C/007/047 Incoming
#3860
K

Carbon Resources, LLC
PO Box 954
Sandia Park, NM 87047
Telephone: (505) 286-1253

June 13, 2011

Mr. John Baza, Director
Department of Natural Resources
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84116

Dear Mr. Baza,

RE: PERMIT APPLICATION RESPONSE TO DEFICIENCIES, TASK ID# 3823 DATED 6/6/11 FOR KINNEY NO. 2 MINE - PERMIT NO. C/007/0047

In response to the Divisions Technical review deficiencies, Carbon Resources submits the attached permit responses to the technical deficiencies outlined in the Division's letter of June 6, 2011.

Three copies of the appropriate portions of the MRP with deficiencies addressed in redline strike-out format are herewith included for review by the Division.

This submission is accompanied by Forms C1 and C2 as required.

The deficiencies responses are summarized as follows:

Biology
R645-301-322, -301-333, -301-342, 301-358

1. A habitat field survey was conducted on June 1, 2011 by Patrick Collins, Mt. Nebo Scientific, Joe Helfrich, UDOGM, and Leroy Mead, UDWR. The text on page 3-67a, Chapter 3 has been revised (redline – stike-out text) to say that the field survey was completed. Pages 3-67, 3-67a, and 3-68 of Chapter 3 are included with this submittal with previous redlined text previously accepted by UDOGM turned black, and strike-out text removed. These three pages are included to provide continuity of the chapter.

2. Page 3-41a, Chapter 3 has been revised adding a commitment to conduct mitigation for the nesting deterrent action. Several options are included in the text for mitigation as discussed by Patrick Collins, Joe Helfrich and Leroy Mead at the field survey session. These options are stated in the text to be not the only ones to be considered, but to give examples of mitigation that might be chosen and approved by the agencies. Carbon Resources is open to any mitigation

plan that the agencies can agree on. As stated in the text the total amount of mitigation is limited to a total of $3,000.00, as previously agreed with the agencies. Carbon Resources is more than happy to provide these mitigation funds.

The text on page 3-41a, Chapter 3 has been revised (redline – stike-out text) committing to the $3,000.00 mitigation . Page 3-41a, 3-41a-1, and 3-41b, Chapter 3 are included with this submittal with previous redlined text previously accepted by UDOGM turned black, and strike-out text removed. These three pages are included to provide continuity of the chapter.

Hydrology

Water right #91-4026 is in question by the Utah Division of Water Rights, and it is the water rights holder's responsibility to clear up any confusion as to the exact source of the water right. Carbon Resources has no authority to resolve the issues surrounding the right. In response to the Division's conditional approval, Carbon Resources will work with both the Division and the Utah Division of Water Rights in documenting the right in the proper locations in the MRP once the issues have been addressed between the water rights holder and the Utah Division of Water Rights. Carbon Resources has already committed to replace any water rights adversely affected by mining.

R645-301-120

The text highlighted in yellow has been deleted from Chapter 7 found on pages 7-4 and 7-5. The deficiency cited pages 7-12 through 7-14 which was from a previous version of the submittal that suffered from a pagination problem. The context is the same.

R645-301-724.100

The text on pages 7-14, and 7-135 of Chapter 7 has been revised deleting any reference to Figure 17 as containing field data for monitoring wells. The deficiency also cited also page 7-21 which is identical to page 7-14 is also a holdover from a previous version of the submittal that suffered from a pagination problem.

Bonding

The Reclamation Bond calculation include a summary page at the beginning that presents the bond calculation numbers. Carbon Resources has revised the escalation factor to 1.7% and provides herewith a new summary page indicating that the Reclamation costs escalated for the permit term, rounded to the nearest $1000 is $2,210,000.

Alluvial Valley Floors

R645-302-320

Page 9-5, Chapter 9 has been revised to give the proper reference to R645-302-320. The bulleted items include required items that must be addressed.

Please feel free to contact me, Greg Hunt at (970) 856-9477, or Ben Grimes at (435) 653-2304 with any questions regarding this application.

Respectfully Submitted,

Gregory Hunt

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☐ New Permit ☒ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Carbon Resources, LLC
Mine: Kinney No. 2 Mine **Permit Number:** C/007/0047
Title: Response to final deficiencies

Description, Include reason for application and timing required to implement:
Responses to final deficiencies

Instructions: If you answer yes to any of the first eight questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☒ Yes ☐ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☐ Yes ☒ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☐ Yes ☒ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☒ Yes ☐ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?
☐ Yes ☒ No 24. Does the application include confidential information and is it clearly marked and separated in the plan?

Please attach three (3) review copies of the application. If the mine is on or adjacent to Forest Service land please submit four (4) copies, thank you. (These numbers include a copy for the Price Field Office)

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.

Clay Wisdom	C.F.O.	06/06/2011	[signature]
Print Name	Position	Date	Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 6 day of June, 2011
Notary Public: Robyn Scott, state of ~~Utah~~ New Mexico
My commission Expires: Nov. 15, 2011
Commission Number: _____
Address: 580 A St. Nwy
City: Tijeras State: NM Zip: 87059

OFFICIAL SEAL
ROBYN SCOTT
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 11/15/11

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining

Form DOGM- C1 (Revised December 10, 2007)

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Carbon Resources, LLC
Mine: Kinney No. 2 Mine **Permit Number:** C/007/0047
Title: Response to final deficiencies Task ID #3823

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Page 3-41a in Chapter 3
☒ Add	☐ Replace	☐ Remove	Page 3-41a-1 in Chapter 3
☐ Add	☒ Replace	☐ Remove	Page 3-41b in Chapter 3
☐ Add	☒ Replace	☐ Remove	Page 3-67, 3-67a and 3-68 in Chapter 3
☐ Add	☒ Replace	☐ Remove	Page 9-5 in Chapter 9
☐ Add	☒ Replace	☐ Remove	Bond Amount summary page in Exhibit 18, Bond Calculations
☐ Add	☒ Replace	☐ Remove	Pages 7-4 through 7-5 in Chapter 7 (Previous pagination pages 7-12 through 7-14 in Chapter 7)
☐ Add	☒ Replace	☐ Remove	Pages 7-14, and 7-135 Chapter 7 (Previous pagination page 7-21 in Chapter 7)
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining

April 28, 2011. Copies of the USFWS approval and UDWR email approval are included in Exhibit 4, Other Permits.

As a condition to the nesting deterrent action approval CR commits to mitigation for the deterrent action including a plan approved by the U.S. Fish and Wildlife Service, Utah Division of Wildlife Resources, and the Utah Division of Oil, Gas and Mining. The mitigation plan will be limited to a total of $3000 as agreed by the agencies. The mitigation plan may consist of any approved plan including, but not limited to the following, nesting boxes, raptor perches, Sage grouse lek enhancements, or a project in conjunction with the Utah Wildlife In Need Foundation, or any other worthwhile plan. The mitigation plan will be completed during the 2011 season.

Because the construction season at the mine site elevation is very short, and because nesting activity would delay start of construction until fledgelings leave the nest, Carbon Resources LLC petitioned the US Fish and Wildlife Service, for permission to conduct nesting deterrent actions to discourage the birds from nesting within a one-half mile buffer prior to the start of mining activity during the 2011 nesting season. It is believed that the birds will use other sites for nesting. There is ample opportunity for nesting in the general area. This will allow Carbon Resources LLC to start construction activities during the middle of the nesting season and reduce (or eliminate) the risk that the birds would abandon eggs or young at the nest.

After construction has started or at the end of the 2011 nesting season, Carbon Resources, LLC will remove the nest deterrents. It is our experience that Red-tailed Hawks are very adaptable to mining operations. For example, a pair of Red-tailed Hawks successfully nested for several years at the Star Point Mine in Carbon County, Utah within 30 feet of the main access road to the mine, and within 40 feet of an overland conveyor belt which ran for approximately 20 hours per day.

Deterrent Plan

The deterrent plan includes two components:

1. Preventing, or discouraging the birds from using this particular nest by placing one or more orange construction cones in the nest as long as no eggs are present. Carbon Resources LLC will obtain a Letter of Authorization from the U.S. Fish and Wildlife Services' Migratory Bird Permits office in Lakewood, Colorado before placing nest deterrents. If placing a construction cone is not possible, Carbon Resources will consult with the USFW Service and the Utah Division of Wildlife Resources to find another, non-destructive, method of deterrent.
2. If the birds decide to build another nest within the restricted one half mile zone placing orange construction cones (or other methods as above) in those nests also as long as no eggs are present.

The construction cone/s will be placed by using a long ladder, by climbing the tree, or other methods as needed. Every effort will be taken to avoid disturbing the nest.

Upon completion of the 2011 nesting season, the construction cone/s, or other deterrent methods will be removed so the birds will have use of the nest/s again.

Monitoring Plan

1. Monitoring nest #1541 and the area within the restricted one half mile zone for raptor activity during the 2011 nesting season from mid-March to mid-August (details to follow).

Monitoring will be conducted by observing any visible raptor activity in the nest #1541 area as well as observing activity in the general area that may indicate the raptors start constructing another nest. Observations will be conducted from Highway 96 at the entrance to the mine site using spotting scopes and binoculars or from the closest pad on the hillside across from the nest. Observations will be made from first light until 3 hours after daylight once per week from April 1, through May, 2011. After May, monitoring will be conducted every two weeks. This schedule is based on preliminary discussions with Nathan Darnall of the USFW Service and may be adjusted as necessary. Further monitoring may be necessary and will be determined in consultation with the agencies.

The observers will have a digital camera with a telephoto lens to take photos if possible of raptors in the area.

The observers will also have raptor identification guide books at their disposal to help identify raptors.
A detailed record will be made during each monitoring session, including date, times, raptors observed, species, details of their movements, observers' name, and photographs taken. A report of weekly monitoring will be e-mailed to the U.S. Fish and Wildlife Service in Utah after each survey. A summary report will be provided to UDOGM at the end of the nesting season.

~~Mitigation Plan~~

~~1.Cooperating in a mitigation plan yet to be determined in conjunction with the USFW Service and the Utah Division of Wildlife Resources. The mitigation plan will be limited to $3,000, and will not be necessary if no deterrent methods are taken by Carbon Resources.~~

Schedule

Nesting activities can begin as early as March by Red-tailed Hawks, and April for Goshawks, however due to heavy snow cover this year no activity was observed during the first visit to the nest site by Mr. Greg Hunt of Carbon Resources LLC on March 3. During the first formal monitoring session conducted on March 30, 2011, no bird activity at the nest site was observed.

Future Mining Operations

Construction of the mine facilities and operation of the mine will proceed as planned and detailed in the Utah Division if Oil, Gas and Mining, Mining and Reclamation Plan. We believe that Red-tailed Hawks are particularly adaptable (refer to example given above) to disturbance by mining operations. It is very possible that the subject nest will be used in the future while mining activities are ongoing. Carbon Resources is committed to operating in an environmentally responsible manner. We commit to monitoring the subject nest in the future to document activity at the nest.

Noise will inevitably result from the mining operation, however, we believe noise levels will be acceptable. It should be noted that the town of Scofield is located only 1500 feet from the subject nest, as well as Utah Highway 96, which has a rather high volume of truck traffic.

Construction activities at the mine site will include earth moving and typical construction of buildings, conveyor belts, mine openings and associated mine facilities. Normal construction equipment will be used such as dozers, scrapers, track hoes, and cranes. Blasting may be necessary, but we believe it will be very minimal, if necessary at all. Avoidance

Carbon Resources has a raptor proof power pole design included in the Utah Division of Oil, Gas and Mining, Mining and Reclamation Plan. Every effort will be made to minimize any risks to raptors in the area of the mine. Employees at the mine will be instructed to avoid harassment of all wildlife and particularly raptors.

For more information about raptor species of special status including the ferruginous hawk, bald eagle and northern goshawks, refer to Table 2A.

The long-billed curlew is listed by the UDWR as a species of concern, and is rare to the Wasatch Plateau. This species has a strong affinity for riparian and shoreline areas. For more information about this species, refer to Table 2A.

The whooping crane is listed by the UDWR as exterminated in the Wasatch Plateau. For more information about this species, refer to Table 2A.

and very few large conifers in the area. Under applicable provisions of the Bald Eagle Protection Act, CR will either not initiate new activities including surface disturbance or exploration drilling within one-half mile of any active golden eagle nest during the spring breeding season or will, in consultation with UDOGM and UDWR, initiate appropriate mitigation measures. In addition, if golden eagle nesting activity is observed anywhere within the permit area but especially in close proximity to any mining related surface disturbance such activity will immediately be reported to the local UDWR office. If it is determined that the proposed mining activities have significant potential to adversely affect raptor breeding, CR as part of a cooperative program with the UDWR, will conduct periodic raptor surveys of any specific areas of concern.

Reporting and Consultation Procedures

Reporting procedures in conjunction with the consultation process under applicable state and federal wildlife protection laws and regulations will involve documentation of all contacts and correspondence regarding threatened, endangered or sensitive (TES) species. All telephone conversations and meetings regarding TES species will be documented in written form. If it is determined that preparation of a biological assessment is necessary, an outline will be developed and reviewed with the UDWR and the USFWS in order to establish the required organization and content of the report. The outline will incorporate any specific applicable requirements identified in the Endangered Species Act.

R645-301.322.333 Protection & Enhancement Plan

The **Protection Plan** for the current biological resources is part of the OPERATION PLAN above (R645-301.330). The **Enhancement Plan** will be implemented at the time of final RECLAMATION & REVEGETATION of the site.

The proposed mine facilities area is located in an area that has been impacted by historical and recent mining activities, as well as residential development, commercial development, transportation corridor, and electrical power transmission facilities and operations. Of the 27.6 acres proposed for disturbance by mine related activities, 20.6 acres (74%) has been disturbed previously. That means there will only be 6.9 acres (25%) of new disturbance by the proposed new mine. With 74% of the mine area currently disturbed, the vegetation and wildlife habitat have a great deal of potential for enhancement and improvement at the time of final reclamation. Thus, revegetation will be accomplished by establishing vegetative cover that is native to the area, diverse, effective and permanent. This will greatly improve the current wildlife habitat in the area.

During a site visit in the growing season of 2011 that will include biologists representing Carbon Resources, DOGM, DWR and/or USFWS (see "Specific Resources Requiring Special Protection Measures" below), suggestions will be formulated about recommendations for planting tree species at the time of final reclamation near the remaining highwall for aesthetic reasons as well as to provide additional wildlife habitat and cover. Below is a summary of specific habitat that will be improved by successful revegetation.

Specific Resources Requiring Special Protection Measures

Within the general permit area, several areas have been designated ~~by~~ in the UDWR GIS database as crucial or substantial habitat for black bear, blue grouse, moose, mule deer, Rocky Mountain elk, sage-grouse, snowshoe hare, and bald eagle. An onsite field investigation was conducted on June 1, 2011 by biologists representing Carbon Resources (Patrick Collins, Mt. Nebo Scientiic), UDOGM (Joe Helfrich) and UDWR (Leroy Mead),. The purpose of the field visit was to confirm or verify the general habitat assumptions made in the UDWR database (as described below) with a site-specific critique. With some follow-up communications suggested by Mr. Mead with his colleagues at UDWR regarding some minor components of the existing GIS data, the information below for each wildlife species appears appropriate and accurate.

Eagles and certain other raptors are known to inhabit or utilize portions of the permit area at various times of the year. High priority habitat areas and golden eagle or certain other raptor nesting sites may require special protection in compliance with applicable State and Federal laws and regulations. Generally, the basic biological resources protection measures which will be implemented in conjunction with the mining and related activities will provide the necessary level of protection to achieve full compliance.

Below is a description of some additional protection and enhancement plans for the wildlife species that have been described as occupying crucial or substantial habitat within and adjacent to the Kinney No. 2 permit area. ~~Biologists representing Carbon Resources (Partick Collins, Mt. Nebo Scientific), USFWS and/or DWR will conduct a site visit in the 2011 field season to verify assumptions regarding the wildlife species and habitats described below for current statuses, conditions and other potential wildlife occupants in the project area.~~

Black Bear

Substantial year-long habitat for black bear (*Ursus americanus*) has been mapped within and adjacent to the permit area. Additionally, critical year-long habitat has been designated within the project area by the UDWR database (Map 2A).

Understanding black bear biology, habitat and food requirements along with being cognizant of problems that may occur with their interactions with humans will be instrumental for construction and operation of the Kinney No. 2 Mine. The black bear is considered to be an omnivore and, depending on the season, food sources can be as diverse as grasses, forbs, insects, fruits, berries, carrion, aspen buds, pine seeds, acorns, rodents and new-born deer.

The proposed new Kenny No. 2 Mine will disturb very little land that has not already been disturbed by previous mining or other activities. Even though the previous disturbed area is shown to be substantial year-long habitat for black bear, the habitat is marginal at best. The area within the permit that has been outlined as critical year-long habitat has, for the most part, not been disturbed previously nor will it be disturbed by the current mine operation plan. Therefore, habitat protection of the critical area will be to disturb very little of it. Enhancement measures will be employed to restore those areas that have previously been disturbed and are currently planned for new disturbance to habitat that existed prior to disturbance. Plant species used for revegetation will include native grasses and forbs as well as woody species that provide hard and fleshy fruits to augment food source for the black bear.

Blue Grouse

Year-long crucial habitat for blue grouse (*Dendragapus obscures*) has also been mapped within and adjacent to the project area (Map 2B). Blue grouse are native to Utah and prefer stands of aspen and conifer for their habitat. Very few conifer stands are present in the permit area, but aspens are common. Winters are often spent in upper elevations in conifer stands, whereas in spring and summer they spend more time at lower elevations in meadows, brushlands and open timber stands for mating.

Mating of blue grouse in Utah occurs in April and nesting is in May and June. Food sources range from herbaceous vegetation, seeds, berries, buds and insects in the summertime to needles and buds of conifers in the winter.

The entire region including the permit area has been mapped as year-long habitat for this species. Most of the proposed new mine has already been disturbed by previous mining or other activities. Final revegetation will then enhance habitat for blue grouse by restoring native

and Exhibit 10, Field Measurements Surface and Ground Water.

Monitoring Wells - R645-301-724.100 requires minimum baseline monitoring of TDS or Specific Conductance, pH, total iron and manganese, the rate of discharge or usage (if applicable) and depth to water. Wells shown on- Map 28, Surface and Ground Water Monitoring Sites, have or will be sampled on a monthly basis for a one year period, through each of the four seasons (when the well is accessible, and when sufficient water exists to extract a sample) to establish baseline conditions for aqueous parameters according to the schedule provided in Table 20, Hydrologic Monitoring Schedule. Five of the eleven monitor wells are DRY thus providing zero-point data ~~as described below~~.

~~Additional confusion in baseline data has occurred by a combination of errors in elevations posted on monitor well completion detail diagrams (Exhibit 11) which carried over to the field data summaries (Exhibit 10), and mislabeling water levels inside of the blank (sump) beneath each monitor well screened intervals as SWL (Static Water Level) when in fact they were simply water levels measured in the stagnante remnant drilling water captured inside the blanks.~~

~~In the case of monitor well CR-06-01BLW, a combination of unfortunate circumstances created the "false positive water levels" recorded in this well and have created confusion about the static water level there. This well is completed with 4" fiberglass well tubing and has a custom made reducer connecting the 2" stainless steel well screen and blank assembly to the 4" fiberglass. This custom made reducer has a "lip" at the bottom of the 4" fiberglass (Exhibit 11). Unfortunately the well deviates from vertical within the bottom 50 feet causing a water level probe, when suspended on a cable from the surface like a plumb bob, to strike the lip of the reducer instead of entering into the 2" well screen. These two factors when combined with a third, that is , moisture condensation on the inside wall of the well tubing, caused the water level probe to encounter the condensed moisture at the lip of the reduces and give "false positive" water levels for this hole. This information has been verified by lowering a color, LED lighted, borehole camera into the hole and producing a digital video, recording the absence of water within the well screen and showing water only within the blank, over 10 feet beneath the "false positive" readings recorded. This proves that this is a dry monitor well and that the groundwater level is in excess of 165 feet below the Hiawatha Coal Seam at this point within the permit boundary.~~

~~Monitor Wells CR-06-01 and CR-06-01-BLW (a double completion in the same hole) has an additional confusing issue. That is, the Completion Diagram showing both wells has what has now been determined to be a systematic elevation bust of approximately 2.9 feet. The well screens and blank assemblies are shown approximately 2.9 feet higher in the hole than they actually are. The actual footage has been verified by sounding with a water level indicator (sounder) to determine total depth of the blank in each hole.~~

~~With the elevations in Exhibits 10 and 11 now corrected, water levels measured in well CR-06-01 no longer appear below the bottom of the blank. In well CR-06-01-BLW the corrected elevations show that all of what was perceived to be Static water level measurements are actually encounters with moisture at the lip of the reducer in a well that deviates from vertical as explained above.~~

~~To resolve another confusion in what appeared to be a SWL (Static Water Level), Carbon Resources mounted a snowy expedition to access CR-06-02 and measured total depth of blank with water level indicator (sounder) and used a down-hole video camera to~~

~~record the absence of water within the screened interval of this well. The result is that several errors in elevation (vertical position of the well screen and blank assembly) were discovered in Exhibits 10 and 11. The elevation busts in the Monitor Well Completion Diagram CR-06-02 created the mistaken impression of there being a static water level in this well. The screened interval depth was determined to be 422.7 to 432.7 instead of 427.0 to 437.0 therefore all of the measured water levels were actually measured from within the blank and not within the well screen. This has been corrected on the completion diagram (Exhibit 11) and on Exhibit 10.~~

~~Even without the recently collected direct evidence for the elevation busts in the old versions of Exhibits 10 and 11, very strong circumstantial evidence for the absence of a static water level in CR-06-02 exists. That is, with the exception of two apparent "outlier" measurements (5-25-2006 and 9-7-2006) the balance of all water level measurements in this well shown, within the noise of measurement accuracy, a rather steady decrease in measured water level through time. This is consistent with slow evaporation of the water captured in the blank. Even without the bust corrected, water levels were shown to be within the blank for the past year and a half. With the bust corrected there are no levels within the well screen.~~

~~Another line of circumstantial evidence, and the most difficult one to refute, is the upper limit of a static water level (piezometric surface) in well CR-06-01-BLW which shows the upper limit of possible regional water level at 7,690, (or 7,709.9 if one does not believe the false positive water levels) which is 211.6 ft. (or 191.7 ft. if one does not believe the false positive measurements) lower than the supposed water level in CR-06-02. These wells are separated horizontally by only 1,200 feet. There are no major faults between them that could cause major partitioning, as evidenced by mining that has taken place beneath both wells and in the intervening space that encountered no major faulting. Given this circumstantial evidence it is virtually impossible to make a case for there being a static water level in the well screen of Monitor Well CR-06-02. With the newly acquired data the absence of a static water level in CR-06-02 is now proven.~~

~~Owing to the fact that all the Monitor Wells at the Kinney # 2 Mine are completed with well screens having "blanks," with their bottoms capped forming a tall thin cup, attached to the bottom of each well screen, all of the Dry Monitor Wells show a "water level" within the blanks. This is the natural result of the drilling and completion process where drilling fluids, that were injected into the wallrock of the drill hole during the drilling process, accumulates at the bottom of the each hole and is not evacuated from the hole by the drilling process. When sand is placed around the well screen with a tremmie tube, the sand fills the bottom of the hole and displaces the water accumulated there, pushing it upwards and inside of the blank where it remains and becomes stagnante water. The video of CR-06-01-BLW clearly shows this stagnant water and a well screen that is pristine except for the spider webs.~~

~~Water levels reported on Exhibits 10 and 11 were erroneously labeled as SWL"static water level" even when most of the water levels were simply stagnante water trapped inside of the blank. This was done because prepares of this MRP are hapless dolts. The term static water level has been replaced with "water level" on all Exhibits 10 and 11 and Figure 17.~~

Monitor Wells CR-10-11 and CR-10-12 were completed at the request of UDOGM to be added as operational-phase down-gradient augmentation to the nine (9) existing baseline ground water monitor well completions. The two new wells were completed in July of 2011 and have been monitored monthly, to date accumulating eight months of

and the analysis of water quality and quantity characteristics and by completing a total of eleven groundwater monitor wells located in eight different locations in and around the permit area, and from surface water conditions known to exist within Long Canyon, Miller Canyon, Mud Creek, and Scofield Reservoir. Locations of monitor wells are shown on Map 7, Regional Hydrology. Wells CR-06-01,~~CR-06,01,~~ CR-06-02, CR-06-05A and CR-06-09 all penetrate and are screened within the Hiawatha coal seam. Wells CR-06-02-ABV, CR-06-03-ABV, and CR-06-09-ABV are all screened into potential water bearing zones (perched sands)~~aquifers)~~ above the Hiawatha coal seam, while wells CR-06-01-BLW and CR-06-09-BLW are completed in zones below the Hiawatha
seam. Monitor wells CR-10-11 and CR-10-12 are completed into the regional water table within the pleasant valley graben and as a result are completed far above the Hiawatha Coal Seam because the Seam has been dropped down approximately 600 feet inside of the graben. To maintain nomenclature these two monitor wells should have been given the ABV suffix but were not. Completion details for all monitoring wells are included within Exhibit 11, Monitor Well Completion Details.

It will be noted that a concerted effort was made to complete some of the wells a significant depth beneath the seam to be mined (Hiawatha). As can be seen by on the completion diagram for Monitor Well CR-06-01-BLW, the top of the ten foot well screen is one hundred fifty four (154) feet below the base of the Hiawatha Seam.

Field data collected from the monitoring wells are~~is~~ included within Exhibit 10, Surface and Ground Water Field Measurements, ~~Figure 17,~~ and ~~as shown~~ on Table 6, Kinney #2 Mine Baseline Monitoring Stations. Ffive~~Stations, four~~ of the eleven monitor wells are "dry". Comparing the Ground Water Field Measurements with the Monitor Well Completion Diagrams reveals that all the water levels recorded in these five~~four~~ dry holes are within the ten foot blank below the base of the screened interval in each of these five~~four~~ wells as discussed above.~~.~~

Raw data, referred to above, have been reviewed to develop interpretations and reach the conclusions presented in this section.
As previously noted, only limited ground water exists within the permit and adjacent areas; it is mostly limited to the underlying regional water table, and in alluvial/colluvial deposits that form shallow unconfined ~~water table~~ aquifers associated with small area drainages.~~drainages,~~ Some water may also be found within localized perched ground water systems within the stratigraphic sequence, and small vertical aquifers adjacent to faults, and as stored water in adjacent abandoned underground mine workings. These ground water occurrences, especially within the proposed permit area are not significant as water supplies due to the limited regional continuity of the associated units, low overall permeabilities, limited recharge and, in the case of the water table aquifer, relative depth and lack of confinement. Surface water sources, dominated by Mud Creek, provide a much more consistent and reliable water supply source.

While some ground water recharge undoubtedly occurs within the permit and adjacent areas, recharge is limited both by the factors noted above and by the low overall permeability of the stratigraphic sequence which effectively limits significant vertical ground water movement.

The exception to this generality is some of the N-S faults which are suspected of providing vertical conduits for recharge. On a regional basis, recharge is believed to occur through isolated outcrop areas where permeable units are exposed to direct precipitation.

Consistent with applicable provisions of R645-301-512, hydrologic information has been prepared under the direction of, and certified by a qualified registered professional engineer or land

Table 8. Well Conditions as of December 2010

Well	Bottom of Screen	Water Level	Depth Relative to Screen Bottom	Status
CR-06-01	7865.2	7853.8	-7.7	Dry
CR-06-01-BLW	7701.1	7697.1	-4.5	False Positive Water Levels, But Hole is Dry.
CR-06-02	7901.6	7898.5	-7.1	Dry
CR-06-02-ABV	8039.8	8036.0	-1.2	Dry
CR-06-03-ABV*	7646.0	7798.2	152.2	Reclaimed Per UDOGM Directive
CR-06-05A	7747.9	7741.1	-4.1	Dry
CR-06-09-BLW	7802.9	7851.9	51.0	Water level has varied by only 2.8 feet over period of record
CR-06-09	7841.8	7860.7	20.5	Water level has varied by only 1.5 feet over period of record
CR-06-09-ABV	7945.3	7977.2	31. 9	Water level has varied by 5 feet over period of record, and is falling.
CR-10-11	7586.51	7647.2	63.2	Artesian, Level varied by 2.2 feet over period of record.
CR-10-12	7611.23	7650.7	42.0	Artesian, Level varied by 2.5 feet over period of record.

* - Last reading taken on 9/7/2006 due to a property owner access dispute.

All of the monitor wells were professionally completed using either fiberglass or PVC as non-corrosive well tubing with stainless steel slotted well screens and a ten foot stainless steel closed bottom "blank" beneath each well screen. Washed round silica sand was tremmied into position around the screen/blank assembly (Figure 21 & Exhibit 11). Water level in each well was measured and recorded through the baseline period. Field visit to each well is demonstrated by the date and water level noted in the field notes (~~Figure 17 &~~ Exhibit 10). Confusion is caused by the fact that the ten foot "blanks" capture and hold water even in a dry hole because there is always some drilling water remaining in the formation immediately following the drilling process that is captured by the blank. The water levels shown in all of the "dry holes" are below the well screens, but within the blanks which contain only remnant water from the drilling process, and therefore do not represent a groundwater level and consequently are dry holes.

CR-06-01-BLW is completed with 4" fiberglass well tubing and a custom made reducer connecting the 2" stainless steel well screen and blank assembly to the 4" fiberglass. The inside

(2) The regulatory authority shall make a written determination as to the extent of any alluvial valley floors within the area. The regulatory authority shall determine that an alluvial valley floor exists if it finds that (i) Unconsolidated streamlaid deposits holding streams are present; and (ii) There is sufficient water available to support agricultural activities as evidenced by (A) The existence of current flood irrigation in the area in question; (B) The capability of an area to be flood irrigated, based on evaluations of typical regional agricultural practices, historical flood irrigation, streamflow, water quality, soils, and topography; or (C) Subirrigation of the lands in question derived from the ground-water system of the valley floor.

Title of Report:

OSM ALLUVIAL VALLEY FLOOR GUIDELINES (1980). 54 pp.

Performing Organization Name and Address: OSM

Type of Report: Final Report – Guidelines

OSM Library Number: 002 Date to NTIS: 05/31/90
NTIS Accession No: PB90-225681/AS
CFR Citation: 30 CFR 785.19

Abstract:

Part 1: Investigations used to distinguish between lands which may be alluvial valley floors (AVFs) and lands clearly not AVFs. Part 2: Intermediate investigation provides sufficient information to permit final determination of AVF studies which could be used in submittal of a complete permit application. Three studies can lead to definition of important characteristics of AVFs, agricultural significance of AVFs, and the impact of mining on AVFs. Procedures in Part 1 are intended to be those which can be accomplished in a short period of time.

Significant and applicable sections of this OSM report together with sections of Rule R-645- 302-320 are:

Study in areas surrounding permit area:
- Operators discretion as to study area

Study area in relation to permit area:
- The department suggests but does not require an evaluation of AVF in the mine plan area and adjacent areas

Map Scales Acceptable:
- 1:6,000 to 1:24,000

Qualifications of Personnel conducting alluvial valley floor studies Includes:
- Geologists
- Geomorphologists

Applicability to Underground Mining:
- Must assess potential affect from mining or from surface operations

"All available data" to be used includes:
- Aerial Imagery
- Soil Studies

Geologic Characteristics:
- "unconsolidated stream-laid deposits holding streams with water availability sufficient for subirrigation or flood irrigation agricultural activities, but does not include upland areas

Bond Amount

Bonding Calculations

Direct Costs		
Subtotal Demolition & Removal	$954,000	
Subtotal Earthwork - Backfill and Grading	$545,685	
Subtotal Revegetation	$102,606	
Subtotal Direct Costs	**$1,602,291**	
Indirect Costs		
Mobilization /Demobilization	$160,229	10%
Contingencies	$80,115	5.00%
Engineering Redesign	$40,057	2.50%
Main Office Expense	$108,956	6.80%
Project Management Fee	$40,057	2.50%
Subtotal Indirect Costs	**$429,414**	26.80%
Total Costs	**$2,031,705**	
Escalation		0.017
No. of Years		5
Escalation	$178,667	
Reclamation Cost Escalated (2016)	$2,210,372	
Reclamation Cost Rounded to Nearest $1000	$2,210,000	
Bond Amount In 2011 Dollars + 15%	$2,541,500	
Difference Between Cost Estimate and Bond	$331,500	

6/10/2011