



C/O 15032 Incoming

#4384

R

P.O. Box 910, East Carbon, Utah 84520 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

Daron Haddock
Permit Supervisor
Utah Division of Oil, Gas and Mining
P.O. Box 145801
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

July 23, 2013

Re: Response to Deficiencies Task ID #4372 (Revision for pond cleaning (13-007))

Dear Mr. Haddock:

Please find attached the response to deficiencies to Task ID #4372.

The deficiencies reflect that I revised the wrong version of text for Appendix 7-4. That has been corrected and the appropriate version has been revised.

Completed C1 and C2 forms are included as well as a Red Line Strike Out Copy.

If you have any questions please give me a call at (435) 888-4007.

Sincerely,

A handwritten signature in black ink that reads "R. Jay Marshall". The signature is written in a cursive, flowing style.

R. Jay Marshall P.E.
Resident Agent

RECEIVED

JUL 25 2013

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: 015/032
Title of Proposal: Crandall Sediment Pond Revisions (13-007)						Mine: GENWAL Mine
						Permittee: GENWAL Resources, Inc.

Description, include reason for application and timing required to implement: Response to Deficiencies Task ID#4372

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.

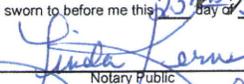
- | | | |
|------------------------------|-----------------------------|--|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 1. Change in the size of the Permit Area? _____ acres Disturbed Area? _____ acres <input type="checkbox"/> increase <input type="checkbox"/> decrease. |
| <input 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)


7/22/13
 Signed Name - Position - Date

Subscribed and sworn to before me this 23rd day of July, 2013.


 Notary Public
 My Commission Expires: 03.27.17
 Attest: STATE OF Utah
 COUNTY OF Carbon



Received by Oil, Gas & Mining

RECEIVED
JUL 25 2013

DIV. OF OIL, GAS & MINING

ASSIGNED TRACKING NUMBER

WordPerfect Document Compare Summary

Original document: S:\GENWAL\Submittals\2013\13-007 Response to Deficiencies
Pond Cleaning Revision\Appendix 7-4 10-2010 last approved.wpd

Revised document: @PFDesktop\MyComputer\S:\GENWAL\Submittals\2013\13-007
Response to Deficiencies Pond Cleaning Revision\Appendix 7-4 13-007.wpd

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The document was marked with 3 Deletions, 4 Insertions, 0 Moves.

APPENDIX 7-4

*CRANDALL CANYON MINE
SEDIMENTATION AND DRAINAGE CONTROL PLAN*

*PREPARED BY: DAN W. GUY, P.E.
BLACKHAWK ENGINEERING, INC.
1056 WEST 2060 NORTH
HELPER, UT. 84526*



REVISED: SEPTEMBER July 20103

- g) *The pond volume has been increased at the request of the Forest Service to provide a greater level of protection for forest resources located down stream from the minesite. The enlarged pond capacity (3.513 acre ft.) is over-designed by nearly 25% to contain the 10 year-24 hour design event.*
- h) *Clean-out operations will be initiated at the sediment pond based upon inspection of the sediment markers. Cleanout operations will be initiated when the sediment level is between the 60% and maximum level. At no time will the sediment level be allowed to exceed the 100% level as determined by Table 12. The water level of the pond will not be allowed to exceed 7773.2 which still allows for a 10 Year 24 hour event.*

<i>Storm Event</i>	<i>Pond Volume Required</i>	<i>Pond Capacity Provided</i>
<i>10 yr./24 hr.</i>	<i>2.800 acre ft.</i>	<i>125%</i>

3.5 *Alternate Sediment Control Areas (ASCA's)*

ASCA-2 (consisting of 0.34 acre) exists at the northwest corner of the site. This area was initially constructed as a substation pad but was never utilized as such. A 12-inch CMP culvert was installed to act as a discharge into UD-1. A silt fence and strawbale dike have been placed to trap the sediment and prevent erosion. (Refer to Plates 7-5)

ASCA-5, ASCA-6, ASCA-7 and ASCA-11 consist of the topsoil stockpiles #1, #2, #3, and #4 respectfully. These stockpiles are located on the north and south side of the access road as shown on Plate 2-3. Disturbed areas associated with the topsoil stockpiles are 0.20 acres, 0.22 acres, 0.62 acres and 0.65 acres for ASCA-5, ASCA-6, ASCA-7, and ASCA-11, respectively. All topsoil stockpiles have been protected from erosion by a combination of dikes, silt-fencing, berms, and a vegetative cover. (Refer to Plate 2-3)

ASCA-9 (0.15 acres) is the outslope of the sediment pond; ASCA-10 (0.02 acres) is the headwall of the inlet of the main by-pass culvert. The drainage from these areas

3.4 Sediment Pond Summary

- a) *The sedimentation pond has been designed to contain the disturbed area (and contributing undisturbed area) runoff from a 10 year-24 hour precipitation event, along with 3 years of sediment storage capacity. Runoff to the pond will be directed by various ditches and culverts as described in the plan.*
- b) *The required volume for the sediment pond is calculated at 2.800 acre feet, including 3 years of sediment storage. The existing sediment pond size is 3.513 acre feet (at the principle spillway), which is more than adequate.*
- c) *The pond will meet a theoretical detention time of 24 hours. It is equipped with a decant, a culvert principle spillway and an open-channel emergency spillway. Any discharge from the pond will be in accordance with the approved UPDES Permit.*
- d) *The pond inlets will be protected from erosion, and the spillway will discharge into the main Crandall Canyon drainage.*
- e) *The pond is temporary, and will be removed upon final reclamation of the property.*
- f) *The pond expansion will be constructed according to the regulations and under supervision of a Registered, Professional Engineer.*
- g) *The pond volume has been increased at the request of the Forest Service to provide a greater level of protection for forest resources located down stream from the minesite. The enlarged pond capacity (3.513 acre ft.) is over-designed by nearly 25% to contain the 10 year-24 hour design event.*

- h) *Clean-out operations will be initiated at the sediment pond based upon inspection of the sediment markers. Cleanout operations will be initiated when the sediment level is between the 60% and maximum level. At no time will the sediment level be allowed to exceed the 100% level as determined by Table 12. The water level of the pond will not be allowed to exceed 7773.2 which still allows for a 10 Year 24 hour event.*

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ASCA-9 (0.15 acres) is the outslope of the sediment pond; ASCA-10 (0.02 acres) is the headwall of the inlet of the main by-pass culvert. The drainage from these areas can not be directed to the sediment pond and are too close to the creek to construct separate sediment ponds. Therefore GENWAL has used alternate sediment control methods such as silt fences, straw bale dikes and vegetation. (Refer to Plate 7-5)

Note: ASCA's 1, 3, 4 and 8 have been eliminated through previous permitting actions.

A 0.30 acre water treatment facility is located within WSD-10. This facility contains a settling basin for treating mine discharge water. The treated water is then piped directly to a UPDES outfall into Crandall Creek. Therefore, surface runoff from this facility does not report to the sediment pond.

DESIGN OF DRAINAGE CONTROL STRUCTURES
FOR
RECLAMATION

Reclamation Hydrology:

- 4.1 *General (Phase I)*
- 4.2 *General (Phase II)*
- 4.3 *Reclamation - Disturbed Drainage Control*
- 4.4 *Restored Channels*
- 4.5 *Sediment Pond*
- 4.6 *Calculations*

Tables:

- Table 14 *Reclamation - Phase I Runoff Summary Drainage to Sediment Pond*
- Table 15 *Reclamation - Phase I Runoff Control Structure / Watershed Summary*
- Table 16 *Reclamation - Phase I Runoff Control Structure / Flow Summary*
- Table 17 *Reclamation - Phase I Reclaimed Ditch Design Summary*

Figures:

- Figure 8 *Reclamation Channel RD-1 Typical Section*

WordPerfect Document Compare Summary

Original document: S:\GENWAL\Submittals\2013\13-005 Violation #10105 Permit Changes\Appendix 7-65 old.wpd

Revised document: @PFDesktop\MyComputer\S:\GENWAL\Submittals\2013\13-005 Violation #10105 Permit Changes\13-005 Appendix 7-65.wpd

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the settling basin the static water level in the sediment pond will be decanted to as low as possible below the elevation level of 7773.2'. This will ensure that there is still sufficient capacity left in the pond to accommodate a 10-year/24-hour precipitation event. At no time during the flow bypass will the water level in the sediment pond be allowed to exceed the 7773.2' level, unless specifically authorized by the Division. A clearly visible reference marker will be installed within the sediment pond to clearly delineate the 7773.2' elevation level so that persons in charge of the maintenance operations can observe the water level at all times during any bypass situation. Any decanting of the sediment pond will be done according to the requirements of the approved UPDES permit for this outfall point. Also, prior to bypassing any water into the sediment pond, the sediment level in the pond will be verified to be below the approved clean-out level of 7769'. *(Note: The sediment pond was completely cleaned in December of 2009, immediately prior to putting the iron treatment facility into operation, and certification reports were supplied to the Division).* Since the required capacity volume for a 10yr-24hr event is 2.45 acre-ft, this leaves a usable volume of 0.77 acre-ft for the purpose of maintenance bypass, assuming the water level has been previously decanted down to the sediment cleanout level of 7769'. This equates to 251,000 gallons. At an average flow rate of 500 gpm from the mine, the sediment pond could theoretically contain over 8 hours worth of by-passed discharge flow. In other words, this could allow more than 8 hours of time to perform maintenance work on the treatment facility before the sediment pond was filled to within the 10/24 capacity volume level at the maximum level of 7773.2'. This should provide sufficient time for most routine or emergency maintenance procedures, especially in light of the mechanical simplicity of the system. Details of the sediment pond capacity for this scenario can be found in Appendix 7-4.

Prior to initiating any routine or scheduled maintenance on the oxidizer unit or the settling basin, the company will provide a minimum 24-hour notice to the Division. Emergency maintenance occasions will be reported to the Division immediately. In an attempt to minimize the potential for emergency shut-downs, the company now maintains spare pumps, a spare make-down unit, and a back up flow meter on site. The system is currently being monitored continuously by computer interface so that off-site operating and maintenance personnel can stay apprised of the operational status of the facility on a real-time basis and respond as needed.-

Clean-out operations will be initiated at the sediment pond based upon inspection of the sediment markers. Cleanout operations will be initiated when the sediment level is between the 60% and maximum level. At no time will the sediment level be allowed to exceed the 100% level as determined by Table 12. The water level of the pond will not be allowed to exceed 7773.2 which still allows for a 10 Year 24 hour event.

DRAINAGE

The "old loadout area" is depicted on Plate 7-5 and in Appendix 7-4 (Sedimentation and Drainage Control Plan) as disturbed drainage area WSDD-10. Much of this area is now dedicated to the installation of the iron treatment facility. The treated minewater, along with any direct precipitation falling into the settling basin, is discharged into Crandall Creek via the original approved UPDES outfall point. Therefore, part of this treatment area is now excluded from

the settling basin the static water level in the sediment pond will be decanted to as low as possible below the elevation level of 7773.2'. This will ensure that there is still sufficient capacity left in the pond to accommodate a 10-year/24-hour precipitation event. At no time during the flow bypass will the water level in the sediment pond be allowed to exceed the 7773.2' level, unless specifically authorized by the Division. A clearly visible reference marker will be installed within the sediment pond to clearly delineate the 7773.2' elevation level so that persons in charge of the maintenance operations can observe the water level at all times during any bypass situation. Any decanting of the sediment pond will be done according to the requirements of the approved UPDES permit for this outfall point. Also, prior to bypassing any water into the sediment pond, the sediment level in the pond will be verified to be below the approved clean-out level of 7769'. *(Note: The sediment pond was completely cleaned in December of 2009, immediately prior to putting the iron treatment facility into operation, and certification reports were supplied to the Division).* Since the required capacity volume for a 10yr-24hr event is 2.45 acre-ft, this leaves a usable volume of 0.77 acre-ft for the purpose of maintenance bypass, assuming the water level has been previously decanted down to the sediment cleanout level of 7769'. This equates to 251,000 gallons. At an average flow rate of 500 gpm from the mine, the sediment pond could theoretically contain over 8 hours worth of by-passed discharge flow. In other words, this could allow more than 8 hours of time to perform maintenance work on the treatment facility before the sediment pond was filled to within the 10/24 capacity volume level at the maximum level of 7773.2'. This should provide sufficient time for most routine or emergency maintenance procedures, especially in light of the mechanical simplicity of the system. Details of the sediment pond capacity for this scenario can be found in Appendix 7-4.

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draining into the sediment pond as disturbed area drainage. The basin berm, which supports the concrete barrier wall, serves to effectively separate the settling basin from the disturbed area drainage around it. Effectively, all surface drainage now bypasses the treatment facility area, and there is no co-mingling of storm surface runoff with the mine discharge water undergoing treatment. Relevant drainage information from Appendix 7-4 is included in Attachment 6 for ease of reference. This attachment also contains information that shows the adequacy of the basin spillway and the discharge pipe to handle the combined flow of the mine water and a 10 year/24 hour precipitation event on the surface.

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. Also, the outer toe of the berm located adjacent to the Forest Service road has been armored with concrete jersey barriers sufficient to prevent potential erosion from surface runoff along the road, and to route surface drainage around the basin into drainage ditch DD-10, thence into culvert C-4, and thence into the sediment pond. Calculations in Appendix 7-4 show that these drainage structures are adequately sized to handle the bypass flow (at a peak of about 1200 gpm) in addition to the 10 yr-24 hr precipitation event design flow.

RECLAMATION AND BONDING

At such time as the water treatment facility is no longer needed, the facility will be reclaimed. This could be at the time of final reclamation or prior to it, depending on circumstances at the time. The existing facility is currently approved and bonded for reclamation by the Division. Presently (January, 2012) the company and the Division are in negotiated discussions regarding the requirements for possible long-term treatment. As part of these negotiations, the Division and the company have agreed upon projected operating costs of the existing facility. These costs, and the stipulation agreement, are included in Attachment 11.

BASELINE MONITORING

Additional baseline data has been incorporated into the approved plan. This data includes: 1) flow quantities from the seep in the sandstone ledge above the treatment facility, 2) historical data concerning the iron concentration levels in the mine discharge water, and 3) operational performance data demonstrating the effectiveness of the existing treatment system methodology. Specifics of the baseline monitoring for the ledge seep and the raw mine water discharge can be found in Chapter 7 text in Section 7.31.2.

Operational performance data: The company commits to gathering data to reflect on the effectiveness of the oxidation/settling methodology employed in the existing system. This data will be collected monthly and will be provided to the Division via email. Samples will be collected from the 12" HDPE pipeline prior to the oxidizer unit, and at the UPDES sampling point at the outlet of the settling basin. The parameters will include the following:

Laboratory Analysis:

- Iron (total, dissolved)
- Manganese (total and dissolved)
- Aluminum (total and dissolved)
- Alkalinity
- Sulfate
- TDS
- TSS
- Chloride
- Dissolved Calcium
- Dissolved Potassium
- Dissolved Sodium
- Dissolved Magnesium
- Dissolved Silica
- Hot Acidity

Field Parameters

- pH
- Dissolved Oxygen
- Conductivity
- Temperature
- Ferrous Iron

OFF-SITE IMPACTS

In early 2009 the iron concentrations in the water began to exceed UPDES limits. By the summer of 2009, Crandall Creek below the mine began to display an orange discoloration from the iron staining, resulting in violations from both DOGM and Division of Water Quality. Therefore, the company performed an on-site inspection of the Crandall Creek drainage with the appropriate regulatory agencies in the summer of 2010). The purpose of the inspection was to assess the extent of the total iron accumulations within Crandall Creek. Following the site-visit, the Division (with concurrence with the Forest Service, and consultation from other agencies) made the determination to not remove the iron accumulations from the stream channel at this time. However, if needed, future inspections will be conducted by the Division (with concurrence with the Forest Service and consultation from other agencies) to make a determination as to what clean-up measures, if any, should be taken to remove the iron accumulations from the stream channel.

TEMPORARY USE OF CRANDALL SEDIMENT POND

During late April and early May of 2010, the iron accumulation material (a.k.a., cleanout

sludge) was cleaned out of the settling basin for the first time. There was at this time approximately three months worth of sludge material accumulated in the basin. Cleanout was accomplished by installing a total of ten cleanout tubes sequentially across the entire width of the the basin, from top to bottom. Each cleanout tube was constructed of 4" pvc pipe with ½" holes drilled on 8" centers along the top of the pipe. At the time of cleaning, a 2" flexible hose was inserted into the cleanout tube, with the other end connected to a vacuum truck. During cleanout, the open end of the vacuum hose was slowly retracted through the length of the cleanout tube, sucking the sludge from the immediate area through the holes in the outer tube. This process was then repeated for each tube until the entire length of the basin had been cleaned. The sludge material was then hauled by tanker truck to the Wildcat Loadout and discharged into Sediment Pond C, as per the plan. In total, 38 truckloads of sludge were cleaned from the basin, totaling 216,000 gallons of material. Since the initial cleaning, additional cleaning tubes have been added and the pond has been cleaned several more times.

Laboratory analysis of the cleanout sludge shows that it is in compliance with all standards for RCRA metals (see Exhibit 4, Attachment 9). Lab analysis also shows that the sludge material is mostly water, being 94.12% water, 5.88% solids (see Exhibits 1 and 5, Attachment 9). Shortly after the cleanout, representatives of the Division inspected the material in Pond C at Wildcat. By this time much of the solids had settled out, leaving a clear supernate on top. This supernate material was sampled and analyzed (see Exhibits 2 and 6, Attachment 9). Exhibit 3, Appendix 9 shows additional photos of the Wildcat Pond C as the sludge continued to settle and dry out. Within the next several weeks the sludge material dried up entirely, leaving only a thin residue caked in the bottom of Pond C.

The company is now experimenting with various methods to improve on the cleanout process. The sludge material in the settling basin is voluminous, but mostly water (94% water, 6% solids). Therefore, efforts to remove as much of the water as possible from the sludge prior to disposal are now being explored. These efforts may include the use of mechanical filtration devices (geobags) used during cleanout, on a trial basis. To facilitate the testing of these new methods, the company will utilize the Crandall Canyon Mine sediment pond on a temporary basis for short-term storage of the cleanout material. This period of utilization will be restricted during the summer and autumn months when seasonal weather conditions will promote effective evaporation of the sludge material. By being able to temporarily store the material in the Crandall sediment pond, a greater degree of flexibility can be employed in the trial-and error methods for developing the most effective de-watering process. Such de-watering process will then be incorporated into the long-term cleanout program. It should be emphasized that use of the Crandall sediment pond during this testing period will be temporary, ending October 30, 2010.

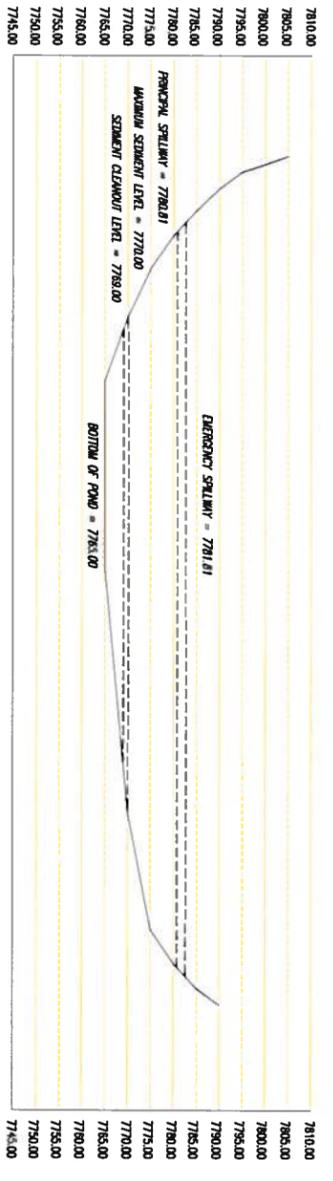
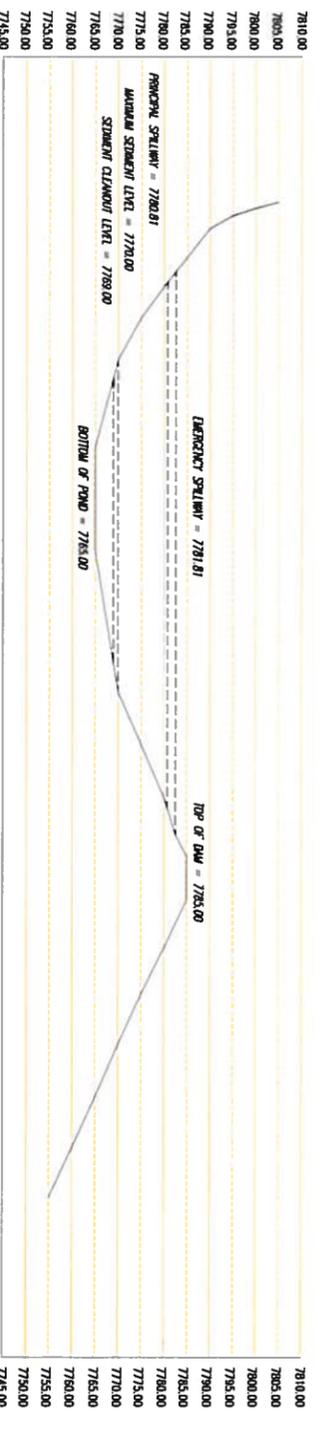
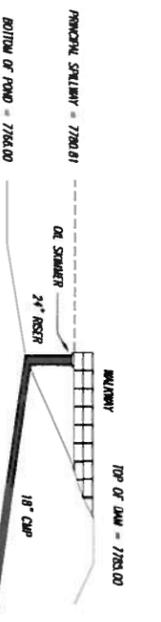
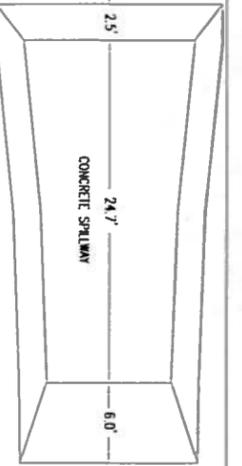
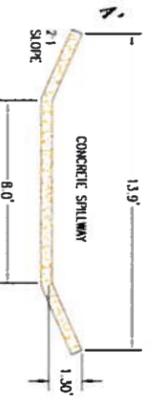
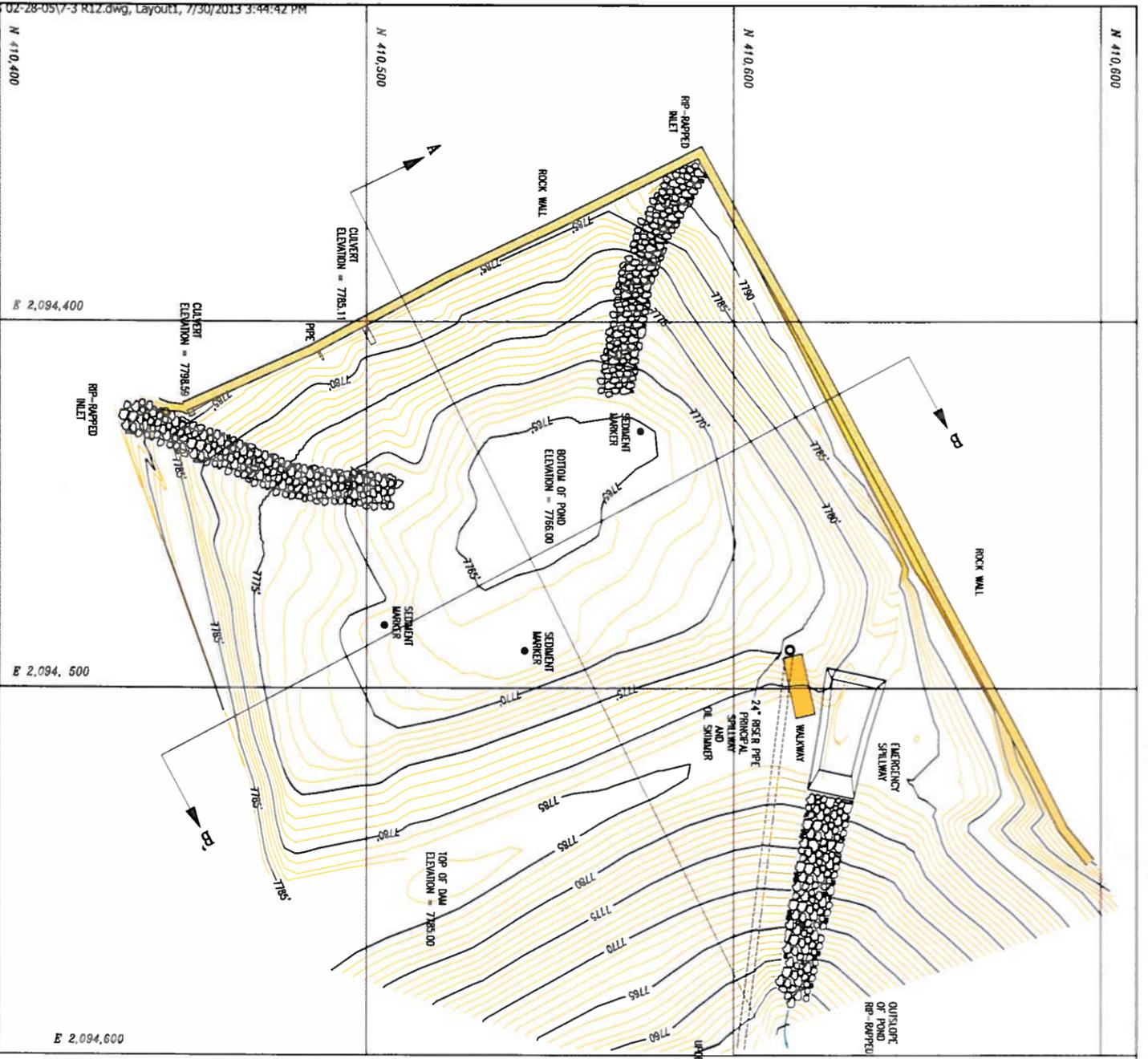
It should be noted that in no case will the sediment level (of the combined sediment/sludge material) in the pond be allowed to accumulate above the presently approved 7770' maximum sediment level. It should also be noted that at no time will the total water level in the sediment pond be allowed to exceed the 7773.2' elevation as a result of the cleaning/testing. By not exceeding this level, the sediment pond will still maintain sufficient capacity to hold surface runoff from a 10-year, 24-hour precipitation event. A high-water level marker has been installed in the pond to make

certain that this level is not exceeded during cleaning and testing. In the unlikely event that any supernate water needs to be decanted from the pond during this time, it will be decanted in accordance with the approved UPDES permit. It is encouraging to note that, should decanting be necessary, analysis of the supernate from the initial cleaning showed compliance with all UPDES parameters. It should also be noted that any sludge material deposited in the Crandall sediment pond during this time will eventually be removed and disposed of as part of the normal approved sediment pond clean-out procedure.

As mentioned previously, this sludge material was hauled to the Wildcat Loadout (permitted under MRP C/007/033), where it was disposed of in Sediment Pond C. However, the company has recently turned ownership of the Wildcat Loadout over to the Intermountain Power Agency (IPA), and can no longer utilize Pond C for disposal. Therefore, as an alternate to the Wildcat disposal site, the company is now in the process of permitting a new disposal site in lower Huntington Canyon near the northern terminus of the Burma Road. This site is located on SITLA land and will consist of a shallow evaporation pond. Therefore, the company may seek approval from the Division to temporarily utilize the Crandall sediment pond for sludge disposal during the time period involved in permitting and constructing the "Burma" evaporation ponds. This usage would be under all of the same conditions as the previously approved temporary usage as specified above. On June 16, 2011, the Division granted approval for temporary iron sludge storage within the sediment pond. The company commits that within 60 days of final approval of the Burma Evaporation Basin the site will be constructed and operational. The company also acknowledges that after this same 60-day period continued utilization of the Crandall sediment pond for iron sludge disposal will no longer be authorized by the Division.

ESTIMATED OPERATING COSTS

Estimated operating costs for the treatment facility are presented in Attachment 11. These costs have been agreed upon by the Division and the Company as part of legal settlement negotiations relating to the abatement of NOV 10073 and resolution of Division Order DO-10A.



CONTOUR INTERVAL = 1'

Note: Pond Cleaned in November 2003.

Survey Made in April 2004.

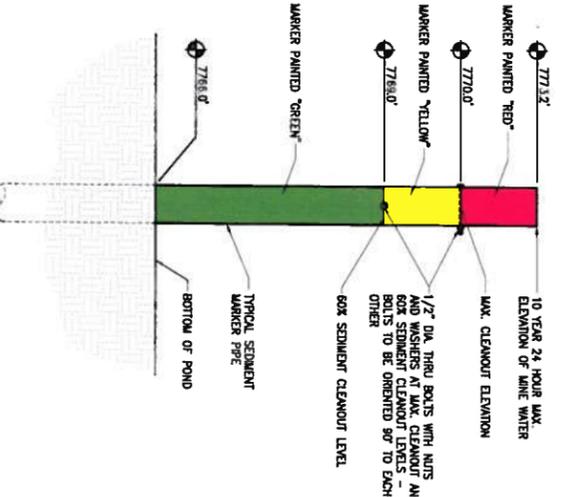
Pond Cleaned in December 2009.

Pond Cleaned in June 2013.

±300 tons of bentonite was added to augment the existing clay liner (June 2013).

AS-BUILT SEDIMENT POND:

LOCATION	ELEVATION	VOLUME	VOLUME AFTER 2013 CLEANING
BOTTOM OF POND:	7786.00	0.000 AC. FT.	0.000 AC. FT.
SEDIMENT CLEANOUT LEVEL:	7789.00	0.290 AC. FT.	0.330 AC. FT.
MAXIMUM SEDIMENT LEVEL:	7770.00	0.437 AC. FT.	0.481 AC. FT.
PRINCIPAL SPILLWAY:	7780.81	3.513 AC. FT.	3.915 AC. FT.
EMERGENCY SPILLWAY:	7781.81	3.936 AC. FT.	4.391 AC. FT.



I CERTIFY THIS MAP TO BE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



GENWAL
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**CRANDALL CANYON MINE
SEDIMENT POND (AS-BUILT)**

REV: 12	ACAD: 7-3 R12
DATE: 07-30-13	BY: PJU
SCALE: 1" = 40'	PLATE #: 7-3