

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACTSHEET (Pursuant to NAC 445A.236)

PERMITTEE NAME: NEVADA CEMENT COMPANY

PERMIT NUMBER: NEV92007

LOCATION: I-80 at Exit 46 (West Fernley Exit)
Fernley, Lyon County, Nevada
Longitude: 119° 15' 47"W.; Latitude: 39° 37' 19"N.
Township 20 North, Range 24 East, Sections 2, 3, 10 & 11 MDB&M

FLOW: 0.720 Million Gallons per Day (MGD) – Daily maximum

PUBLIC WATER SUPPLY: Not within a Drinking Water Protection Area.

GENERAL:

The facility is a cement manufacturing plant comprised of two coal/natural gas fired calcining kilns and associated appurtenances. Raw materials are mined off-site and transported a short distance from the quarry by trucks. Calcareous (lime containing) and argillaceous (clayey) raw materials are proportionally blended, ground, roasted in the kilns and then pulverized to form the final cement product.

The facility is currently permitted to discharge non-contact cooling water, used to cool bearings and other rotating equipment, to waters of the State of Nevada at a rate of 720,000 gallons per day (gpd) – daily maximum; average discharge since 2007 is 528,000 gpd. Cooling water is obtained from two on-site wells. The water is circulated through internal cooling system tubing that does not allow the water to come in direct contact with oil, grease or process materials in the equipment. Discharge water has an elevated temperature and is sent to a cooling tower to lower the temperature prior to being discharged to a holding basin. This water is then conveyed from the holding basin through an underground pipe which surfaces and discharges to an on-site evaporation/percolation ditch. Cooling water is not allowed to flow off-site

DISCHARGE CHARACTERISTICS:

Non-contact cooling water is discharged to the aquifer from which it is pumped. Groundwater from the facility is monitored quarterly for flow, pH, and Total Dissolved Solids (TDS). Since 2007, typical discharge results are the following: 30-day average flow of **528,000 gallons per day** (permit limit - 720,000 gpd – daily max), average **pH of 8.19** Standard Units (permit limit - 6.5 to 9.0 Standard Units) and average **TDS of 479 mg/l**. Annual monitoring of both source well water and discharge water for common groundwater metallic and ionic constituents (including arsenic, copper, iron, manganese, zinc, sulfate, nitrate, nitrite, chloride, etc.) indicate that the groundwater has not been degraded by non-contact cooling water discharge. There has only been one instance of excess in permitted flow in July 2008 where flow was 759,000 gallons; the company was replacing some of its water delivery system when excess occurred.

RECEIVING WATER CHARACTERISTICS:

Groundwater elevation is normally 71 feet below surface; flow is generally to the northwest. The facility is at the edge of the 6000-foot buffer zones of three public water supply wells. Cooling water for the facility is supplied by two groundwater wells. Analyses of groundwater quality over the term of the current permit indicate background concentrations of Arsenic at 0.069 mg/l - U. S. EPA primary drinking water standard is 0.01 mg/l. Manganese concentration is 0.078 mg/l - secondary drinking water regulation is 0.01 mg/l. Total Dissolved Solid concentration is 479 mg/l - secondary drinking water regulation is 500 mg/l. Elevated Arsenic concentration in the groundwater is a common condition in the local area in the area.

GROUNDWATER MONITORING & LIMITS:

Well water shall be sampled for the presence of components and frequency established in **Table 1 & Table 2** below. Wells shall be monitored in accordance with permit conditions and sampling and analysis protocol defined in the proposed permit and in the facility Operations and Maintenance (O&M) Manual.

Table I.1: Discharge Limits

PARAMETERS	MONITORING REQUIREMENTS		
	Groundwater - Daily Max	Measurement Frequency	Sample Type
Flow (MGD)	0.720	Continuous	Discrete
pH (SU)	6.5 - 9.0	Quarterly	Discrete
TDS (mg/l)	Monitor & Report ¹	Quarterly	Composite

M & R (1): Monitor and Report on Quarterly DMR
mg/L: Milligrams per liter
MGD: Million gallons per day
SU: Standard pH Units

Table I.2: Groundwater Monitoring Protocol

PARAMETERS	PERMIT LIMITS		MONITORING REQUIREMENTS	
	Groundwater - Daily Max.	Well Water	Measurement Frequency	Sample Type
pH (SU)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
TDS (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Alkalinity as CaCO ₃ (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Total Hardness as CaCO ₃ (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Oil & Grease	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Arsenic (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Barium (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Boron (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Calcium (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Chloride (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Copper (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Fluoride (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Iron (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Nitrate + Nitrite as N (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Potassium (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Magnesium (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Manganese (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Sodium (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Sulfate (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete
Zinc (mg/l)	Monitor & Report ²	Monitor & Report ²	Annually	Discrete

M & R (2): Monitor and Report on Annual DMR
mg/L: Milligrams per liter
MGD: Million gallons per day
SU: Standard pH Units

RATIONALE FOR DISCHARGE LIMITS:

Facility's practices have been certified by an engineer licensed in the State of Nevada to effectively operate at this flow rate; this flow is also consistent with the absorption field capacity. Under new permit conditions, pH and TDS testing requirements were changed from "monthly" to "quarterly"; current testing protocol shows that these values have not significantly changed since the permit was originally issued in 1994.

SCHEDULE OF COMPLIANCE:

The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

- a. The Permittee shall achieve and/or maintain compliance with the groundwater limitations upon issuance of the permit;
- b. **By April 12th, 2010**, the Permittee shall submit to NDEP an updated **Operations & Maintenance Manual**.

OPERATION REQUIREMENTS:

The Permittee shall operate the facility in compliance with permit provisions and requirements and in accordance with a Division approved **Operations & Maintenance Manual (O & M)**.

- a. The **O & M Manual** shall contain the information required to comply with this permit.
- b. If the actual annual cooling water usage volume exceeds the daily maximum limit, the Permittee shall prepare a report which includes an evaluation of the usage rates in the **O & M Manual**, an explanation of conditions which lead to the exceedance, and any planned changes the Permittee deems necessary. This evaluation shall be submitted with the fourth quarter Discharge Monitoring Report (DMR).
- c. **Minor revisions/updates** may be submitted by the facility manager or the engineering agent for Nevada Cement Company.

PROPOSED DETERMINATION:

The Division has made the tentative determination to renew the proposed permit, under the provisions prescribed, for a 5-year period. Under NAC 445A.232, this permit is classified as a Discharge of Groundwater- 500,000 gallons or more but less than 1,000,000 gallons daily.

PROCEDURES FOR PUBLIC COMMENT:

The Notice of the Division's intent to issue a groundwater discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Reno Gazette Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **March 12th, 2010 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

The application and proposed permit on file and may be copied or copies may be obtained by writing or by calling **Alexi Lanza, P.E.**, Bureau of Water Pollution Control at **(775)687-9468**; fax: **(775)687-4684**; or email: alanza@ndep.nv.gov. This notice and the fact sheet can be viewed at <http://ndep.nv.gov/admin/public.htm>

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Nevada Division of Environmental Protection

Bureau of Water Pollution Control – Permits Branch