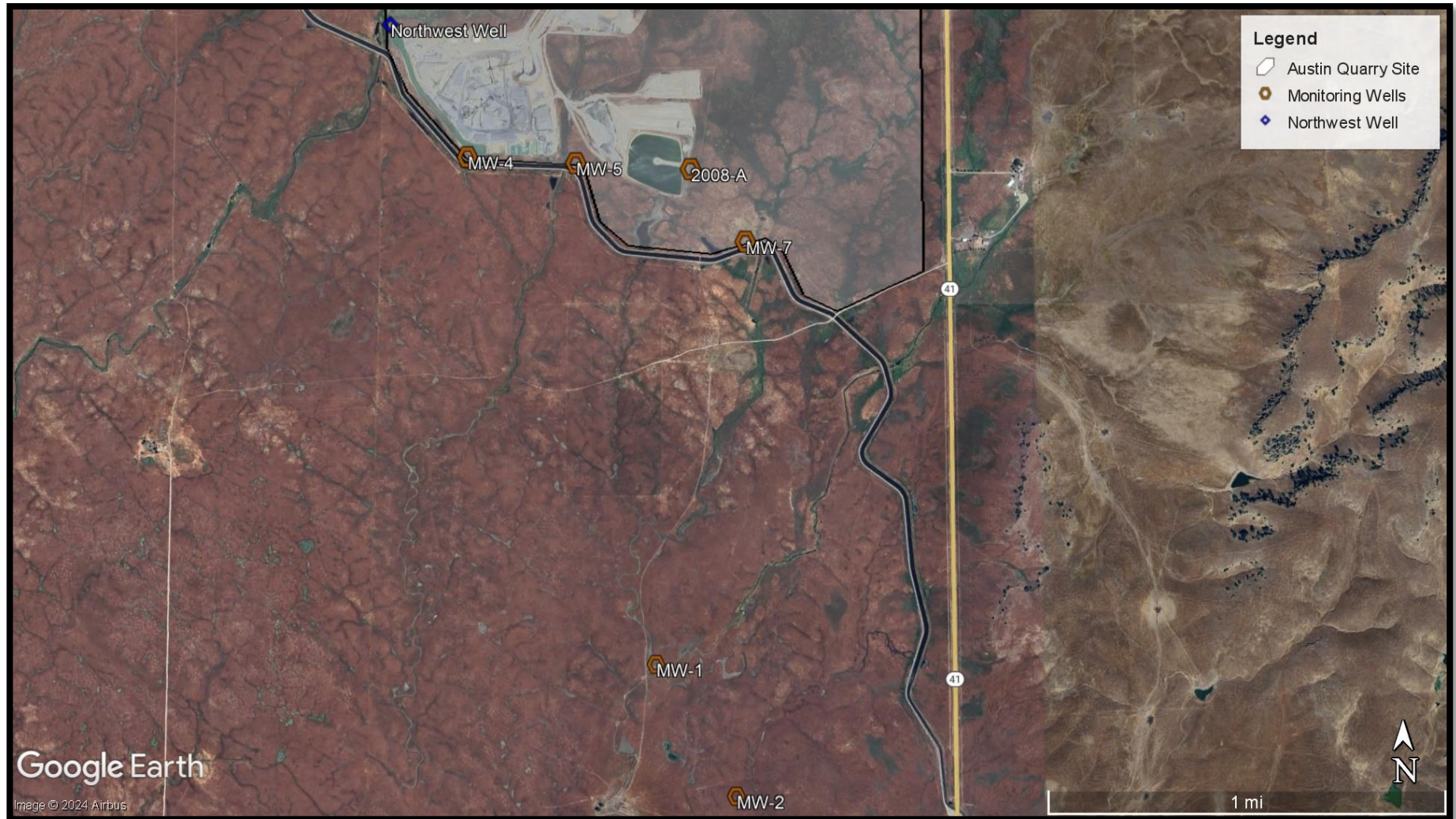
ATTACHMENT B — Facility Site Map



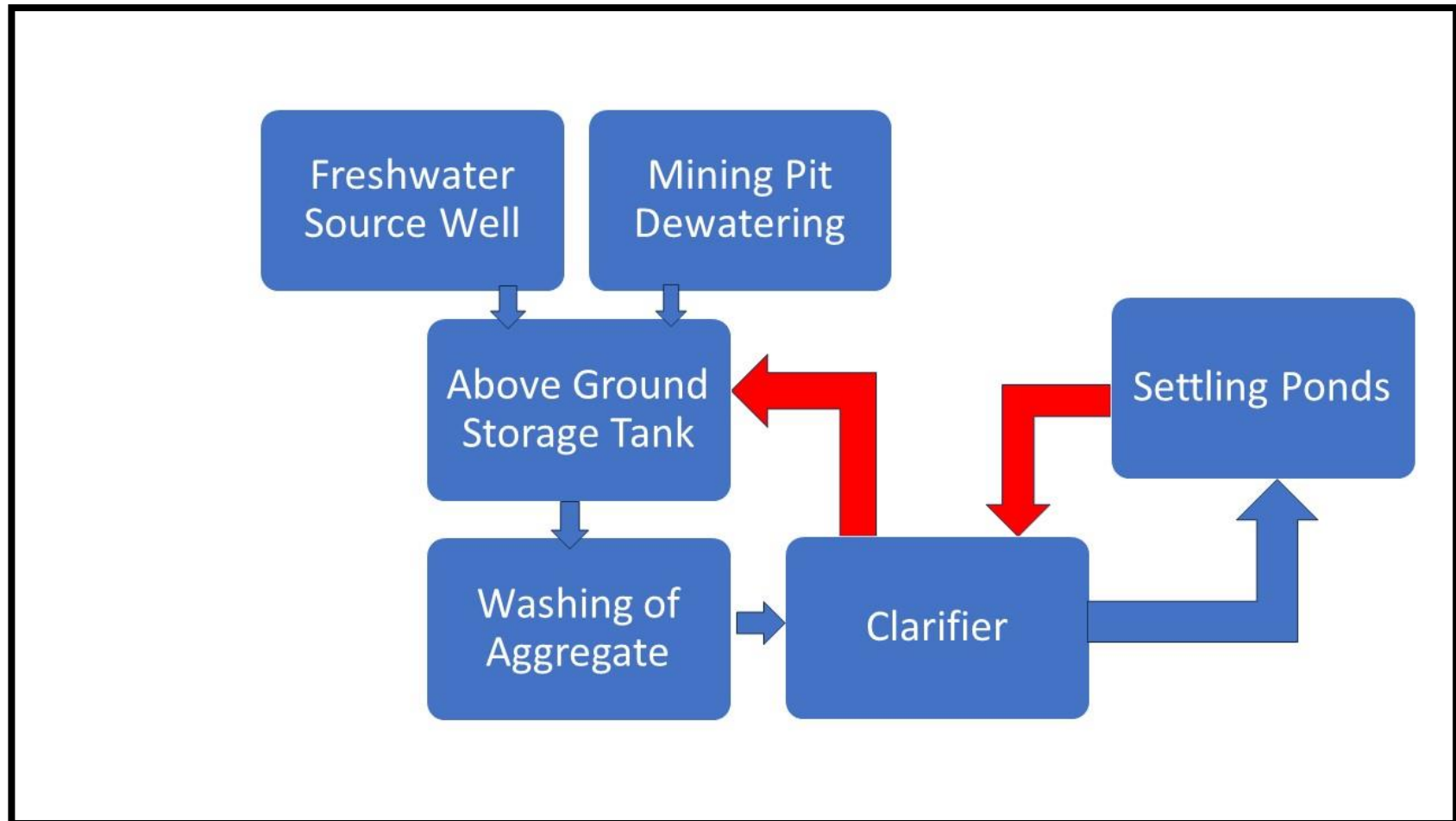
ATTACHMENT C — Mining Phases Map



ATTACHMENT D — Groundwater Monitoring Network



ATTACHMENT E — Process Flow Schematic



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

[Tentative] Waste Discharge Requirements Order R5-2024-XXXX
for
Vulcan Materials Company and Calmat Co. and Calmat Co
Austin Quarry
Madera County

INFORMATION SHEET

BACKGROUND

Vulcan Materials Company, Inc. owns and operates Austin Quarry (Facility) in Madera, Madera County. The Facility is located on land owned by Calmat Co., a subsidiary of Vulcan Materials Company Inc. Hereafter, Vulcan Materials Company, Inc. and Calmat Co. are referred to, collectively, as Dischargers. Aggregate mining at the Facility began in 2022 and consists of excavation, sorting, washing, storage, and transport of extracted aggregate and sediment.

In the 2016 EIR issued by Madera County, the Discharger is required to comply with the Surface Mining and Reclamation Act (SMARA) and Madera County Code (Chapter 19.01), which require mines be reclaimed to a useable condition and be readily adaptable to a productive alternative post-mining land use.

WASTEWATER GENERATION AND DISPOSAL

Aggregate material is excavated from one of six mining phase areas, then transported to the processing plant where it is washed, screened, and sorted. Wash water generated from washing and sorting the aggregate material is conveyed to a clarifier, and then discharged to settling ponds. Polymer flocculant is used to aid solids settling within the clarifier, but no other chemicals are added in the process.

GROUNDWATER CONSIDERATIONS

The Facility has a seven-well groundwater monitoring network that includes five on-site wells and two wells located on the property to the south. Depths to groundwater in these wells range from 9 to 59 feet bgs, and the reported groundwater flow direction is to the southwest. Groundwater data collected from the monitoring network are primarily depth to groundwater level measurements required by Madera County (Conditional Use Permit [CUP] 2009-017); however, water quality data were collected at each of the network wells during a sampling event in 2010, prior to Facility operations.

Water quality samples collected from the Northwest Well (source water supply) and monitoring network wells are considered to be representative of background conditions, with the exception of MW-7 which appears may have been compromised during sample collection, as discussed in the Findings. The process wash water discharged to the

settling ponds contains several constituents that exhibit greater concentrations than background water quality (EC, TDS, nitrate as nitrogen).

ANTIDEGRADATION

Constituents of concern associated with the Facility include salinity (i.e., electrical conductivity [EC] and TDS) and nitrate as nitrogen. The Discharger has monitored effluent quality for approximately two years under existing MRP R5-2020-0813 and has reported relatively stable constituent concentrations in the effluent, with the exception of elevated and increasing nitrate in the settling ponds. Average concentrations of EC, TDS, and nitrate as nitrogen reported in the ponds during 2022 through 2023, and from the 2010 samples of the Northwest Well and groundwater monitoring network wells are summarized in Table 1 below.

Table 1 – Data Comparison

Sample Location	EC (µmhos/cm)	TDS (mg/L)	Nitrate as N (mg/L)
Settling Ponds	390 (50)	270 (44)	13.6 (7)
Northwest Well	443 (14)	222 (21)	6.8 (1)
MW-1	277 (1)	220 (1)	5.2 (1)
MW-2	236 (1)	210 (1)	4.4 (1)
MW-3	215 (1)	190 (1)	3.8 (1)
MW-4	571 (1)	390 (1)	9.5 (1)
MW-5	340 (1)	260 (1)	7.5 (1)
MW-2008-A	343 (1)	230 (1)	5.0 (1)
MW-2008-B	434 (1)	280 (1)	9.5 (1)
WQOs/MCL	700	500	10

The number in the parentheses indicate the number of sample results used to calculate the average result.

There is limited nearby (within 3 miles) and recent groundwater quality data to compare with background groundwater quality conditions, though observed wastewater concentrations from the settling ponds are similar to water quality observed from the onsite source water well and monitoring wells, with the exception of nitrate. This Order requires further monitoring and a Nitrogen Source Evaluation and Minimization Plan to determine the need to comply with the Nitrate Control Program.

DISCHARGE PROHIBITIONS, LIMITATIONS, SPECIFICATIONS, AND PROVISIONS

This Order specifies an effluent flow limitation of 325,000 gallons maximum daily flow. Only wash water generated from the washing of aggregate is allowed to be discharged to the settling ponds onsite, any other wastewater stream is prohibited. This Order sets an effluent performance-based EC limitation of 700 µmhos/cm and prescribes groundwater limitations that ensure the discharge does not affect present and anticipated beneficial use of groundwater. This Order also requires the Discharger to

submit all Monitoring Reports and documents set forth in the WDRs in a timely manner, as described in the WDRs.

SALT AND NITRATE CONTROL PROGRAMS REGULATORY CONSIDERATIONS

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted Resolution No. 2019-0057 conditionally approving the Central Valley Water Board Basin Plan amendments and directing the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law (OAL) approved the Basin Plan amendments on 15 January 2020. (OAL Matter No. 2019-1203-03).

For the Salt Control Program, the Discharger submitted a Notice of Intent (NOI) to participate in the Prioritization and Optimization Study (P&O Study) on 22 May 2024. The Discharger has been assigned **CV-SALTS ID 3645**.

For the Nitrate Control Program, aggregate facilities are typically exempt from the program as they have been observed to pose a low threat in regard to nitrate impacts. However, this Facility has shown some irregularities in its effluent, with elevated nitrate as nitrogen concentrations up to 23 mg/L. Because of this, the Facility may need to be enrolled in the Nitrate Control Program pending further data collection and analysis. The Discharger has stated that the elevated levels of nitrate are due to natural variations in the source water; however, nearby groundwater quality data do not support this claim, as discussed in the Findings.

A potential source of the elevated nitrate levels is the use of Ammonium Nitrate Fuel Oil (ANFO), or a similar nitrate blasting compound, which is likely used during blasting operations. Groundwater encountered from the current mining phase is sometimes pumped to the freshwater storage tank used in the aggregate wash operations and may contain residual nitrate from blasting operations. Water Board staff requested that the Discharger conduct additional sampling during the 9 July 2024 sampling event. Specifically, staff requested samples of water sourced from the mining pit, source well, settling ponds, and clarifier effluent prior to entering the ponds be analyzed for nitrate as nitrogen, total Kjeldahl nitrogen (TKN), and total nitrogen. The Discharger agreed to sample the requested nitrogen species from the source well water, Settling Pond Three, the clarifier effluent prior to discharge into the settling ponds, and water sourced from the current mining operations before entering the above water storage tank.

Table 2 - July 2024 Nitrogen Sampling Event

Sample Location	Nitrate as N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)
NW Well	4.2	ND	4.2
Mining Pit Water	16	ND	16
Settling Pond 3	9	ND	9
Clarifier Effluent	14	ND	14

Nitrogen results for the July 2024 sampling event suggest that water sourced from mining activities is likely causing or contributing to elevated nitrogen concentrations observed in the settling ponds. The Discharger will be required to continue sampling the water source from mining operations as prescribed in the MRP and develop and complete a Nitrogen Source Evaluation and Minimization Plan. The results of this plan will be used to determine the need for the Facility to submit a Notice of Intent for the Nitrate Control Program.

REOPENER

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.