

HIGH COUNTRY CITIZENS' ALLIANCE

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December 13, 2013

Re: Keystone Mine VCUP

Dear Ms. Sheets and the CDPHE Staff:

High Country Citizens' Alliance respectfully submits these comments regarding the applicability of U.S. Energy's Voluntary Cleanup Plan (VCUP) for the Keystone Mine on Mt. Emmons, adjacent to Crested Butte, Colorado. We thank you for giving us time to submit these comments and for engaging the broader community in the consideration of a VCUP for the Keystone Mine.

High Country Citizen's Alliance (HCCA) was formed in Crested Butte in 1977 to protect Mt. Emmons—or as the locals call it, “Red Lady”—from a large-scale molybdenum mine. The 12,392-foot peak, which rises directly from the historic town of Crested Butte, flanks one side of the town's drinking watershed. Water draining off of Mt. Emmons enters Coal Creek, which flows through the center of Crested Butte and is a hallmark of the town's identity.

Immediately after learning of the existence of the Keystone Mine VCUP and CDPHE's approval of that application, we submitted a letter to CDPHE and other state officials detailing our initial concerns about the Keystone Mine VCUP. This submission expands on those initial concerns. In short, we are asking CDPHE to deny the Keystone Mine VCUP application.

Summary of Concerns

The VCUP application should be denied for the following reasons:

I. The site is ineligible for a VCUP: The site owned by U.S. Energy (USE) is excluded from the VCUP program because VCUP sites may not be subject to a Water Quality Control Division (WQCD) order or agreement pursuant to part 6 of article 8 of the Colorado Revised Statutes Title 25. C.R.S. § 25-16-303(3)(b)(III). Additionally, because there is a continuous discharge to waters of the state (i.e. draining mine adits), the site should be permitted under the water quality



regulations. Moreover, USE was an owner of the Keystone Mine during part of its operations, and thus, is responsible for the contamination caused by the mine.

II. Incomplete and Misleading Information: When the CDPHE reviewed the initial VCUP application, it did not have all of the relevant and accurate information necessary to make an informed decision. Moreover, the Keystone Mine VCUP contains incomplete and materially misleading information concerning the ownership of Keystone Mine; the existence of a pending mining Plan of Operations for Mt. Emmons; the authority of USE to conduct a VCUP on federal land; the lack of a permit for the existing wastewater treatment plant; and the overlap of the VCUP area with Crested Butte's drinking watershed and designated drinking water segments of Coal Creek.

III. MOA with U.S. EPA – Procedures: Pursuant to the Memorandum of Agreement between the CDPHE and the U.S. Environmental Protection Agency (EPA), additional analysis of the site and public participation standards should have been met before a decision on the VCUP application was made.

IV. Technical Infeasibility: Mt. Emmons is a highly fractured and porous mountain with numerous faults, seeps and springs affecting a complex hydrology that is not completely understood. Because of that complexity, it is not possible to know whether the plugging of adits in the proposed VCUP may force acid mine drainage to find new pathways through the mountain and endanger the Town of Crested Butte's drinking water intake. Further, no technical review (for example, critical hydraulics) has been performed for such a significant change in treatment. Thus, it is not possible to rely on the proposed remediation as an effective means of addressing proper treatment of acid mine drainage. In fact, the proposed plan may be technically infeasible. Moreover, the absence in the proposed plan of adequate monitoring and contingency plans, if the remediation is found to be insufficient, renders the proposed VCUP plan incomplete and inadequate.

Details of Concerns

I. The site is ineligible for inclusion in the VCUP process.

The purpose of the Voluntary Cleanup and Redevelopment Act is "to address sites not covered by existing regulatory programs" Hazardous Materials and Waste Mgmt. Div. Colorado Dept. of Public Health and Env., *Voluntary Cleanup Roadmap A How-To Guide* (2008) (hereinafter *Voluntary Cleanup Roadmap*). Accordingly, such sites are ineligible for a VCUP. C.R.S. § 25-16-303(3)(b). Colorado Revised Statutes Section 25-16-303(3)(b)(III) specifically states that a VCUP may not be used for "[p]roperty that is subject to an order issued by or an agreement with the water quality control division pursuant to part 6 of article 8 of this title."

The VCUP Roadmap elaborates on this point, stating that:

The Colorado Water Quality Control Act and regulations say that any property with ground water contamination for which the owner/operator is responsible is subject to an order. These owners should pursue cleanup with the Water Quality Control Division. However, the Water Quality Control Division may choose to defer to the Voluntary Cleanup Program if the contamination does not present an imminent threat to human health (i.e., low concentrations confined to the applicants' property. Contamination that was created by a previous owner is not subject to an order, and therefore is eligible for the voluntary clean-up program. **In addition, any site that has a continuous discharge to waters of the state (i.e., draining mine adits) should be permitted under the water quality regulations. There is no variance from these permitting requirements, which remain as long as there is a discharge.**

Voluntary Cleanup Roadmap at 8 (emphasis added).

In 1979, the WQCD ordered then-owner AMAX Inc. to build a wastewater treatment plant for the treatment of effluent emanating from the Keystone Mine and its tailings, as per its authority under “parts three, five and six of article 8, title 25, C.R.S. 1973.” This Consent Order between the WQCD and AMAX is attached as Exhibit 1. The Order notes that “Acid mine drainage from the Keystone Mine has been and continues to enter Coal Creek from point sources.” And that the “[d]ata supplied by AMAX, and the division’s own sampling results, indicate that AMAX’s use of the present settling pond does not provide adequate treatment to meet permit effluent limitations.” Accordingly, the Keystone Mine site is subject to an Order that comes directly from the WQCD’s authority pursuant to part 6 of article 8 of title 25. This alone makes the site ineligible for the VCUP process.

In USE’s VCUP application, USE claims outright that no such order exists and that “[t]he contamination to be addressed under this application was caused by previous owners.” Mining & Env. Servs. LLC, *Voluntary Cleanup Plan Application for the Historic Keystone Mine Site, Gunnison County, CO 4* (Oct. 4, 2013) (hereinafter *USE VCUP Application*).

We take issue with USE’s position for four reasons. First, as stated above, an Order does exist under part 6 of article 8 of title 25. The Consent Decree between AMAX and the WQCD clearly cites to that specific statutory authority. This makes the Keystone Mine Site ineligible for a VCUP pursuant to C.R.S. § 25-16-303(3)(b)(III).

Second, by USE’s own admission, USE owned the site just prior to the entry of the Consent Decree while the Mine was still in operation and a source of contamination. USE’s claim that they do not qualify as a “previous owner” because the primary years of operation of the Keystone Mine pre-date their ownership is incorrect. According to the ownership and operations history laid out at pages 5, 8 and 9 of the VCUP application, USE is a “previous owner.” USE became an owner of the Keystone Mine on January 25, 1974, which, based on USE’s own timeline, is over a year before operations ceased at the Keystone Mine (ceased in March 1975). Moreover, from a cursory review of the stipulated facts in the pleadings in

the U.S. District Court proceedings with Phelps Dodge Corporation (CV No. 02-B-0796), USE was in title to the Keystone Mine as early as 1974. This means that for at least some period of the Keystone Mine's active lifespan, USE was an owner and is responsible for the contamination that both led to the WQCD's Order and was to be addressed by this VCUP.

Third, USE owns the mine site. It is well-settled under the Clean Water Act that mine owners can be liable for the discharge of pollutants occurring on their land, whether or not they acted in some way to cause the discharge. *Sierra Club v. El Paso Gold Mines, Inc.*, 423 F.3d 1133, 1145 (10th Cir., 2005). So, the more important part of the inquiry into USE's ownership is that USE has owned the mine site (and continues to own it), regardless of whether operations were underway during USE's period of ownership.

Finally, "any site that has a continuous discharge to waters of the state (i.e., draining mine adits) should be permitted under the water quality regulations." *Voluntary Cleanup Roadmap* at 8. The Keystone Mine discharge has been continuous and meets this example provided in the *Roadmap*: the discharge is from draining mine adits. The contamination from the Keystone Mine—continuous discharge from draining mine adits—is the very definition of the type of discharge that was intended to be covered by permitting from another agency, in this case a National Pollutant Discharge Elimination System (NPDES) permit from the WQCD.

The Keystone Mine effluent is and should be permitted by the WQCD. Based on a consent decree, ownership, and Colorado law, the Keystone Mine site is excluded from inclusion in the VCUP program, and the VCUP application submitted by USE for the Keystone Mine should be rejected.

II. The Keystone Mine VCUP contains incomplete and materially misleading information.

Under C.R.S. § 25-16-306(c) and other authorities, CDPHE has authority to disapprove a VCUP application if the information supplied by the applicant is incomplete. What is more, according to C.R.S. § 25-16-306(3)(b), a VCUP approval is rendered void if materially misleading information is submitted by the applicant.

USE's VCUP application is incomplete to the point of being materially misleading when discussing ownership, authority, current uses of the site and the future proposed use of the site. The VCUP statute is clear that current and proposed future uses must be disclosed and analyzed in the VCUP application. See C.R.S. §§ 25-16-304(2)(b); 25-16-305(1)(a); and 25-16-308 (2)(f).

a. Ownership details in the VCUP Application were materially misleading.

As discussed above in section I, the conclusions regarding the applicability of VCUP exclusions were incomplete and misleading. USE was an owner of the Keystone Mine while it was still operating and there is a Consent Decree with the WQCD that clearly fits within

the exclusion relating to WQCD orders. These two factors are key issues that go to the very applicability of the VCUP Act to this site, and USE has supplied materially misleading information on both of these issues.

b. U.S. Energy's Application failed to disclose a pending mining Plan of Operations for the same property.

On April 13th, 2013, USE submitted to the U.S. Forest Service a *Plan of Operations for the Mt. Emmons Project*—a large-scale 10,000-acre molybdenum mining operation that would encompass the entirety of the area subject to the Keystone Mine VCUP. According to the *Plan of Operations*, after a 4-year start-up period, the mine would operate 365 days per year, 24 hours per day, for 33 years, at a mining rate of 12,600 tons of ore per day. On April 22nd, 2013, the U.S. Forest Service deemed the *Plan of Operations* legally sufficient, triggering review of the project under the National Environmental Policy Act (NEPA).

We have attached a PDF of the entire *Plan of Operations* as Exhibit 2, and we refer you specifically to Figures 2, 5, 7 and 9, on pages 94, 97, 99 and 101, respectively, of that PDF. Those figures demonstrate that the planned large-scale molybdenum mine overlaps with the proposed VCUP at issue here. [A high-resolution version of the *Plan of Operations* is available online at: bit.ly/1dbOQNj]

Despite concrete plans to develop a large-scale molybdenum mine on Mt. Emmons that overlaps the entire Keystone Mine VCUP area, there is not one mention of the *Plan of Operations* in the VCUP application. The first time USE mentioned the overlap between the two projects was in a letter dated November 7, 2013, in response to our own initial comments on the VCUP application—more than two weeks after CDPHE approved the VCUP.

In their November 7th letter, USE asserts that the VCUP and the large-scale mining *Plan of Operations* are unrelated. The maps submitted with both proposals contradict USE's position. See *Geology of the Mount Emmons Molybdenum Deposit, Crested Butte, Colorado* Figure 4 (Dowsett et al., 1981) which was attached as Attachment A to the Technical Memorandum (App. I) and shows the Keystone Mine underground workings intersecting the molybdenum deposit. An example of why this is a problem is that the VCUP proposes to flood approximately 600 vertical feet of underground workings with water, raising the groundwater levels considerably, while the *Plan of Operations* proposes to dewater the underground workings for the molybdenum mine.¹ It is not entirely clear how these two proposed actions could co-exist as one requires flooding and the other requires dewatering. The relationship between the hydrology of the flooded and dewatered areas is

¹ Specifically, the *Plan of Operations* states: "Water will be encountered in the subsurface workings of the mine. Water used underground during drilling, wetting of ore, cleaning of equipment, and other uses, will be drawn from sumps designed to temporarily store mine inflow water. Excess water will need to be discharged from the mine during operations to facilitate mining activities. This water will be treated at the existing water treatment plant to the appropriate standards. Treated water will be discharged to Coal Creek as per the requirements of the NPDES permit." Section 5.5.2 Mine Water Quality, at 64.

not addressed in the VCUP application and in fact, the VCUP application notes that “[t]he relative contributions [to the drainage from the Keystone Mine underground workings] of the molybdenum zone and historic Keystone Mine zone are uncertain and may vary with the seasons.” *Appendix I of USE VCUP Application: Technical Memorandum, Historic Keystone Mine VCUP Site Chemistry and other Data* at 7 (hereinafter *VCUP Application, Appendix I*).

At a minimum, CDPHE should have been made aware of the large-scale mining *Plan of Operations* and should have been provided with information sufficient to make an independent determination on the overlap and likely inconsistent relationship between the two projects.

USE’s failure to disclose the existence of their large-scale mining *Plan of Operations* for the same site was materially misleading, rendering CDPHE’s previous VCUP approval void.

c. Inclusion of Forest Service land in the VCUP Application.

USE’s VCUP application includes two areas: Area 1 which is owned by USE, and Area 2 which is federal land managed by the U.S. Forest Service (USFS). The VCUP application at pages 2 and 3 describes USE’s authority over Area 2 as follows:

The United States Forest Service (USFS) is the owner of Area #2. U.S. Energy anticipates negotiating an agreement with the USFS that will incorporate the Voluntary Cleanup Plan approved by CDPHE as it relates to Area #2 and identify U.S. Energy as the USFS’s designated representative.

In fact, that agreement between USE and the USFS was not forthcoming. Quite the opposite occurred: in a letter dated September 26th, the USFS specifically declined to provide authority to USE for any VCUP actions on Forest Service land. Exhibit 3. In fact, the USFS continues to make clear that USE has no authority to conduct a VCUP on federal land. In a meeting with the Crested Butte Town Manager on November 26, 2013, USFS Gunnison District Ranger, John Murphy, indicated that the USFS remained of the opinion that the VCUP is not the appropriate regulatory mechanism for USFS property. He also indicated that he was of the impression that USE was preparing submittals for an Administrative Settlement Agreement and Order of Consent (ASAOC) in order to commence the CERCLA process. He expected that USE would take some months to complete that submission.

Because CDPHE was not made aware of the USFS position, CDPHE approved USE’s VCUP application for both Area 1 and Area 2, despite the fact that USE has no legal authority to conduct VCUP activities on roughly half the land in question.

Further, there is no evidence that the VCUP activities on Area 1—the private land—can stand alone and be successful without reliance on the activities proposed for Area 2—USFS land. Even though USE proposes to conduct cleanup activities on USFS land, there is currently no approval to do so. Therefore, inclusion in the VCUP application of cleanup

activities on land that USE has no authority over is materially misleading to the point of rendering their application void.

d. U.S. Energy has no permit to operate the wastewater treatment plant on Mt. Emmons.

On page 15 of the VCUP application, USE states that it holds a current operating permit for the wastewater treatment plant on Mt. Emmons and has done so since 1979. This is inaccurate and misleading information. Attached as Exhibit 4 is a letter HCCA sent to the USFS in May of 2013 on the issue of the wastewater treatment plant permit. As noted in Exhibit 4, as recently of October 24th, 2012, the USFS stated that the wastewater treatment plant is not permitted by the 1979 plan for construction of the wastewater treatment plant Operations. Exhibit 5.

USE's statement is inaccurate and materially misleading because it claims USFS has properly vetted USE's current operations when the USFS has not permitted the wastewater treatment plant. Permitting for the plant has been a significant point of contention between HCCA and USE for over 2 years. The USFS has admittedly failed to analyze and regulate the environmental impacts of the wastewater treatment plant on federal land. Without such analysis, CDPHE has no baseline from which to evaluate the VCUP as an alternate plan for treating acid mine drainage at the Keystone site.

e. Failure to disclose overlap with the Town of Crested Butte's drinking watershed and segments of Coal Creek designated for Drinking Water Supply.

Two serious omissions from USE's VCUP application are: (1) the entire area of the VCUP application is within the drinking watershed of the Town of Crested Butte; and (2) the segment of Coal Creek that runs from a point immediately below the Town's drinking water intake to its confluence with the Slate River—known as segment 12—is a designated Drinking Water Supply segment. *See* Exhibit 6 and *see* Exhibit 7 at 19.

As CDPHE is well aware, drinking watersheds are vitally important to public health, especially here in water-deficient Colorado. To fail to inform CDPHE of the overlap between the VCUP and Crested Butte's drinking watershed is a serious omission, as activities within drinking watersheds must be subject to greater scrutiny. Likewise, the Drinking Water Supply designation of Coal Creek that runs parallel to and downstream from the proposed VCUP area should receive greater scrutiny. The omission of these two critical facts are not only materially misleading on the part of USE, they also prejudice CDPHE's ability to adequately review the VCUP application. Without knowledge that the VCUP at issue is proposed as an alternative treatment to protect a sensitive water supply area from direct exposure to acid mine drainage, the CDPHE had no way to adequately assess the threat it might pose to human health and the environment.

III. CDPHE and the Memorandum of Agreement with EPA.

Although the Voluntary Cleanup and Redevelopment Act, C.R.S. § 26-16-301 *et seq.*, is lacking in procedural guidance, the Memorandum of Agreement (MOA) between CDPHE and the EPA does provide some guidance on procedures that must be followed if the EPA is to forbear from CERCLA action on a proposed VCUP site.

On November 13th, 2013, HCCA submitted a Colorado Open Records Act (CORA) request to CDPHE for the analysis file on the Keystone Mine VCUP. CDPHE has informed us that our CORA request has now been fulfilled, thus we are able to make the following claims based on the information—or lack thereof—in the materials we have received as a result of our CORA request.

a. An analysis of the Keystone Mine as a National Priority List Caliber Site has not been conducted.

The Keystone Mine is likely a National Priority List (NPL) Caliber site under the terms of the MOA. As per Attachment A of the MOA, an NPL Caliber site is generally defined as one “where significant human exposure to hazardous substances has been documented or where sensitive environments have become contaminated.” Attachment A of the MOA lists seven examples of characteristics that could lead to an NPL Caliber designation, four of which likely apply to the Keystone Mine:

- Public drinking water supplies or private wells are contaminated with a hazardous substance above the concentration listed in the Risk-Based Concentration Table for tap water, January 1995;
- A highly toxic hazardous substance known to persist and bioaccumulate in the environment (e.g., PCBs, mercury, dioxin, PAHs), is discharged into surface waters;
- A highly toxic hazardous substance known to be mobile in the subsurface (e.g., vinyl chloride, trichloroethylene, acetone, phenol, cadmium, mercury), is discharged to significant useable aquifers.
- Sensitive environments are contaminated with a hazardous substance significantly above background levels and water quality standards where appropriate ...

As discussed below, Coal Creek segment 12 to which the Keystone site discharges, is impaired and on the 303(d) list for several heavy metals. It is also the subject of a Total Maximum Daily Load proposal currently under consideration by the WQCD. In addition, for comparison, the much smaller Standard Mine, just up Kebler Pass road from the Keystone mine and cited in the VCUP application, has a much less significant impact to public health yet is on EPA’s CERCLIS list.

Attachment A to the MOA sets out a straightforward procedure for CDPHE to follow regarding the NPL Caliber site determination:

If CDPHE determines a site to be of "NPL Caliber," CDPHE will notify the applicant of its determination as early in the 45-day review period as possible. CDPHE and the applicant will then jointly decide whether to inform EPA of CDPHE'S determination and to request EPA's review of and concurrence on the cleanup plan and application. If CDPHE and the applicant jointly decide to seek EPA'S review and approval, EPA will provide its comments on the application as quickly as possible. ... In the event CDPHE approves the application for the "NPL Caliber" site without EPA'S review and concurrence, the applicant may still implement the cleanup plan, but EPA'S forbearance not to plan or undertake any action under CERCLA as contained in Section III, Paragraph 2 of the MOA is void.

There is no record of CDPHE analyzing whether the Keystone Mine is a NPL Caliber site or engaging with the EPA on this issue. Because there was no consultation, the terms of the MOA have not been met and the EPA is not foreclosed from bringing a CERCLA action on this site.

b. The public participation procedures of the MOA have not been met.

As noted in our introduction, HCCA was formed specifically to protect Mt. Emmons from a large-scale molybdenum mine in 1977. HCCA's and the broader community's involvement in all actions related to mining activity on Mt. Emmons has been deep and consistent.

In Attachment A, the MOA states that "... CDPHE routinely contacts the local health department to see if there is any knowledge of or interest in the site" Our CORA request revealed no evidence that this step occurred. It is certain that if CDPHE had contacted the Gunnison County Environmental Health Officer, they would have been alerted to the longstanding community interest over Mt. Emmons. Additionally, in Attachment A the MOA reads that:

... within 30 days of approval of its VCUP application, the applicant will provide adequate public notice of its cleanup plan. "Adequate public notice" will be determined on a site-specific basis and should include publication of the availability of the cleanup plan in a local newspaper or posting of any public notice plan required by building permit or zoning ordinance procedures. For large sites or sites where public interest is likely due to publicity or proximity to Superfund sites, CDPHE may request that the applicant hold a public meeting to explain its cleanup plan.

At the point of our discovery of the VCUP application and the subsequent approval, there had been no public notice of plan. It is clear that USE's application and communication with the CDPHE did not provide the CDPHE with sufficient information to recognize the community's strong concerns about the site in question.

IV. U.S. Energy's Plan does not comply with legal standards for technical feasibility required to protect human health and the environment.

Colorado Revised Statutes Section 26-16-305 requires that remediation alternatives proposed within a VCUP are based on “actual risk to human health and the environment” and that factors including “[t]he ability of the contaminants to move in a form and manner which would result in exposure to humans and the surrounding environment” and “potential risks associated with proposed clean-up alternatives and the economic and **technical feasibility and reliability** of such alternatives” be considered. (Emphasis added). As explained below, the significant risks to human health and the environment and the high level of uncertainty surrounding the technical feasibility and reliability of USE's proposed clean up at Mt. Emmons do not meet the standard set forth in the law.

As USE admits in its application, Mt. Emmons is a highly fractured and porous mountain with numerous faults, seeps and springs affecting a complex hydrology that is not completely understood. *See VCUP Application* at 35. A glaring concern at the heart of the proposed VCUP is the high possibility that once plugged at each adit by bulkheads, acid mine drainage from the submerged Keystone Mine workings will find new pathways through the mountain. *See VCUP Application* at 35 (water “will take the natural course that existed prior to the time mining activities occurred at the historic Keystone Mine.”). Where the water may exit Mt. Emmons is unknown, and it may take months or even years to re-emerge. By USE's own description, the Keystone mine workings are significant, the Keystone vein having been mined 3,000 feet laterally and 1,100 feet vertically, and the Union vein “developed over a length of about 2,000 feet and a height of some 300 feet.” *See* Figure 1 in *VCUP Application, Appendix I* at 4.

While its ultimate pathway is unknown, what is clear is the significant risk to human health and the environment. As mentioned above, Coal Creek segment 12—to which the current wastewater treatment plant operated by USE discharge—is classified for Drinking Water Supply, as is segment 11. The Town of Crested Butte's drinking water intake is just upstream from the reclamation site and its drinking water reservoir sits lower on the flanks of Mt. Emmons. Numerous domestic water wells serve residents downstream from the reclamation site inside and outside of the Town of Crested Butte. Coal Creek runs through the heart of Crested Butte, where it is accessed by local parks and used for wading and other primary contact recreation activities by residents and visitors. Once it meets the Slate River, Coal Creek continues to influence water quality in other communities in the East River Valley including the Riverbend Subdivision (alluvial wells) just 2 miles south of Crested Butte.

The various successes or failures of acid mine drainage clean-ups are highly site-specific, drainage-specific and geology-specific. *See Generally* Colorado Div. of Minerals and Geology, *Best Practices in Abandoned Mine Land Reclamation: the Remediation of Past Mining Activities*, 23 (2002) (hereinafter *Best Practices in Abandoned Mine Land Reclamation*); *see also* U.S. EPA *Abandoned Mine Site Characterization and Cleanup Handbook*, chap. 3-2 (2000) *available at*:

http://water.epa.gov/polwaste/nps/upload/2000_08_pdfs_amsch.pdf (last visited Dec. 12, 2013). Therefore, USE's citation to experimental reclamation activities in other states has little relation to the specific hydro-geology of Mt. Emmons and the risks to the nearby community. *Id.*; see *USE VCUP Application* at 36. Indeed, Colorado has seen mine cleanup efforts go awry, most notably the pollution of Cement Creek and the Animas River after the installation of bulkheads at the American Tunnel mine near Silverton. In addition, recent events in Leadville highlighted concerns about acidic water buildup in underground mine workings. That situation prompted emergency response efforts of state and federal authorities, inclusive of Obama Administration cabinet level officials. CDPHE must therefore consider the following technical shortcomings of the VCUP application.

a. Remediation goals.

USE's VCUP application fails to describe how water quality standards will be met and, significantly, what standards they are referencing in their application. Section 12 of Coal Creek has not met state water quality standards and instead has had temporary modifications on water quality standards for over twenty years since the effluent from the wastewater treatment plant was first permitted under the Clean Water Act. Key heavy metals of concern include cadmium, zinc, copper and arsenic. Instead of addressing these problems, USE has sought to prolong uncertainty in order to justify temporary modifications to stream standards, insisting on looking elsewhere in the watershed for pollution sources while refusing to conduct substantial groundwater studies on its own property.

The Colorado Water Quality Control Commission at its 2012 rulemaking concerning standards for the Gunnison Basin expressed its dismay that temporary modifications continue on Coal Creek, without any clear plan to meet state standards or resolve the uncertainty upon which USE has justified these temporary modifications. Colorado Parks and Wildlife agreed, writing in its responsive prehearing statement, "based on the relatively long history of water-quality monitoring in this area, it would be useful for U.S. Energy to more directly specify how its proposed source identification project would differ from or complement previous studies such that the uncertainty regarding sources can be reasonably expected to be addressed in the proposed timeframe." CPW Responsive Prehearing Statement In the Matter of Proposed Revisions to the Water Quality Classifications for the Gunnison River Basin, Regulation #35, July 17, 2012. Indeed, the WQCD is in the midst of drafting a total maximum daily load (TMDL) for segment 12 of Coal Creek, which will allocate background versus point source loading to the creek.

USE's application has not clarified whether the VCUP is designed to meet temporary modification standards—which expire in 2016—or whether the plan will meet state standards. Does USE intend to ask the Commission for temporary modifications for the next twenty years? Will the temporary modifications need to be more lenient if the VCUP fails to adequately treat acid mine drainage? Without firm remediation goals, there is no way for the state or the public to gauge the success or failure of the VCUP. Further, USE has not defined the appropriate compliance point for meeting such state water quality

standards. Because of the nature of the remediation—a transition to a passive system without a wastewater treatment plant, groundwater and stormwater must be taken into consideration in order to assure compliance.

b. Groundwater Evaluation.

The sample groundwater data cited in the VCUP application tested the underground Keystone Mine workings at two locations on one date in August 2013. Not only is this single sample insufficient due to seasonal variability, but USE also failed to undertake a basic groundwater report that is essential to understanding the impacts of USE's proposed remediation plan.

With regards to the critical question of groundwater, the VCUP application offers only the following conclusory statement: “[t]here is no evidence to indicate that activities on the site have impacted groundwater.” *VCUP Application* at 19. At its December 2012 hearing, the Colorado Water Quality Control Commission required USE to undertake a study investigating the potential impact of the submerged mine workings on the groundwater system at Mt. Emmons and, as a result, upon Coal Creek. Despite the community's and the Commission's concerns, USE agreed to drill only one groundwater testing well—and that is the source of the sample cited in the VCUP application.²

USE's statement that there is “no evidence” of groundwater contamination is true only because the company has not conducted sufficient groundwater testing on the Mt. Emmons site. The study required by the Commission is only in its first year, and with only one monitoring well, is unlikely to provide much useful data. It should be noted that the Commission intends to review the progress of the study after one year to determine if groundwater methodologies are sufficient. If the state decides to approve the VCUP, it should require *at a minimum* that USE provide a basic groundwater report surveying the known data regarding Mt. Emmons' geology, faults and mine workings. It should be noted that CDPHE and the EPA collaborated on a thorough groundwater evaluation of the tunnel at Leadville in order to assess sources of loading and drainage to the tunnel. *See Bureau of Reclamation Leadville Mine Drainage Tunnel Risk Assessment 10*, (Nov. 2008) available at http://www.usbr.gov/gp/eca/leadville/combined_risk_assessment.pdf (last visited Dec. 12, 2013). Even a basic survey could also produce a probability analysis of where water is likely to flow once the adits are blocked with bulkheads.

c. Key aspects of the remediation may not be technically feasible.

HCCA is concerned that both the limestone buffering and stormwater system may not be adequately protective of human health and the environment. First, we would expect that the proposed limestone buffering would have to take place on a continuous basis and require frequent maintenance in order to treat the water flowing into and out of the

² The study was required by the Commission to justify yet another temporary modification (discussed above) of water quality standards for segment 12 of Coal Creek, and it was outlined as a 3-year study, *beginning* in 2013.

submerged mine workings or Underground Formation Water (UFW). See *Best Practices in Abandoned Mine Land Reclamation* at 32-33. The proposed VCUP seems to anticipate only a single limestone treatment to raise the pH of the water, but we question how long a single dose of neutralizing agent could serve this purpose. Such a system would also produce large amounts of metal sludge (another reason for frequent maintenance) that would likely back up behind the proposed bulkheads and impede the intended flow of water to passive treatment. USE's application does not explain how it can avoid maintenance on this system, nor does it outline a contingency plan for predictable problems such as the buildup of metal sludge.

USE was issued a compliance advisory by CDPHE on December 27, 2010 after an inspection of the Mt. Emmons facility found significant compliance problems with its stormwater certification. In May 2009, for example, the state found violations of water quality standards more than 30 times above the legal limit for pollutants such as cadmium. Crested Butte News, "State to US Energy: Clean up Coal Creek," Jan. 12, 2011, available at www.crestedbuttenews.com/index.php?option=com_content&task=view&id=3073&Itemid=40 (last visited Dec. 12, 2013). Amongst other issues, the CDPHE found that the Stormwater Management Plan (SWMP) and its implementation failed to adequately address/identify drainage points of discharges other than stormwater, like groundwater springs or seeps. The CDPHE also found that discharges from the reclaimed tailings surface, the north interceptor ditch and monitoring site 3 (Mon3) contained metal concentrations exceeding water quality standards for receiving water, even when the wastewater treatment plant was discharging.

Despite its contemporary problems with stormwater compliance, the current VCUP application assumes that capping the tailings ponds and creating a passive treatment system will address surface run-off concerns. Yet, without a stormwater plan, the VCUP cannot guarantee that the toe drains and other collection systems will not be overwhelmed in a storm event and enter Coal Creek. At a minimum, a new stormwater management plan should be drafted to reflect the remediation plans and reviewed by WQCD staff.

d. U.S. Energy's lack of monitoring and contingency plans is wholly insufficient to protect public health and the environment.

Despite its critical location within the Town of Crested Butte's drinking watershed, the VCUP does not outline a plan for adaptive management of acid mine drainage at the site, nor would it adequately monitor the outcome of remediation to ensure the protection of human health and the environment. Instead, USE's only description of monitoring is to check for vandalism on bulkheads and monitor as required to meet water quality standards (these terms are set by the CDPHE). The VCUP application explicitly states that it will not monitor for groundwater contamination. See *VCUP Application* at 46.

Any remediation plan at the Mt. Emmons site should include a minimum of 10 years of surface and groundwater water quality monitoring to gauge the impacts of redirecting acid mine drainage flows at the site. An adequate plan would also outline an extended

monitoring schedule for the basic structure of the remediation, including toe drains, bulkheads, stormwater and passive treatment systems. None of this is included in USE's current application. A remediation plan should also include a contingency response plan to address any seeps or springs on Mt. Emmons that contribute water exceeding state standards to Coal Creek or other streams flowing off Mt. Emmons. Part of any contingency plan should include maintaining the wastewater treatment plant in basic working condition until the remediation is proven successful. In its application, USE plans to tear down the wastewater treatment plant, yet the citizens of Colorado know from our experience with the American Tunnel reclamation disaster impacting Cement Creek and the Animas River and the recent events in Leadville³ that plugging holes can create unintended disasters. To protect public health and the environment, the wastewater treatment plant should be left in place for at least ten years following the completion of any remediation plan.

USE proposes finishing remediation work by the end of 2014. While this may be the most expedient course for the company's interests, it is not enough time for the state and the public to be assured of the VCUP's safety and effectiveness. Moreover, as we have observed in the EPA's multi-year clean up of the nearby Standard Mine, these processes often require adaptive responses to site-specific circumstances.⁴ In the context of the sensitive clean up of a site within a Town's watershed, the timeline for a cleanup should be flexible and responsive to unanticipated technical difficulties.

V. Incorporation of Red Lady Coalition comments.

HCCA hereby endorses and incorporates by reference the comments submitted by the Red Lady Coalition to CDPHE regarding the Keystone Mine VCUP on December 13, 2013.

Conclusion

Based on the foregoing discussion, USE's VCUP application in its current iteration is incomplete, misleading, and likely ineligible and/or void for the program based on USE's involvement in causing pollution at the site and the lack of coordination with the Forest Service and the EPA.

³ In 2008, a blockage in the Leadville Mine Drainage Tunnel (LMDT) near Leadville, CO caused acid mine drainage to back up in the mine. Concerns over the potential for this water to be released and flow through the town of Leadville and into the Arkansas River caused the EPA to initiate an emergency response action. An emergency well was drilled into the tunnel to pump the water out, which relieved the pressure. While this situation was eventually resolved without a catastrophic release of toxic water, it exemplifies the potential concerns related to increased pressures behind blockages in underground mine workings.

⁴ For example, while the passive treatment systems at the Standard Mine did remove 95% of metals, they could not remove enough to meet state standards for cadmium, lead and zinc. (See Golder Associates, Report: Standard Mine Pilot Passive Treatment System Operations and Results for 2007 and 2008, available at: http://www2.epa.gov/sites/production/files/documents/SM_FinalBioreactorReport081909.pdf)

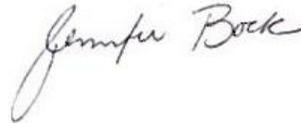
At a minimum, CDPHE should undertake a comprehensive review of the proposed VCUP plan and its potential adverse impact on human health and the environment, including, without limitation, addressing the critical technical problems discussed above. To assist with this analysis, we recommend that the CDPHE consider input from the public as well as agency and outside experts. Relying on our extensive knowledge and experience with this site and our analysis to date, High Country Citizens' Alliance strongly recommends that CDPHE deny the Keystone Mine VCUP Application.

Sincerely,



Greg Dyson
Executive Director

and



Jennifer Bock
Water Director

Cc, without exhibits:

Governor John W. Hickenlooper
Dr. Larry Wolk, Executive Director, CDPHE
Sen. Gail Schwartz
Rep. Millie Hamner
U.S. Senator Michael Bennet
U.S. Senator Mark Udall
Mike King, Executive Director, Colorado Department of Natural Resources
Board of County Commissioners for Gunnison County
Town of Crested Butte
USFS – GMUG Forest Supervisor Scott Armentrout
EPA – Christina Progross, Carol Russell
Red Lady Coalition
U.S. Energy