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TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 6, 2011

TO: Internal File

THRU: Steve Christensen, Permit Supervisor SKC

FROM: April A. Abate, Environmental Scientist III and Lead (CAA) 10-11-11

RE: Suspended Subsidence & Spring Quality Monitoring, Hiawatha Coal Company, Hiawatha Mine, C007/0011, Task #3927

SUMMARY:

On September 26, 2011, Hiawatha Coal Company (the Permittee) submitted an amendment to the Division presenting data to satisfy data requirements for subsidence monitoring in the permit area.

In addition, the Permittee submitted an updated Table 7-17 – Water Monitoring Matrix. The Hiawatha mine is presently in temporary cessation with no active mining. As a result, subsidence that could potentially affect these springs is not occurring. The Permittee has committed to notifying the Division that the monitoring of these springs will be reactivated two years prior to resuming underground mining. An update to the master commitment list to reactivate these springs 2 years prior to mining is necessary.

RECOMMENDATIONS:

All revisions to Table 7-17 in the MRP meet section R645-301-731.214 of the Utah Coal Rules. Approval is recommended.

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TECHNICAL ANALYSIS:

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

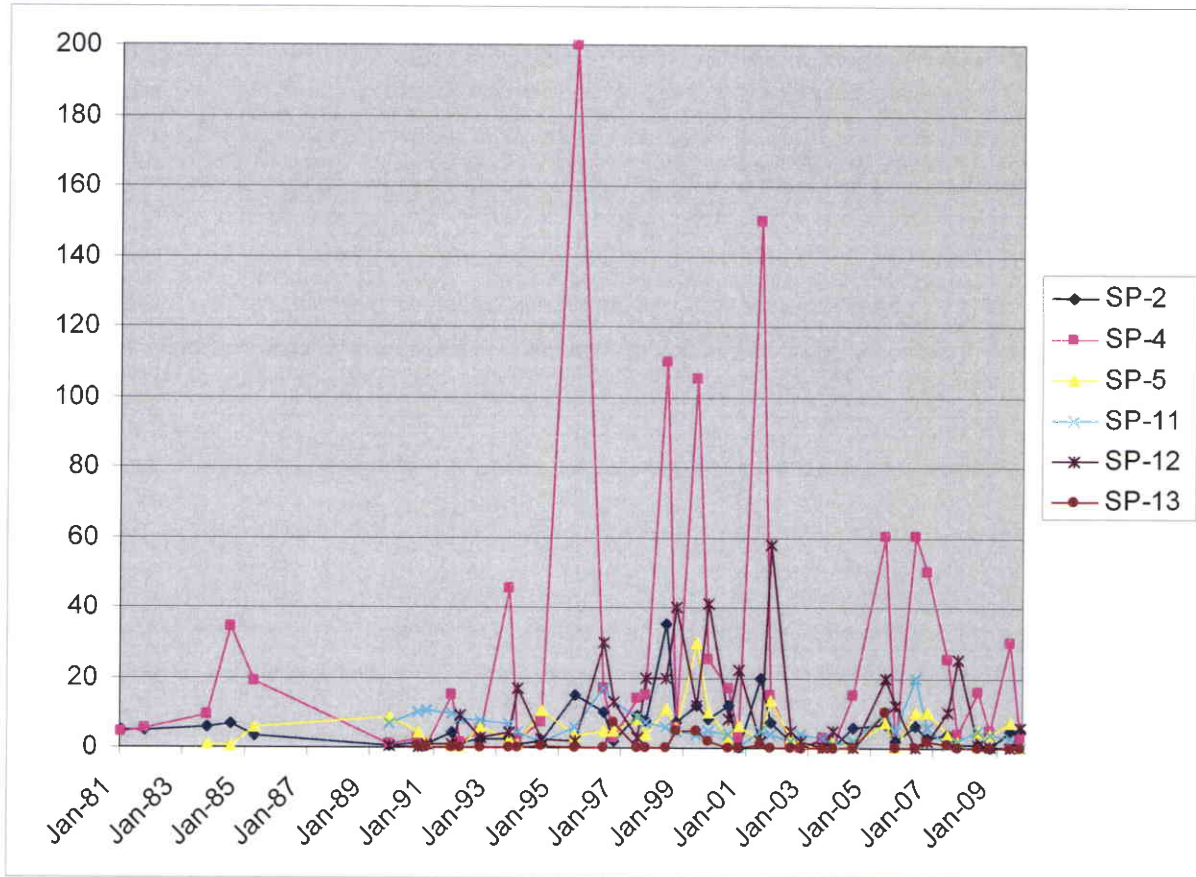
Analysis:

Groundwater Monitoring

The Permittee has indicated that springs listed in the operational water monitoring matrix in Table 7-17 will be suspended since there is no potential that the springs being will be affected by subsidence since no active underground mining is occurring. The springs include: SP-2, SP-4, SP-5, SP-11, SP-11, SP-12, and SP-13. The Division has approximately 30 years worth of data on these springs. The data were reviewed to determine if any of the springs have experienced a significant drop in flow rates and presented below:

SITE	Min. Flow	Max Flow	Max Flow Value Year	Average
SP-2	0	35	1998	5.499048
SP-4	0	200	1995	26.28238
SP-5	0	30	1998	5.12675
SP-11	0	20	2006	5.885135
SP-12	0	58	2001	10.75432
SP-13	0	10	2005	0.972

Data collection period ranged from 1981 to 2009



Findings:

As can be seen on the table above, most springs average approximately 5 gallons per minute (gpm) with SP-4 being the most productive spring averaging 26 gpm. There has been no evidence that mining-induced subsidence has effected these springs in the 30 year history of monitoring them. The Permittee has indicated that since no mining is occurring any possible damage to these springs from mining-induced subsidence is nonexistent. There is no evidence to the contrary of this argument and therefore the request from the Permittee to suspend monitoring is approved. An update to the Division list of master commitments is necessary if underground mining activities resume. The Permittee commits to began monitoring the springs two years prior to monitoring.

RECOMMENDATIONS:

All revisions to Table 7-17 in the MRP meet section 731-214 of the Utah Coal Rules. Approval is recommended.