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STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

*file*

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June 3, 1988

To: John J. Whitehead, Permit Supervisor

FROM: James Fricke, Reclamation Hydrologist *JDF*

RE: Ground-Water Sampling at C.V. Spur, Beaver Creek Coal Company, (BCCC) CV Spur Loadout, ACT/007/022, Folder #2, Carbon County, Utah

Synopsis

On May 24, 1988 Division hydrologist, Jim Fricke, and BCCC consultant, Mel Coonrod, sampled water monitoring wells at the CV Spur loadout. BCCC samples eight monitor wells bi-annually. According to the approved permit "three casing volumes will be pumped or bailed from the well before a sample is taken, the pH, conductivity and temperature of the pumped (or bailed) water will be monitored and a sample only taken when these parameters are stable, provided the minimum volume has been pumped from the well."

Analysis

During the May 24, 1988 site visit the wells were pumped until stable pH, conductivity and temperature readings were observed and then a sample was collected. Calculation of casing volume was not possible because total depth of the wells was not known. Measurement of field conductivity was performed with the Division's instrument, BCCC's meter was not working. Three wells (CV-10, 11 and 12) could not be sampled, the head in the wells was too deep for the centrifugal pumping system. Three wells (CV-4, 5 and 10) were dry at this time.

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### Recommendations

BCCC should continue to sample with a pump. The Division recommends using a submersible pump to accommodate the head problems at CV-10, 11 and 12. Wells may be sampled after 3 casing volumes of water has been removed and pH, conductivity and temperature readings have stabilized. To determine well volume the following formula can be used.

$$V = \pi r^2 h (7.48)$$

V = volume in gallons

$$= 3.14$$

r = radius of the casing in feet

h = the difference between total depth of the well and the water level

All metal samples must be filtered before acidification.

JF/as  
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