NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(pursuant to NAC 445A.236)

Permittee Name: Southern Nevada Water Authority
PO Box 99956
Las Vegas, NV 89193-9956

Facility: Coyote Springs Valley Well & Moapa Treatment Facility 340A 04 C1
4949 Communications Drive
Coyote Springs, Nevada 89067

Permit Number: NEV2009503

Description of Discharge: The Coyote Springs Well and Moapa Transmission System –Moapa Water Treatment Facility was designed by the Southern Nevada Water Authority (SNWA) to remove arsenic from groundwater supplied by the MX-5 Well. Arsenic-containing solids in the thickened backwash water will be discharged from a Lamella clarifier either to on-site concrete-lined solar drying beds, or to the Coyote Springs Wastewater Treatment Facility. Dried sludge residual will be disposed of at the Apex landfill. **The permit is a zero discharge permit.**

Location: The Coyote Springs Well and Moapa Transmission System –Moapa Treatment Facility is located at Coyote Springs, Clark County, Nevada. The facility is adjacent to SR168, near the intersection with US93, approximately 52 miles north of Las Vegas.

Latitude: 36° 47' 43.07"N; Longitude: 114° 53' 29.55"W
Sections 23 & 26, T 13S, R 63E MDB&M

Characteristics:

Flow: Monitor and Report. The flow rate of the thickened backwash sludge into either the solar sludge drying beds or to the wastewater treatment plant is 7400 gallons per day with estimated solids concentration of 0.5 %.

Parameters: Monitored and Reported Quarterly: Flow, Arsenic, Iron, TDS

Corrective Actions Sites: There are no Bureau of Corrective Actions remediation sites within a one-mile radius of the facility.

Wellhead and Drinking Water Supply Protection: The facility is not within a 6,000 foot buffer of any current public water supply, nor within an established Wellhead Protection Area or capture zone.

The proposed treatment facility will be treating two future public supply wells, MX-4 and MX-5, both proposed for use by the Coyote Springs Development.

General: Water used for the Coyote Springs Development is provided by two onsite water supply wells, MX-4 and MX-5. The water is currently potable except for arsenic above the MCL of 0.01 mg/L. SNWA operates the Coyote Springs Well and Moapa Groundwater Treatment Facility, a facility designed to remove arsenic from groundwater by the processes of oxidation, coagulation and filtration. Ferric chloride is used as the coagulant.

For the thickened backwash waste discharged to the drying beds, the supernatant is decanted and returned by the filter backwash pumps to the Backwash Holding Tanks. After clarification, it will be recycled upstream of the sodium hypochlorite feed for re-treatment. Liquid left in the sludge is removed by evaporation. The beds are expected to increase the solids concentration to approximately 30%.

The drying bed size was based on the wet solids volume with a six day drying time on an annual basis. The maximum sludge depth in the drying beds is 13". The drying beds are constructed with reinforced concrete and ensured water-tight by installing waterstops at all joints to prevent any leakage to subsurface. The minimum height of the drying bed walls is 18". A concrete runway is provided to each drying bed and spaced to accommodate mechanical equipment access. The entrance ramp leads down to the level of the drying surface.

Because there is initially only one drying bed at the facility, backwash waste will be stored in the Backwash Holding Tank during the sludge drying period. Based on the drying bed sizing calculation, dewatered residuals in the drying bed will need to be removed every 67 days. It will be loaded into bins or a dump truck using a front-end loader and hauled to the Apex landfill.

The sludge in the drying beds will not be allowed to become dry enough to form airborne particulates prior to landfilling. Therefore, no fugitive dust pollution issue needs to be considered. Nuisance odor is not anticipated to be an issue.

The Permittee has applied for a permit to discharge the facility wastestreams to the on-site concrete-lined solar drying beds or to the nearby Wastewater Treatment Facility. **This is a zero discharge permit**.

Receiving Water Characteristics: Groundwater below the facility and within a one mile radius of the facility is in excess of 550 feet below ground surface. The proposed public water supply wells on the property are approximately 1,200 to 1,500 feet deep, with a static water level near 500 feet. Water quality is generally good with the exception of elevated Arsenic.

Proposed Effluent Limitations, Schedule of Compliance and Special Conditions:

During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge arsenic-containing solids in the thickened backwash water from a Lamella clarifier either to a solar drying bed, located on the west side of the facility, or to the Coyote Springs Wastewater Treatment Facility (WWTF). Effluent limits and monitoring requirements are summarized in Table 1.

TABLE 1. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

Parameter	Discharge Limitation	Monitoring Requirements		
		Sample Location	Frequency	Sample Type
Flow Rate [1]	M&R, gpd	i	Continuous	Flow meter
Arsenic	M&R, mg/L	i	Quarterly	Discrete
Iron	M&R, mg/L	i	Quarterly	Discrete
TDS	M&R, mg/L	i	Quarterly	Discrete
Sludge removed [2]	M&R, tons	ii	Event	Calculation

M&R: Monitor & Report gpd: gallons per day mg/L: milligrams per liter
i = Water treatment discharge outlet to Solar sludge drying bed
ii = Sludge drying beds at time of sludge removal to landfill
1. Flow rate of thickened backwash sludge shall be reported as average gpd per month.
2. Sludge removed from drying beds to landfill shall be reported as tons per disposal.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Division, including in said implementation and compliance, any additions or modifications that the Division may make in approving the Schedule of Compliance. Schedule of Compliance submittals and evidence of compliance documents shall be submitted to the Bureau of Water Pollution Control Compliance Coordinator (listed in Part I.B.2.a of this permit). The Permittee shall implement and/or execute the following scheduled compliance requirements:

a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

b. The Permittee shall submit an updated O&M Manual to the Division for approval within 90 days of permit issuance (03/10/2010), following WTS-2 guidance.

c. The Permittee shall submit a letter of certification, within 90 days of permit issuance (03/10/2010), stating that the sludge drying beds were constructed in accordance with the

Division-approved plans. A copy of the as-builts for the arsenic sludge drying beds, wet-stamped by a Nevada Professional Engineer shall also be included with the certification.

Special Conditions:

a. The Permittee shall conduct regular and routine inspections and maintenance, including the periodic removal of materials to restore capacity, to be conducted in accordance with the O&M Manual. Summaries of these activities shall be reported with the Quarterly Reports.

b. Each time sludge is removed from the drying beds (approximately every 67 days, as noted in the O&M Manual) an inspection of the concrete-lined basins shall be conducted. A report of the inspections shall be included with Quarterly Reports.

c. In the event of treatment system failure and/or sludge drying bed leaking/failure, discharge shall cease, and a repair plan submitted to the Division within 30 days of failure.

d. Maximum sludge depth shall be 13 inches. Minimum height of the drying bed walls shall be 18 inches.

e. Dewatered residuals will be hauled off-site for disposal at the Apex landfill.

f. Sludge in the drying beds will not be allowed to become dry enough to form airborne particulates.

Procedures for Public Comment: The notice of the Division's intent to issue a permit authorizing the facility to discharge to the solar drying beds or the Wastewater Treatment Facility subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-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 or by phone/FAX for a period of 30 days following the date of the public notice, by **December 8, 2009**. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, 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 scheduled by the Administrator 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

permit for a 5-year period.

Rationale for Permit Requirements: Groundwater monitoring is not required because this is a zero discharge permit. Regular and routine inspections and maintenance coupled with concrete evaporation basins used for sludge drying, with residuals sent to a landfill, preclude the need for other monitoring requirements.

Prepared by: Jeryl Gardner
(11/09)

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