

Application No. 18324 by Earl Bryant records two spring locations which cumulatively can supply the 0.45 cfs filing for irrigation and stockwatering uses. From the N½ corner these springs are located: south 650 ft. and east 635 ft., and south 770 ft. and west 540 ft. These locations appear to correspond with previously identified springs SP-10 and SP-11. Spring SP-10 is said to be capable of supplying 0.25 cfs of the filing and was identified as being developed. Spring SP-11 is stated as being capable of supplying the remainder of the filing (0.20 cfs) and was not identified as being developed.

Mine Water Use:

A portion of the groundwater intercepted by the mine is put to the beneficial uses described below. The remaining water is pumped to surface sedimentation ponds and discharged to Quitchupah Creek. These activities are conducted under Water Users claim numbers WUC94-52 and 94-285 which are based respectively on application #s 35182 and 44305. The underground mine and surface facilities presently use intercepted groundwater for dust control and as a domestic water supply. Within the mine, water sprays are used to control dust on the continuous mining machines and at transfer points on the coal conveyor system. Mine water is also used to control fugitive dust on mine roads. The domestic water supply is provided by treating mine water with a reverse osmosis unit.

Usage of groundwater by the mine at its present production rate of 700,000 tons/year is:

Domestic Use	2.6 million gallons/year
Dust Control	
1) Miner Machine Sprays	5.9 million gallons/year
2) Product Transfer Points	6.1 million gallons/year
3) Roads	0.7
 Total	 15.3 million gallons/year

Groundwater usage should increase proportionally with production capacity.

When the preparation plant is constructed, additional water supply will be needed. Although the prep plant system is designed as a closed water circuit, a certain amount of make-up water will be required due to water losses. Based on a production capacity of 1,700,000 tons/year, make up water needs for the prep plant will be 27.7 million gallons/year.

Total water use at a production capacity of 1,700,000 tons/year will be:

Domestic Use	- 6.3 million gallons/year
Dust Control	- 30.8 million gallons/year
Prep Plant	- <u>31.4</u> million gallons/year
 TOTAL	 68.5 million gallons/year

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The Emery mine pumps approximately 149,000,000 gallons of water per year from the mine. The water that is used for dust suppression is accounted for in the ventilation calculation and the coal moisture consumption calculation. Portions of the water sprayed on the coal are either evaporated by the ventilation process, drain back into the mine drainage system, or is carried out in the product. The consumed volume is accounted for in the ventilation evaporation calculation and the coal moisture consumption calculation.

Mining consumption: See above explanation, and coal moisture consumption calculation

Ventilation consumption: See Ventilation evaporation calculation

Coal producing consumption: See coal moisture calculation

Ventilation evaporation: Using the Valley Camp of Utah, Inc. Belina Mine's estimate outlined in the Windy Gap Process document, the active mine works (2/2/07) are 328 acres or 0.514 sq. mi. Using 8.6 ac-ft/yr/sq.mi., the current underground works account for 8.6 ac-ft/yr/sq.mi. * 0.514 sq.mi. = 4.4 ac-ft of water evaporated.

Sediment pond evaporation: Pond 1 (3.1 ac.), pond 6 (1.8 ac.), and pond 9 (0.2 ac.) would evaporate 5.1 acres * 4.11 = 21 ac-ft/yr consumed.

Surface Dust Control water consumption: Dust control on the surface facilities consumes 5,000 gallons per day 5000 gal/day * 251 operating days/yr = 1,255,000 gal/yr or 3.9 ac-ft/yr consumed.

Springs and seep effects from subsidence: There have been no reports of seeps from subsidence.

Alluvial aquifer abstractions into mines: There are no water infiltrations from alluvial systems into the mine.

Alluvial well pumpage: There is zero pumpage from alluvial wells.

Deep aquifer pumpage: There is zero pumpage from deep aquifer wells.

Post mining inflow to old workings: There is zero post mining inflow to the old workings

Coal moisture consumption: The inherent moisture in the Emery coal is approximately 4 %. The as received moisture of the coal is approximately 6 %. The maximum Emery Mine production could be 1,300,000 tons of coal. Using these values, the consumption could be $(0.02 * 1,300,000 \text{ tons} * 2000 \text{ lbs/ton}) / 8.33 \text{ lbs per gal} * 325,850 \text{ gal per ac-ft.} = 19.2 \text{ ac-ft/yr consumed.}$

Direct diversion: There are no direct diversions at the Emery mine therefore zero consumption.

Adding the approximate consumptive losses together equals 48.5 ac-ft. Historically (2002 thru 2005) the mine pumped and discharged approximately 149,000,000 gallons (457 ac-ft) of water per year. Doing the math, you arrive at a 408.5.9 ac.ft. per year enhancement to the Colorado River Basin. The predicted discharge under full extraction of 1.5 cfs (1086 ac-ft/yr), would be a 1037.5 ac-ft/yr enhancement. Water consumption by the Emery mine will not jeopardize the existence of or adversely modify the critical habitat of the Colorado River endangered fish species.

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