

OGMCOAL - Horizon Third Quarter 2010

From: Kevin Lundmark
To: Kit Pappas
Date: 3/9/2011 9:27 AM
Subject: Horizon Third Quarter 2010
CC: OGMCOAL
Attachments: 03072011.pdf

Kit,
Attached for your information is the third quarter 2010 Water Quality Memo for Horizon.
Thanks,
Kevin

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WATER QUALITY M E M O R A N D U M

Utah Coal Regulatory Program

March 7, 2011

TO: Internal File

THRU: James D. Smith, Permit Supervisor *JDS 03/07/11*

FROM: Kevin Lundmark, Environmental Scientist II *KWL*

RE: 2010 3rd Quarter Water Monitoring, Hidden Splendor Resources, Inc., Horizon Mine, C/007/0020 WQ10-3, Task ID #3632

The Horizon Mine is operational and mining coal. The water-monitoring plan is outlined in Chapter 7 - Hydrology of the MRP, which was most recently updated in June 2005. Surface and groundwater monitoring is required for the Horizon Mine under the operation plan, and monitoring procedures and parameters are discussed in MRP Section 7.1.5 (groundwater) and Section 7.2.2.3 (surface water). UPDES permit UTG040019 authorizes discharges from two outfalls and expires on April 30, 2013.

This report was prepared from monitoring data queried from the UDOGM database. The data that support this report were collected and submitted to the database by the Operator. The data were downloaded into file O:\007020.HZN\Water Quality\Spreadsheets\HZN_WQ.xls for this review.

1. Were data submitted for all of the MRP required sites?

Springs YES [X] NO []

Springs SP-1, SP-2, SP-4, SP-9 (Jewkes Spring), 2-6-W (Homestead Spring) and GV-70 will be monitored once each calendar quarter (when the springs are accessible) during the operational and reclamation phases. Ground water quality parameters to be checked are outlined in Table 7-2 of the MRP.

Springs SP-1, SP-2, SP-4 and 2-6-W were reported with "No Flow" during third quarter 2010 based on monitoring performed on 9/27/2010. Flows reported for springs GV-70 and SP-9 on 9/27/2010 were 1 gpm and 5 gpm, respectively.

Streams YES [X] NO []

Stations SS-3, SS-5, SS-7, SS-8, SS-10 and SS-11 will be monitored once each quarter (as access conditions permit). Surface water quality parameters are outlined in Table 7-5 of the MRP.

Stream sites SS-5, SS-11 and SS-12 were reported with no flow for third quarter 2010 based on monitoring performed on 9/27/2010. Flow rates at the other stream sites ranged from 20 gpm at SS-7 (Beaver Creek above future mining) to 340 gpm at SS-3 (Jewkes Creek below mine).

Wells **YES [X]** **NO []**

Water level data will be collected during the operational and reclamation phases from wells HZ-95-1, HZ-95-1S, HZ-95-2, HZ-95-3 and HZ-01-06-1 once each quarter, when accessible.

Water levels were reported for wells HZ-95-1, HZ-95-1S, HZ-95-2 and HZ-01-06-1. Well HZ-95-3 was reported as "Dry".

UPDES **YES [X]** **NO []**

Monthly monitoring is required for the UPDES outfalls associated with the sedimentation pond (001) and the mine discharge (002).

UPDES sites were monitored monthly for the quarter and all required data were submitted. No flow was reported from the sedimentation pond. Discharge from the underground mine ranged from 310 to 330 gallons per minute.

2. Were all required parameters reported for each site?

Springs **YES [X]** **NO []**

Streams **YES [X]** **NO []**

Wells **YES [X]** **NO []**

UPDES **YES [X]** **NO []**

The result for pH was not reported for the August 2010 monitoring event at outfall 002. The Operator submitted a copy of the Discharge Monitoring Report (DMR) for August 2010 which was received by the Division on October 4, 2010. The pH result for August 2010 was included in the DMR, and this value (7.30) was entered into the Water Database by the Division Hydrologist on February 22, 2011.

3. Were irregularities found in the data?

Springs **YES [X]** **NO []**

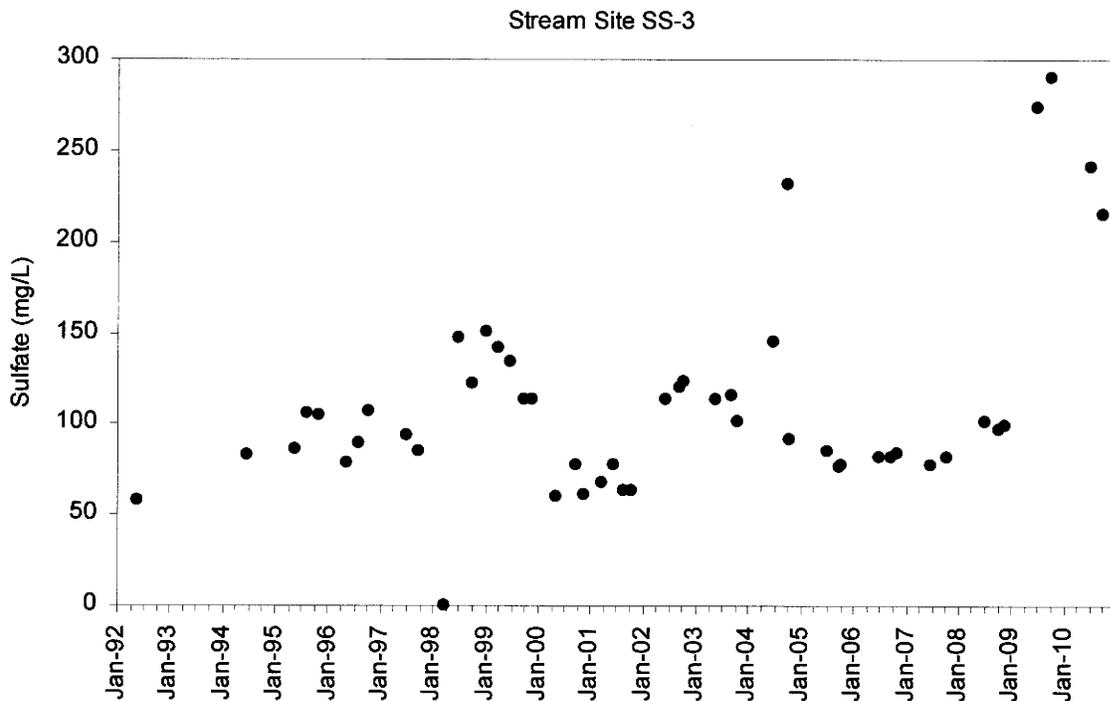
The pH (6.9) and bicarbonate (390 mg/L CaCO₃) results for the sample collected

at spring GV-70 on 9/27/2010 were both slightly lower than previous values reported for this site; however, these values are consistent with previous results. The previous minimum pH value at site GV-70 was 7.0, as reported for second quarter 2010. The previous minimum bicarbonate concentration was 394 mg/L CaCO₃, reported for second quarter 2008. Other parameters reported for spring GV-70 for third quarter 2010 were also consistent with previous monitoring results.

The temperature reported for spring SP-9 on 9/27/2010 was 20 degrees C, which is greater than the average temperature reported for this site by greater than two standard deviations (average = 6.77 degrees C, std. dev. = 3.52 degrees C). The elevated temperature may be attributable to warm temperatures during late summer/early fall 2010.

Streams **YES** **NO**

The sulfate concentration reported for site SS-3 (Jewkes Creek below mine) on September 27, 2010 was reported at 215 mg/L, which is about double the average value of 108 mg/L (std. deviation = 53.4 mg/L). Sulfate concentrations at station SS-3 are variable, but appear to have been elevated during recent sampling events (see plot below).



Wells **YES** **NO**

UPDES **YES** **NO**

4. On what date does the MRP require a five-year resampling of baseline water data.

Re-sampling due date is third quarter, July-September 2012.

5. Based on your review, what further actions, if any, do you recommend?

Groundwater monitoring well HZ-95-3 intercepted the coal seam and was reportedly mined through by a previous permittee. The surface completion for well HZ-95-3 is on a high ridge above Portal Canyon with no road access (Inspection Report No. 2413). The current MRP identifies that monitoring data collected at well HZ-95-3 "...will allow early assessments of mining impacts to be made" (MRP page 7-32). The MRP does not mention that well HZ-95-3 has been mined through. If well HZ-95-3 is no longer operational, then the MRP should be revised to describe the loss of this well, and the Groundwater Monitoring Plan should be updated accordingly. The Operator should either replace the well or demonstrate why monitoring data is no longer necessary to meet the objectives of the groundwater monitoring plan in the MRP (R645-301-731.214). Well HZ-95-3 must be properly abandoned (R645-301-731.215, R645-301-765).

Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES [] NO [X]

6. Follow-up from last quarter, if necessary.

Did the Mine Operator submit all the missing and/or irregular data (datum)?

None needed.