



**Coal Valley Resources Inc. – *Obed Mountain Mine***  
A Subsidiary of WESTMORELAND COAL COMPANY

**Obed Mountain Mine  
Wastewater Release  
Monthly Status Report for October 2014**

**November 7, 2014**

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## **1.0 MONTHLY STATUS REPORT – SEPTEMBER 2014**

On November 19, 2013, Alberta Environment and Sustainable Resource Development ("ESRD") issued Environmental Protection Order No. EPO-2013/34-CR, as amended (the "EPO"), to Coal Valley Resources Inc. ("CVRI") and Sherritt International Corporation in respect of the Obed Mountain Mine (the "Mine"). Oversight of the EPO transferred from ESRD to the Alberta Energy Regulator ("AER") in March 2014. CVRI became a subsidiary of Westmoreland Coal Company in April 2014. This Monthly Status Report has been prepared in accordance with clauses 39 and 40 of the EPO, which state the following:

*39. In addition to any other reporting required by this Order, the Parties shall submit to the Director on the first day of each month, commencing on December 1, 2013, a status report in writing that contains a summary of all activities undertaken in accordance with this Order in the previous month, and all activities that are planned for the next month (the "Monthly Status Reports").*

*40. The Monthly Status Reports shall be submitted to the Director until the Director advises otherwise.*

The reporting requirement for this Monthly Status Report was amended in an email from Jim Steele to CVRI dated December 5, 2013, which stated:

*Additionally, ESRD is in agreement with the company's request to adjust the due date for the monthly reports from the first day of the month to "no later than the 7th day of the month following the reporting period".*

## **2.0 EPO ACTIVITIES IN OCTOBER 2014**

### **2.1 Clause 3 – Immediate and Short-Term Sampling and Monitoring Plan**

CVRI submitted a revised version of the Immediate and Short-Term Sampling and Monitoring Plan on January 23, 2014. Included in the submission was a reply to the second round of ESRD's regulatory feedback. ESRD provided further regulatory feedback on January 31, 2014. CVRI's

response, along with an updated plan, was submitted to ESRD on February 3, 2014. CVRI received ESRD approval of the Immediate and Short-Term Sampling and Monitoring Plan on February 7, 2014. The approval included contingencies and revisions that required the Immediate and Short-Term Sampling and Monitoring Plan to be updated and resubmitted to ESRD by February 14, 2014. The amendments were made and the plan was resubmitted to ESRD on February 14, 2014.

CVRI has fully implemented the Immediate and Short-Term Sampling and Monitoring Plan. CVRI collects and reports on samples to the AER on a weekly basis. The data collected is reviewed and discussions regarding the findings are provided in the Quarterly Summary Progress Report.

- **Surface Water Quality Sampling – September 2014** The surface water sampling program is completed weekly in accordance with the Immediate and Short-Term Sampling and Monitoring Plan (clause 5 of the EPO). The sampling program was completed by CVRI and Backwoods personnel. Training and QA/QC is conducted by Hatfield Consultants to ensure quality standards are maintained. The sampling program is summarized in Tables 1 and 2 below and supported by the Sampling and Monitoring Map (Appendix A).
- Water sampling on the Mine site, as required under EPEA Approval No. 10119-02-00 (the "Approval"), is summarized in Table 3 below.

Data collected during the month of October is included in the transmission of this report and will be posted to the Obed website accordingly. *It should noted that* with the rapid drop in water levels during the fall several of the sondes were above the water line, resulting in erratic s data. These were moved deep as soon as it became apparent. In addition It appeared the sonde at ATR-PLC was tampered with and was inoperable for a couple weeks. The issue has been addressed.

<b>Table 1: Obed Sampling and Monitoring Requirements During Pumping Operations</b>			
<b>Location</b>	<b>Requirements</b>	<b>Frequency</b>	<b>Notes</b>
Oldman Creek (OMC)	NTU, pH	2X/Day U/S and D/S while pumping	TSS samples collected when NTU>50
	Water Chemistry	1X/ week	
Baseline Creek (BLC)	NTU, pH	2X/Day D/S while pumping	TSS Samples collected when NTU>50
	Water Chemistry	1X/ week	
Pump Discharges	NTU, pH, Flow, Volume	Every 6 hours while pumping	Includes: MTP, ELP1, Pond 5. TSS samples are collected when NTU>50

<b>Table 2: Obed Regular On-Site Sampling and Monitoring Operations</b>			
<b>Location</b>	<b>Classification</b>	<b>Frequency</b>	<b>Requirements</b>
East Limb Pond 1 (ELP1)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
East Limb Pond 2 (ELP2)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
South Plateau Pond 1 (SPP1)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
South Plateau Pond 2 (SPP2)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
South Plateau Pond 3 (SPP3)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
Main Tailing Pond (MTP)	Major Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates Monthly Water Chemistry
Pond 5	Minor Pond	Daily	3X/week for pH, TSS Daily for NTU Bi-weekly for Nitrates
Load-Out Settling Pond 2 (LSP2)	Minor Pond	Weekly	1X/week for pH, TSS, NTU Monthly for nitrates
Load-Out Settling Pond 3 (LSP3)	Minor Pond	Weekly	1X/week for pH, TSS, NTU Monthly for nitrates

Table 3: Obed Water Sampling and Monitoring Program						
Site Name	Watercourse	UTM		Data Collection Frequency		
		Easting	Northing	Water	Data Sonde	Water Sediment Toxicity
<b>Near-Field Sample Sites<sup>1</sup> (See Figure 1)</b>						
APC –US <sup>3</sup>	Apetowun Creek	470657	5937715			May, July and September
APC	Apetowun Creek	472400	5938941		15-min <sup>2</sup>	May, July and September
APC-DS <sup>3</sup>	Apetowun Creek	477133	5943213			
PLC-US	Plante Creek	482483	5945393		15-min <sup>2</sup>	
PLC-DS	Plante Creek	483639	5942193	2 x weekly	15-min <sup>2</sup>	May, July and September
ATR-US	Athabasca River	476280	5931218		15-min <sup>2</sup>	May, July and September
ATR –PLC	Athabasca River	485385	5940747		15-min <sup>2</sup>	
ATR-D1	Athabasca River	478576	5950378			May, July and September
ATR-D2	Athabasca River	489498	5965837		15-min <sup>2</sup>	
<b>Far-Field Sample Sites<sup>1</sup> (See Figure 2)</b>						
ATR-WD1	Athabasca River	660944	6028061			
ATR-FF2 <sup>3</sup>	Athabasca River	605947	6002848			
ATR-FF3 <sup>3</sup>	Athabasca River	564752	6003585			
ATR-AD1	Athabasca River	658459	6025745	Monthly		
ATR-FF5	Athabasca River	475330	6286105			
ATR-FF6	Athabasca River	463203	6332042			
ATR-FF7	Athabasca River	470022	6463222			

CVRI has submitted a rollback of the surface water sampling requirements for the 2014-2015 winter period. The request for the rollback mirrors the winter procedure that was implemented for the winter season 2013-2014. The request was submitted to the AER on October 30th.

## 2.2 Clauses 6-8 – Solids Recovery Plan

The Solids Recovery Plan was first submitted to ESRD on November 29, 2013. CVRI submitted a revised version of the Solids Recovery Plan and a response to ESRD’s regulatory feedback on

January 29, 2014. ESRD provided a second round of regulatory feedback on January 31, 2014. CVRI's response, along with an updated Solids Recovery Plan, was submitted to ESRD on February 3, 2014. As requested, the February 3, 2014 submission of the Solids Recovery Plan included an additional soils table in Excel format. CVRI received ESRD approval of the Solids Recovery Plan on February 7, 2014. The approval of the Solids Recovery Plan included contingencies and revisions that required the Solids Recovery Plan to be updated and resubmitted to ESRD by February 14, 2014. The amended Solids Recovery Plan was resubmitted to ESRD on February 14, 2014.

CVRI has received feedback from the Department of Fisheries and Oceans ("DFO") and ESRD's Fisheries biologist identifying concerns related to sediment trap design, effectiveness of the traps, and a contingency plan if the sediment traps are deemed to not be effective. The response was due March 10, 2014. CVRI submitted the additional information to ESRD and DFO on March 10, 2014. No additional concerns were raised by either ESRD or DFO and approval to construct the sediment traps was received pending approval under the *Water Act*. CVRI received approval under the *Water Act* on March 10, 2014 to construct the sediment traps as outlined in the approved Solids Recovery Plan.

Construction of the sediment traps is now completed and the sediment traps are operational. An addendum to the Solids Recovery Plan was submitted to the AER on June 4, 2014. The addendum included as-built drawings and the Operation, Maintenance and Monitoring Plan for the sediment traps.

CVRI submitted an application to amend *Water Act* Approval 00348446-00-00 and approval of the amendment was received on August 1, 2014. The amendment extends the area of sediment recovery activity to include the Apetowun Creek channel beyond the sediment traps and defines the business process between CVRI and the AER. A copy the amendment 00348446-00-01 has been included for reference. As prescribed by the terms of the *Water Act*

amendment, CVRI is required to submit a report describing the completion of activities within 30 days of the completion of work. A copy of the report has been included in this transmission.

As part of the maintenance and operation of the sediment traps the silt curtains are removed in late fall. The process to remove the silt curtains includes the submission of a COP Notification under the Water Act and summary report submitted to the AER once the work has been completed. The required summary reports have been included as attachments.

### **2.3 CLAUSES 10 – SOLIDS RECOVERY REPORT**

CVRI submitted an initial communication to the AER requesting a date change for the submission of the Solids Recovery Report pursuant to Clause 10 of the EPO. The EPO currently states that a report of the solids recovery work detailing all of the outcomes of the items contained in the Solids Recovery Plan shall be submitted on or before December 20, 2013. As the outcomes and activities related to the Solids Recovery Plan are ongoing, CVRI and the AER have agreed that the Solids Recovery Report will begin July, 2014. Upon completion of all outcomes, the Solids Recovery Plan final report will be submitted to the AER.

CVRI submitted the Clause 10 – Solids Recovery Report as part of the July 15, 2014 quarterly report. A copy of the Clause 10 Solids Recovery Report is available on the Obed website: [www.obed.ca](http://www.obed.ca).

### **2.4 Clause 11 Long-Term Sampling and Monitoring Plan**

CVRI developed and submitted a combined report on December 13, 2013 that responded to requirements set out in Clauses 11, 17 and 22 of the EPO. ESRD requested that the Long-Term Sampling and Monitoring Plan be resubmitted as an individual plan by February 28, 2014.

On February 20, 2014, CVRI requested a seven day extension to the submission deadline to ensure the documents submitted met the individual plan requirements. The extension was granted by ESRD and the individual plans were submitted to ESRD on March 7, 2014.



CVRI submitted the Long-Term Sampling and Monitoring Plan to ESRD on March 7, 2014. Supplementary Information Requests ("SIRs") were received from ESRD on March 25, 2014, with a response deadline of April 3, 2014. CVRI compiled the SIR responses and submitted the updated plans to the AER on April 3, 2014.

CVRI received approval of the Long Term-Sampling and Monitoring Plan retroactive to April 24, 2014. Approval of the Long-Term Sampling and Monitoring Plan included contingencies and revisions and the revised Long-Term Sampling and Monitoring Plan was submitted to the AER on May 27, 2014. CVRI received follow up SIRs from Alberta Fisheries and Alberta Health on June 20, 2014. The response to the follow-up questions was submitted to the AER on July 4, 2014, with additional communication and technical discussions to continue with Alberta Fisheries.

#### **Fish Monitoring and Sampling Plan**

The Fish Monitoring and Sampling Plan was originally submitted to the ESRD as part of the combined Long-Term Sampling and Monitoring Plan, Impacts Assessment Plan and Wildlife Mitigation Plan on December 13, 2014. CVRI received approval of the parent plans, Long-Term Sampling and Monitoring Plan, Impacts Assessment Plan and Wildlife Mitigation Plan on April 24, 2014. Technical discussion specific to the Fish Monitoring and Sampling sub-plan has been ongoing and CVRI submitted the updated sub-plan to the AER on August 15, 2014. As part of the ongoing technical discussion and development of the Fish Monitoring and Sampling Plan, the AER has requested a status update of July's fish inventory program on the Athabasca River and a map of CVRI's sampling areas in advance of the resubmission of the Fish Monitoring and Sampling Plan. The requested items have been included in this transmission.

The Fish Monitoring and Sampling Plan is has been submitted to the AER for final review and approval October 31, 2014.

## 2.5 Clause 15 – Impacts Report

As required under the EPO, CVRI submitted an interim report on visual observations and data recorded and collected, including preliminary data interpretations and conclusions (the "Interim Impacts Report"), regarding the impacts to receptors and habitats from the release of Mine wastewater as identified during implementation of the Impacts Assessment Plan. The Interim Impacts Report was submitted on January 17, 2014.

On May 16, 2014, CVRI submitted the Impacts Report as prescribed by the EPO. No communication regarding the Impacts Report has been received as of October 7, 2014. Discussion regarding the Impacts Report will be updated on a quarterly basis as outlined in the Reporting Strategy at Section 3.2 of this Monthly Status Report. The first quarterly report was provided to the AER on July 15, 2014, with the second quarterly report to be submitted on October 15, 2014.

## 2.6 Clause 17- Impacts Assessment Plan

CVRI developed and submitted a combined report on December 13, 2013 that responded to requirements set out in Clauses 11, 17 and 22 of the EPO. ESRD provided comments on the combined report on February 10, 2014.

CVRI submitted the individualized Impacts Assessment Plan to ESRD on March 7, 2014. SIRs were received from ESRD on March 25, 2014, with a response deadline of April 3, 2014. CVRI compiled the SIR responses and submitted the updated plans to the AER on April 3, 2014.

CVRI received approval of the Impacts Assessment Plan retroactive to April 24, 2014. Approval of the Impacts Assessment Plan included contingencies and revisions that required a response. The Impacts Assessment Plan was resubmitted to the AER on May 27, 2014.

CVRI received follow up SIRs from Alberta Fisheries and Alberta Health on June 20, 2014. The response to the follow-up questions was submitted to the AER on July 4, 2014, with additional communication and technical discussions to continue with Alberta Fisheries.

CVRI submitted an addendum to the Long-Term Sampling and Monitoring Plan on July 23, 2014 requesting “a delay in the collection of sediment *toxicity samples* from the ATR sites until September”. The delay in sample collection was requested due to high water preventing the collection of representative sediment toxicity samples from the ATR sites until well into September. CVRI has committed to monitoring the situation and, if water levels subside, sampling will occur in September. A copy of the addendum and data collection table summary have been included in this submission for reference purposes.

## 2.7 Clause 22- Wildlife Mitigation Plan

CVRI developed and submitted a combined report on December 13, 2013 that responded to Clauses 11, 17 and 22 requirements of the EPO. In response to ESRD, CVRI submitted the individualized Wildlife Mitigation Plan to ESRD on March 7, 2014. CVRI received approval of the Wildlife Mitigation Plan retroactive to April 24, 2014.

Data related to the Wildlife mitigation Plan was submitted to the AER on October 15<sup>th</sup> as part of the Quarterly Progress Report. The submitted information is available on the Obed website.

## 2.8 Clause 27 - Remediation Plan

On May 16, 2014, CVRI submitted the Remediation Plan as prescribed by the EPO. The Remediation Plan will be updated on a quarterly basis as outlined in the Reporting Strategy at Section 3.2 of this Monthly Status Report. The first quarterly report was provided to the AER on July 15, 2014 in conjunction with the Clause 10 Solids Recovery Report.

## 2.9 Clause 34 – Waste Management Plan

On December 24, 2013, CVRI submitted a revision to the November 29, 2013 Waste Management Plan. The revision was completed based on feedback provided by ESRD. CVRI submitted a response to ESRD's regulatory feedback concerning the original version of the Waste Management Plan on December 24, 2013.

CVRI received approval of the Waste Management Plan on February 11, 2014. Included in the ESRD approval of the Waste Management Plan was a request to respond to outstanding questions and resubmit the plan by February 14, 2014. CVRI addressed the concerns and resubmitted the plan.

CVRI has collected and disposed of 4210 m<sup>3</sup> of recovered sediment to date. The information related to sediment recovery continues to be reported in the monthly and weekly EPO summaries. The updated volumetric summary has been included in this submission and uploaded to the Obed website as supporting documentation.

## 2.10 Clause 37 - Wastewater Management Plan

On December 23, 2013, CVRI submitted a revision to the November 29, 2013 Wastewater Management Plan. The revision was completed based on feedback provided by ESRD. CVRI submitted a response to ESRD's regulatory feedback concerning the original version of the Wastewater Management Plan on December 23, 2013.

CVRI received approval for the Wastewater Management Plan on February 11, 2014. Included in the approval was a request to update ESRD as to the expected completion of the Medium Term Plan. CVRI provided an update to ESRD and submitted the Medium Term Plan (Clause 37 of the EPO) to ESRD on February 28, 2014.

In accordance with the Medium Term Plan, CVRI completed the following submissions:

1. Geotechnical Information – March 17, 2014;
2. Causation Report and required data – March 18, 2014;
3. Application under the *Water Act* to Construct Red/Green Pit Dam – March 26, 2014;
  - a. SIRs received, response submitted May 30, 2014;
  - b. Follow-up to SIRs received June 16, 2014;
    - i. Request for clarification received from the AER on July 2, 2014;
4. Application under the *Coal Conservation Act* to amend Licence C 2009-1 (Red/Green Pit Dam) – March 26, 2014; and
5. Red/Green Perimeter Assessment Report – March 31, 2014.

CVRI has submitted its response to the AER's request for additional information and a response from the AER has not been received as of October 7, 2014.

## 2.11 Human Health Risk Assessment ("HHRA") Report

CVRI submitted an updated Table of Contents to Alberta Health ("AH") on August 27, 2014 for review and feedback. Alberta Health provided a written response on September 5, 2014 to help direct CVRI in the development of a detailed HHRA. The development of the HHRA has been in coordination with the Fish Sampling and Monitoring Plan. The HHRA will progress into its final phase of develop once approval of the Fish Sampling and Monitoring Plan has been received.

## **3.0 PLANNED EPO ACTIVITIES FOR NOVEMBER 2014**

### 3.1 EPO Activities for November 2014

During the month of October CVRI will continue with:

1. Surface water quality sampling and monitoring;
2. Data collection as prescribed by the Long-Term Sampling and Monitoring Plan, Impacts Assessment Plan, and Wildlife Mitigation Plan;
3. Updates to the Obed website.

The silt curtains are slated for removal the week of October 13, 2014. A *Water Act* Code of Practice Notification will be submitted to the AER on or before October 9, 2014 as required. The Notification will be posted to the Obed website as reference.

CVRI will be submitting a request to the AER to reduce the frequency of sampling and monitoring. This request will be submitted to ensure the sampling and monitoring requirements reflect the seasonal conditions and fulfill the Long-Term Sampling and Monitoring Plan requirements. This process was requested and approved by ESRD in 2013 and a copy of the communication between CVRI and the AER will be included in the request.

CVRI will be requesting a November 15, 2014 start date for the seasonal roll back, which will provide 30 days of sampling and monitoring post-silt curtain removal.

### 3.2 REPORTING STRATEGY

<b>Table 4: Obed Reporting Program May 2014-April 2015</b>			
<b>Report Type</b>	<b>EPO Clause</b>	<b>Submission Frequency</b>	<b>Description</b>
Action Summary	Clause 21	Weekly - Thursdays	Details the weekly action related to operations and EPO related activities.
Monthly Update	Clause 39	Monthly - on or before the 7 <sup>th</sup> day of each month	A status report in writing that contains a summary of all activities undertaken in accordance with the EPO in the previous month and all activities that are planned for the next month. Inclusion of Clause 10 Solids Recovery Report updated initiated in July.
Impacts Report	Clause 15	May 16, 2014	A report of all data collected (including references to data collection locations) and all conclusions regarding the impacts to the receptors and habitats as identified during implementation of the Impacts Assessment Plan (the "Impacts Report"). See EPO Amendment 1 for date change.
Remediation Plan	Clause 27	May 16, 2014	A detailed remediation plan – See EPO Amendment 1 for date change.

Progression Report	Clauses 15 and 27	July 15, 2014	Provide scheduled data updates and proposed modifications to EPO plans submitted under Clauses 15 and 27. SIR response period of 30 days.
Progression Report	Clauses 15 and 27	October 15 2014	Provide scheduled data updates and proposed modifications to EPO plans submitted under Clauses 15 and 27. SIR response period of 30 days.
Progression Report	Clauses 15 and 27	January 15, 2014	Provide scheduled data updates and proposed modifications to EPO plans submitted under Clauses 15 and 27. SIR response period of 30 days.
Impacts Plan	Clause 15	April 1, 2015	Amendments to May 16, 2014 submission based upon data collected in the 2014/2015 season.
Remediation Plan	Clause 27	April 1, 2015	Amendments to May 16, 2014 submission based upon data collected in the 2014/2015 season.

#### 4.0 CLOSING

CVRI continues to communicate with the AER to collect and submit data and information as prescribed by the approved plans. The submission of regularly scheduled progress reports and defined response periods allows CVRI and the AER to continue to communicate in a clear and effective manner until the final Impacts Report and Reclamation Report are submitted.