

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(Pursuant to NAC 445A.236)

Permittee Name: Hawthorne Army Depot
1 S. Maine Ave.
Hawthorne, NV 89415

Permit Number: NEV2004524

Location: Hawthorne Army Depot
Black Beauty Reservoir - Surface Water Treatment Plant
2 miles west of U.S. Hwy. 95 on Black Beauty Road
Hawthorne, Mineral County, NV 89415
Infiltration Basins:
Latitude: 38° 32' 44" N, Longitude: 118° 41' 23" W
Elevation: 4,480 ft. Above Sea Level
Township 8N, Range 29E, S½ SE¼ Section 13

Bureau of Corrective Actions Sites: There is no Bureau of Corrective Action (BCA) remediation site located within a one-mile radius of the surface water treatment plant's infiltration basins.

Wellhead Protection Area: The infiltration basins are located 0.8 mile west of and within 6,000 ft. (Drinking Water Protection Area (DWPA) No. 4) from the Depot supply well #5, which is currently used for construction water (dust control). The infiltration basins are also located 1.4 miles northeast and outside 6,000 ft. (DWPA No. 4) from depot supply well #11. Well #11 is the main supply well for a new groundwater treatment plant. Wellhead capture zones and vulnerability rankings are presently undefined for wells #5 and #11. The infiltration basins are located 0.5 mile northeast of the Black Beauty Reservoir, which supplies creek water (snowmelt runoff) to the existing surface water treatment plant.

General: Hawthorne Army Depot has applied for a permit renewal and modification (major). The permit currently authorizes backwash disposal from a surface water treatment plant. The surface water (Black Beauty Reservoir) meets potable standards with mixed-media filtration (suspended solids removal) and chlorine disinfection. The surface water's arsenic level is 5 µg/l, which meets the arsenic standard (10 µg/l). Filter backwash from the surface plant is discharged to the groundwater in two ¼-acre (ea.) infiltration basins.

The applicant has proposed adding the discharge from a new groundwater treatment plant, which is constructed but not yet operational. The groundwater temperature is geothermal-heated (104°F) requiring operation of a cooling tower, which will intermittently blow-down cooling water for control of water conductivity (i.e., total dissolved solids or salt). The tower makeup water will be supplied from the surface reservoir (Black Beauty). Wells #11 and #5 exhibit elevated arsenic levels of 21 and 110 µg/l, respectively. Arsenic removal will occur in a coagulation-filtration process. Backwash water will be settled in a tank, the supernatant water recycled for treatment, and the settled sludge solids dewatered in a filter press. The filter cake solids bearing the captured arsenic will be land-filled and the filtrate discharged to the infiltration basins.

Wells #11 and #5 also exhibit elevated fluoride levels of 1.9 and 6.3 mg/l, respectively. To meet the potable fluoride standard (2.0 mg/l), activated alumina vessels (adsorption) are provided. This fluoride treatment media is not regenerated on-site. The alumina media is periodically backwashed (fluffed) and the backwash water also discharged to the infiltration basins. To reduce arsenic and fluoride treatment costs, the backup well (#5) will only be utilized in high demand scenario.

Flow: The existing flow limit for the surface water plant is 0.0495 MGD (49,500 GPD). Since its startup (2nd Quarter 2006), discharge from the surface plant to the infiltration basins averaged 0.0186 MGD (18,600 GPD). The groundwater plant has not operated, but the Permittee estimates a daily rate of up to 0.0288 MGD (28,800 GPD) from filtrate and backwash several times weekly. At this time, the Permittee does not have information on the estimated cooling tower blow-down rate.

The applicable fee category for this facility is the discharge (intermittent) from a drinking water treatment plant (NAC 445A.232). The renewal fee submitted (\$500.00) allows a discharge of less than 0.1 MGD (100,000 GPD). Such flow limit is proposed for this renewal to accommodate the combined discharge from the two water treatment plants and the cooling tower.

According to the geotechnical investigation, the observed percolation rate in the infiltration basins will accommodate an infiltration rate of 0.1 MGD with a safety factor of ten.

Receiving Water Characteristics: Groundwater monitoring wells are not installed. The gradient is north towards Walker Lake. The depth to groundwater at the nearest supply well (#5) is 225 ft. Further down-gradient, the groundwater depth is 117 ft. at well #11. The infiltration basins are located up-gradient of both supply wells, and the depth to groundwater is estimated in excess of 225 ft. at the infiltration basins. As mentioned on the preceding page (General Section), the bulk of the inorganic contaminants arsenic (i.e., metalloid) and fluoride (i.e., mineral salt), will be captured and disposed of as a solid waste in the filter cake (arsenic) and spent media (fluoride). The groundwater analysis submitted in the application indicated non-detection level for organic constituents (e.g., VOC) for both supply wells.

DMR Analysis: The available DMR data indicated an average backwash discharge of 0.0186 MGD from the surface plant. To this flow there will be the added discharge from the groundwater plant (0.0288 MGD – estimate) and the cooling tower blow-down (flow – N/A).

Rational for Permit Requirements: To monitor the inorganic contaminants discharged into the groundwater at the infiltration basins, an NDEP Profile 1 Analysis is requested on each discharge outfall, sampled annually in the fourth quarter. Flow monitoring is also required on the discharge, and the total discharge flow must be maintained below 0.1 MGD (100,000 GPD) on a 30-day average basis.

TABLE 1: DISCHARGE LIMITATIONS

PARAMETERS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
001 – Surface Plant Flow, MGD	M&R	M&R	Prior to Infiltration	Continuous	Meter
002 – Groundwater Plant Flow, MGD	M&R	M&R	Prior to Infiltration	Continuous	Meter
003 – Cooling Tower Blow-down Flow, MGD	M&R	M&R	Prior to Infiltration	Continuous	Meter
Total Flow (Σ 001, 002, & 003), MGD	< 0.1	M&R	Prior to Infiltration	Continuous	Meter
NDEP Profile 1, mg/l	M&R (all parameters)		001, 002, 003 (Each Outfall)	Annually (4 th Quarter)	Discrete

Schedule of Compliance: (all compliance deliverables shall be addressed to the attention of the Compliance Coordinator, Bureau of Water Pollution Control):

- Within ninety (90) days of the permit issuance date (**by XX/XX/2010**), the Permittee shall submit an updated-copy of the Operations & Maintenance (O&M) Manual for the infiltration basins with the additional outfalls added from the groundwater treatment plant construction, prepared in accordance with NDEP Water Technical Sheet No. WTS-2: *Minimum Information Required for an Operation and Maintenance Manual*.

Procedures for Public Comment: The Notice of the Division's intent to renew and modify this discharge permit, subject to the conditions contained within the permit is being sent to the **Mineral County Independent News** and **Reno Gazette-Journal** newspapers for publication. The notice is also being electronically mailed to all interested persons requesting listing on our public notification mailing list. Anyone wishing to comment on the proposed permit can do so in writing within a period of thirty (30) calendar days of the date of publication of the public notice in the newspapers. 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 **Friday, October 8, 2010, by 5:00 P.M. PST.**

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.

Proposed Determination: The Division has made the tentative determination to issue the proposed discharge permit for a period of five (5) years.

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Date: September 3, 2010