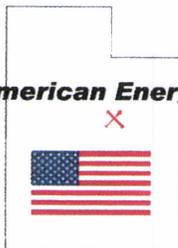


2

**UtahAmerican Energy, Inc.**



**Genwal Resources, Inc.**  
P. O. Box 910  
East Carbon, Utah 84520  
Phone: (435) 888-4000  
(435) 650-3157  
Fax: (435) 888-4002

Incoming  
C0150032  
#4240  
K

December 18, 2012

Mr. Daron Haddock,  
Permit Manager  
1594 West North Temple,  
Suite 1210,  
P.O. Box 145801,  
Salt Lake City, Utah 84114-5801.

**Re: Response to Division NOV Citation #10100 (12/05/2012), DOGM Permit C\015\032**

Dear Mr. Haddock,

Please find attached the Response to Division NOV Citation #10100 dated December 5, 2012, Crandall Canyon Mine.

A C1 and C2 form is attached as well as a redline strike-out.

Should you have any questions please call.

Sincerely,

R. Jay Marshall P.E.  
Project Manager

**RECEIVED**  
DEC 26 2012  
DIV. OF OIL, GAS & MINING

## APPLICATION FOR PERMIT PROCESSING

<input type="checkbox"/> Permit Change	<input type="checkbox"/> New Permit	<input type="checkbox"/> Renewal	<input type="checkbox"/> Transfer	<input type="checkbox"/> Exploration	<input type="checkbox"/> Bond Release	Permit Number: C0150032
<input checked="" type="checkbox"/> of Proposal <b>Response to Division NOV Citation #10100</b>						Mine: Crandall Canyon Mine
						Permittee: GENWAL Resources, Inc.

Description, include reason for application and timing required to implement.

Instructions: If you answer yes to any of the first 8 questions (gray), submit the application to the Salt Lake Office. Otherwise, you may submit it to your reclamation specialist.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	1. Change in the size of the Permit Area? _____ acres Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	2. Is the application submitted as a result of a Division Order?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	3. Does application include operations outside a previously identified Cumulative Hydrologic Impact Area?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	4. Does application include operations in hydrologic basins other than as currently approved?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	5. Does application result from cancellation, reduction or increase of insurance or reclamation bond?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	6. Does the application require or include public notice/publication?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	7. Does the application require or include ownership, control, right-of-entry, or compliance information?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	9. Is the application submitted as a result of a Violation?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	10. Is the application submitted as a result of other laws or regulations or policies? Explain:
<input type="checkbox"/> Yes	<input type="checkbox"/> No	11. Does the application affect the surface landowner or change the post mining land use?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	12. Does the application require or include underground design or mine sequence and timing?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	13. Does the application require or include collection and reporting of any baseline information?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	15. Does application require or include soil removal, storage or placement?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	16. Does the application require or include vegetation monitoring, removal or revegetation activities?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	17. Does the application require or include construction, modification, or removal of surface facilities?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	18. Does the application require or include water monitoring, sediment or drainage control measures?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	19. Does the application require or include certified designs, maps, or calculations?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	20. Does the application require or include subsidence control or monitoring?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	21. Have reclamation costs for bonding been provided for?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	22. Does application involve a perennial stream, a stream buffer zone or discharges to a stream?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	23. Does the application affect permits issued by other agencies or permits issued to other entities?

**Attach 3 complete copies of the application.**

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein. (R645-301-123)

R. J. Marshall 12/20/12  
 Signed - Name - Position - Date

Subscribed and sworn to before me this 20<sup>th</sup> day of December, 2012

Linda Kerns  
 Notary Public  
 My Commission Expires: 3.27.13  
 STATE OF Utah  
 COUNTY OF Carbon



Received by Oil, Gas & Mining

RECEIVED

DEC 26 2012

DIV. OF OIL, GAS & MINING

ASSIGNED TRACKING NUMBER



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Baseline water quality samples will be collected quarterly from the stream monitoring station below the forks in Horse Canyon at location H-1 (Plate 7-16) and analyzed according to the list contained in Table 7-8. Instantaneous flow estimates will be made for stations H-1, HS-5, and HN-1 during the spring and summer water quality sampling event. This monitoring will continue for a period of three years at which time the need for continued monitoring of Horse canyon will be evaluated.

Surface-water monitoring data will be submitted to DOGM on a quarterly basis. At the end of each calendar year, an annual summary will be submitted. This annual summary will analyze and describe variations in flows and quality during the year and will include tables, graphs, hydrographs, etc. as appropriate.

If available data (testing within 24 hours of proposed discharge) indicate that the water in the pond meets the effluent limitations contained in R614-301-751 and any applicable UPDES permits, this water will be pumped directly to Crandall Creek. Any direct discharges will be monitored at the beginning and end of pumping from the pond. The pump inlet will be placed on a floating spring to avoid pulling excess sediment into the discharge table during pumping. Water will be pumped from below the water surface to avoid introduction of oil to the discharge water.

During the post-operational period, surface-water data will be collected from the upper and lower stations shown in Plate 7-7 and the inflow to the sedimentation pond as indicated on Plate 5-16. Flow data will be collected continuously from the flumes at the upper and lower Crandall Creek stations and twice annually (during the high- and low-flow seasons) from the sedimentation pond inflow during the post-mining period. In addition, water-quality samples will be collected from each station during the high- and low-flow seasons following mining. These samples will be analyzed for the parameters listed in Table 7-8. Data thus collected will be submitted to DOGM on a quarterly basis.

The post-mining reports will contain not only the laboratory and field data but also an assessment of current impacts from mining on surface-water systems and the amount of recovery of the system since mining. Surface-water monitoring following mining will continue until the termination of the bonding period.

#### **7.31.223 Surface Water Monitoring Data**

Surface-water monitoring data will be submitted at least every three months for each monitoring location. Monitoring submittals will include analytical results from each sample taken during the approved reporting period. When the analysis of any surface water sample indicates noncompliance with the permit conditions, the operator will promptly notify the Division and immediately take the actions provided for in R645-300-145 and R645-301-731.

## WordPerfect Document Compare Summary

Original document: S:\GENWAL\Submittals\12-010 Violation Response 10100\Chapter 7 current with new monitoring requirements-approved-with new page 7-47 language-task 3941-clean-burma pending.wpd

Revised document: @PFDesktop\MyComputer\S:\GENWAL\Submittals\12-010 Violation Response 10100\12-010 Chapter 7 Revision.wpd

Deletions are shown with the following attributes and color:

~~Strikeout~~, **Blue** RGB(0,0,255).

Deleted text is shown as full text.

Insertions are shown with the following attributes and color:

Double Underline, Redline, **Red** RGB(255,0,0).

The document was marked with 3 Deletions, 6 Insertions, 0 Moves.

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### **7.31.3 Acid- and Toxic- Forming Materials**

As discussed in Section 5.28.30, waste rock is not produced during mining operations. When incidental quantities of rock are encountered, the rock is left in the mine and will not be removed at any time in the future; thus, no negative effects are expected from the acid-forming potential of strata which overlie and underlie the Hiawatha seam. However, to further characterize the acid-forming potential of strata immediately above and below the Hiawatha seam, GENWAL collected additional roof- and floor-rock samples from three locations within the current mine workings (including the state lease and Lease #UTU-68082 areas). These new data also show the materials to be non-acid/non-toxic forming. Analytical results from these three sets of samples are contained in Appendix 6-2.

The presence of acid- or toxic-forming materials has been determined by laboratory testing (as defined in "Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining"). These data are contained in Appendix 6-2. If waste material is generated it will be tested for acid- or toxic-forming materials on a yearly basis or prior to disposal. If such material is identified, it will be stored in an enclosed area (i.e. dumpster) or within a containment (bermed) area until such time as it can be disposed of.

### **7.31.4 Transfer of Wells**

Before final bond release, exploratory or monitoring wells will be sealed in a safe and environmentally sound manner in accordance with Sections 7.38 and 7.65.

### **7.31.5 Discharges**

The Applicant will not discharge into the underground mine, unless specifically approved by the Division and/or meets the approval of MSHA. Discharges will be limited to the following:

1. Water
2. Coal processing waste
3. Fly ash from a coal-fired facility
4. Sludge from an acid-mine-drainage treatment facility
5. Flue-gas desulfurization sludge
6. Inert materials used for stabilizing underground mines
7. Underground development waste.

#### **7.31.51 Gravity Discharges**

The angle at which the coal bed is inclined from the horizontal (dip) prevents any gravity discharge of water from the surface entries.

### **7.31.6 Stream Buffer Zones**

The disturbed area is drained by ephemeral "streams" which are tributaries to Crandall Creek. The undisturbed drainages will enter Crandall Canyon above and below the culvert. Stream buffer zones will be maintained above and below the culvert. Portions of the road lie within 100' of Crandall Creek. The sediment pond outslope is contiguous to Crandall Creek, a perennial stream at the mine facility area.

Crandall Creek water quality is protected from the impacts of the mine by the use of revegetation, silt fences and/or straw bales, and rip-rapped channels. In addition, buffer zone signs have been installed to indicate the area beyond which no disturbance shall take place. For additional information concerning stream buffer zone protection see Section 3.23.300 of this permit.

#### **7.31.7 Cross Sections and Maps**

Cross sections and maps, as required for R645-301-731.700, are presented within this application.

#### **7.31.8 Water Rights and Replacement**

In the event that the monitoring program identifies an impact to the water source in the permit and adjacent areas, the replacement of water rights will be addressed as described in Section 7.27 of this application.

#### **7.3 Sediment Control Measures**

The sediment control measures for the Crandall Canyon Mine operations are discussed in Section 7.42 of this application. This includes design, operation and maintenance of applicable siltation structures, sedimentation pond, diversions, and road drainage, as required.

#### **7.33 Impoundments**

There are no permanent impoundments associated with GENWAL's operations. Temporary impoundments of water collected for runoff control will occur in the sediment ponds and containment berms. The design of these structures is presented in Section 7.42 and 7.43 of this application.

#### **7.34 Discharge Structures**

Discharge from the sediment ponds is conveyed by a 18-inch CMP culvert (principal spillway) and an open channel concrete lined emergency spillway. The outlets of these spillways are protected by riprap. This design complies with R645-301-744.

#### **7.35 Disposal of Excess Spoil**

No significant excess spoil has been or will be developed by operating the underground mine. The only anticipated excess material will be from the sediment ponds. This limited volume of material will be removed from the ponds transported to an approved refuse disposal site, disposed of underground or sold with the coal.

### **7.36 Coal Mine Waste**

Any refuse will be disposed of in accordance with the designs presented in Chapter 5 and Section 7.46 of this application.

### **7.37 Noncoal Mine Waste**

Noncoal mine waste will be stored and final disposal of noncoal waste will comply with R645-301-747.

### **7.38 Temporary Casing and Sealing of Wells**

Each well which has been identified in the approved permit application to be used to monitor ground water conditions will comply with R645-301-748 and be temporarily sealed before use. Drilling and Sealing of such wells will be done according to the procedure described in Chapter 6, Section 6.41.

### **7.40 Design Criteria and Plans**

#### **7.41 General Requirements**

The runoff control plans for the Crandall Canyon Mine facilities includes the diversion of the undisturbed runoff from areas contributing to the facilities, the collection of all runoff from disturbed areas associated with the sites and the containment and treatment of this disturbed runoff through the use of sediment ponds, strawbales, silt fence, riprap, mulches and revegetation.

#### **7.42 Sediment Control Measures**

##### **7.42.10 General Requirements**

Appropriate sediment control measures will be designed, constructed and maintained using the best technology currently available to:

1. Prevent, to the extent possible, additional contributions of sediment to stream flow or to runoff outside the permit area.
2. Meet the effluent limitations under R645-301-751.
3. Minimize erosion to the extent possible.

Sediment control measures include practices carried out within and adjacent to the disturbed area. The sedimentation storage capacity of practices in and downstream from the disturbed areas will reflect the degree to which successful mining and reclamation techniques are applied to reduce erosion and control sediment. Sediment control measures consist of the utilization of proper mining and reclamation methods and sediment control practices, singly or in combination. Sediment control methods include, but are not limited to:

1. Retaining sediment within disturbed areas;
2. Diverting runoff away from disturbed areas;
3. Diverting runoff using protected channels or pipes through disturbed areas so as not to cause additional erosion;
4. Using straw dikes, riprap, check dams, mulches, vegetative sediment filters, dugout ponds and other measures that reduce overland flow velocities, reduce runoff volumes or trap sediment;
5. Treating with chemicals/paving;
6. For the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES, treating mine drainage in underground sumps.

#### **7.42.20 Siltation Structures**

#### **7.42.21 General Requirements**

Additional contributions of suspended solids and sediment to stream flow or runoff outside the permit area will be prevented to the extent possible using the best technology currently available.

#### **Alternate Sediment Control Areas and Small Area Exemptions**

There are seven ASCA sites associated with this property. All ASCA's are maintained to minimize additional contributions of suspended solids and sediment to stream flow or runoff outside the permit area. Details on the ASCA's are included in Appendix 7-4.

As a result of the Crandall Canyon Mine disaster of August 6, 2007, the mine has been de-activated and the portals have been sealed. Mine water inflow has built up to the extent that water is now discharging from the portals and is discharged through a 12" pipe into Crandall Creek under UPDES permit UT0024368. The mine is presently discharging approximately 400-500 gallons per minute, with the flow fluctuating with barometric pressure and seasons. In early 2009 the iron concentrations in the water began to exceed UPDES limits. Because there is no way to treat the water underground the company constructed an aeration treatment system located on the surface in the "old loadout" area, immediately below the portal bench. Complete details of the treatment facility can be found in Appendix 7-65. While the facility is neither an ASCA nor a small area

exemption, it represents a small area within the disturbed area wherein runoff is treated along with the mine discharge water and discharges through an approved UPDES outfall point, and therefore does not drain to the sediment pond.

A suitably constructed barricade has been constructed between the treatment facility and the road which prevents any disturbed area drainage from entering the treatment facility area, and similarly prevents any of the mine discharge water from running over the adjacent disturbed area and reporting to the sediment pond. See Plate 5-3 for the location of the facility. At the lower end of the treatment facility, the treated minewater water is collected into a buried pipeline which crosses underneath the road and connects to the existing discharge line. In this manner the treated water ends up reporting to the Crandall Canyon drainage (by way of the main bypass culvert) at the existing approved UPDES outfall point.

There is every reason to believe that water will permanently discharge from the Crandall Mine portals. The iron level of the mine water historically was very low, and began rising only after the water began to build up and impound within the mine workings following the mine collapse of 2007. At the present time (January, 2012) it is uncertain whether or not long-term treatment of the mine discharge water will be required, because naturally-occurring chemical processes within the mine could potentially bring the iron content of the water to within compliance limits at some time in the future. This scenario is currently being addressed under Division Order DO-10 and is a matter of on-going legal negotiations between the company and the Division, as mandated by the Board of Oil, Gas and Mining. Until such time as the final terms of these on-going negotiations have been fully implemented, the company commits to collecting additional hydrologic baseline data. This data includes:

- a) flow quantities from the seep in the sandstone ledge above the treatment facility,
- b) measurement of the discharge rate from the sealed portals; either continuously (e.g., using a data logger) or at a minimum, daily.
- c). monthly whole water chemical analysis and field measurements of the untreated mine discharge as specified on Table 7-4(A).

#### **7.42.22 Sedimentation Pond**

##### **Design**

The sedimentation pond located in Crandall Canyon has been redesigned to control the additional storm runoff from the pad extension and from the designated undisturbed drainage areas above the pad extension associated with the proposed culvert expansion. The topography and watershed boundaries are shown on Plate 7-5 and 7-5C. Cross sections of the pond design are shown on Plate 7-3.