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**BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH**

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UTAH CHAPTER OF THE SIERRA CLUB,  
SOUTHERN UTAH WILDERNESS  
ALLIANCE,  
NATURAL RESOURCES DEFENSE  
COUNCIL, and  
NATIONAL PARKS CONSERVATION  
ASSOCIATION,

Docket No. \_\_\_\_\_  
Cause No. C/025/0005

Petitioners,

DIVISION OF OIL, GAS AND MINING,

Respondent.

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**REQUEST FOR AGENCY ACTION  
AND REQUEST FOR A HEARING BY  
PETITIONERS UTAH CHAPTER OF THE SIERRA CLUB *et al.***

Utah Chapter of the Sierra Club (“Sierra Club”), Southern Utah Wilderness Alliance (“SUWA”), Natural Resources Defense Council (“NRDC”), and National Park Conservation

Association (“NPCA”)(collectively, “Petitioners”) file this Request for Agency Action to appeal the decision of the Division of Oil, Gas, and Mining (“Division”) approving the application of Alton Coal Development, LLC, (“ACD”) to conduct surface coal mining and reclamation operations in Coal Hollow. Petitioners respectfully request a hearing on the reasons for the decision.

As explained more fully below, the Division failed to follow applicable state law, including its own regulations, by failing to withhold approval of ACD’s inaccurate and incomplete permit application and by failing to conduct a cumulative hydrologic impact analysis that meets the applicable legal and scientific requirements for such studies. Accordingly, Petitioners urge the Board to vacate the Division’s approval of ACD’s permit application and enter an order denying it as inaccurate, incomplete, or both. Alternatively, Petitioners request that the Board vacate the approval decision and remand the matter to the Division to allow ACD to correct identified permit deficiencies, if it can.

## **I. LEGAL AUTHORITY, JURISDICTION AND STANDING**

This Board has legal authority and jurisdiction to review approval of ACD’s permit application pursuant to Utah Code Ann. § 40-10-14(3) and UT ADC R645-300-200 *et. seq.* The Utah Chapter of the Sierra Club, SUWA, NRDC, and NPCA are interested parties in this action.

Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth’s ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Utah Chapter of Sierra Club has approximately 3,770 members. These members use and enjoy public lands in and throughout Utah,

including Bryce Canyon National Park. Sierra Club members use these lands for a variety of purposes, including: recreation, solitude, scientific study, and aesthetic appreciation. Sierra Club members also enjoy the Panguitch National Historic District.

SUWA is a non-profit environmental membership organization dedicated to the sensible management of public lands within the State of Utah, to the preservation and protection of plant and animal species, and to the preservation of Utah's remaining wild lands. SUWA has offices in Utah and in Washington, D.C. SUWA has members in all fifty states and several foreign countries. SUWA members use and enjoy public lands in and throughout Utah for a variety of purposes, including scientific study, recreation, hunting, aesthetic appreciation, and financial livelihood. SUWA members visit and recreate (*e.g.*, hunt, camp, bird, sightsee, and enjoy solitude) throughout the lands that are the subject of this request for agency action, including the Paunsaugunt Plateau, the city of Panguitch, Bryce Canyon National Park, and surrounding public lands. SUWA members also use and enjoy the Panguitch National Historic District. SUWA members have a substantial interest in resources affected by this matter, including night skies, air quality, water quality, and cultural historic sites. SUWA members also have a substantial interest in seeing that the Division complies with the terms and requirements of state law and its own regulations. SUWA brings this action on its own behalf and on behalf of its adversely affected members.

NRDC is a non-profit environmental membership organization with more than 500,000 members throughout the United States. Of these members, 3,014 reside in Utah. NRDC members use and enjoy public lands in and throughout Utah, including Bryce Canyon National Park and surrounding public lands. NRDC members use these lands for a variety of purposes, including: recreation, solitude, scientific study, and aesthetic appreciation. NRDC members also enjoy the Panguitch National Historic District. With its nationwide membership and a staff of lawyers,

scientists, and other environmental specialists, NRDC plays a leading role in a diverse range of land and wildlife management and resource development issues. Over the years, NRDC has participated in a number of court cases involving resource development issues, in Utah.

NPCA is a non-profit national organization whose primary mission is to address major threats facing the National Park System. NPCA is the leading voice of the American people in protecting and enhancing the National Park System and has more than 325,000 members throughout the United States, with over 2,000 in Utah. NPCA plays a crucial role in ensuring that America's national parks are protected in perpetuity by undertaking a variety of efforts, including: advocating for the parks and the National Park Service, educating decision-makers and the public about the importance of preserving the parks, lobbying members of Congress to uphold the laws that protect the parks and in support of new legislation to address threats to the parks, and assessing the health of the parks and park management to better inform NPCA's members and the general public about the state of the park system. NPCA members use and enjoy Bryce Canyon National Park and the surrounding public lands, as well as the Panguitch National Historic District for a variety of purposes, including recreation, sightseeing and aesthetic appreciation.

Each organization brings this action on its own behalf as well as on behalf of its members – persons with interests which are or may be adversely affected by the Division's approval of ACD's permit application. Utah Code Ann. § 40-10-14(3); UT ADC R645-300-211. Petitioners' members use the recreational, cultural/historic, aesthetic, water, air, and other environmental resources located within and adjacent to Alton, Coal Hollow, the Paunsaugunt Plateau, and Bryce Canyon National Park for stargazing, hiking, hunting, camping, viewing cultural resources, sightseeing, wildlife viewing, and enjoying the unique solitude of these undeveloped lands. Petitioners' members have and hope to continue to enjoy the resources of the Panguitch National Historic District. Certain of

petitioners' members live in the vicinity of the Panguitch National Historic District. The property value and other economic interests of these members will be adversely affected by the proposed mine. The Division's unlawful decision to approve proposed surface coal mining and reclamation operations in these largely untrammeled areas will have a direct adverse effect on these resources and on the interests of Petitioners' members. Each of the affected members of the Utah Chapter of the Sierra Club, SUWA, NRDC, and NPCA relies upon one or more of those organizations to bring actions such as this one to protect the member's potentially affected interests.

## **II. SUMMARY OF THE ARGUMENT**

The Division acted arbitrarily, capriciously, and contrary to law in failing to withhold approval of ACD's inaccurate and incomplete permit application and in failing to conduct a cumulative hydrologic impact assessment ("CHIA") in accordance with the applicable requirements of law and good scientific practice. Despite the requirement that ACD accurately and completely characterize existing hydrologic conditions in the proposed permit and adjacent areas, ACD's permit application includes only scattershot data and superficial guesses and assumptions about the existing hydrologic regime. ACD's permit application also lacks adequate biological, cultural, and historical information with respect to both the permit and adjacent areas. For its part, the Division failed to perform a cumulative hydrologic impact assessment that (1) delimits the "cumulative impact area" of the proposed operation based on a scientifically sound determination of the area within which the probable hydrologic effects of the proposed operation may interact with the actual or likely effects of all other "anticipated mining," (2) reasonably defines material damage criteria for each potential adverse hydrologic impact that ACD identifies in its statement of probable hydrologic consequences ("PHC") or that the Division identified in its technical analysis, and (3) rationally concludes that ACD's proposed operation has been designed to prevent material damage outside the permit area.

Because the existing hydrology, fish and wildlife, cultural/historic resources, and other facets of ACD's proposed permit and adjacent areas are inadequately characterized and considered in the permit application, the Division cannot possibly fulfill its legal responsibility to protect the environment and the public from adverse impacts and ensure the area is returned to its properly reclaimed uses.

### **III. PROCEDURAL HISTORY**

On June 27, 2006, Talon Resources, Inc. submitted a permit application for the Coal Hollow Mine. The Division determined that this application was incomplete and returned it on August 28, 2006. ACD then submitted a revised permit application for the Coal Hollow Mine on June 14, 2007. The Division deemed ACD's application complete on March 14, 2008. A technical review and public commenting period commenced following this completeness determination.<sup>1</sup> Petitioners filed comments on the permit on May 22, 2008. In addition, SUWA requested "Consulting Party Status" for cultural resource management. The Division did not respond to SUWA's request.

The Division convened an informal conference in Alton, Utah, on June 16, 2008, to receive additional written and oral comments on the mine and the proposed relocation of County Road 136. At this time the Director extended the informal conference written comment period to June 20, 2008. Twelve written comments were received, including a petition requesting further studies of natural and cultural resources in the adjacent area.<sup>2</sup>

The Division failed to issue a decision within 60 days of the conclusion of the informal conference. Instead, the Division continued to accept supplemental information from ACD and to

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<sup>1</sup> Utah Division of Oil Gas and Mining, *Decision Document and Application Approval* (October 15, 2009) ("Decision Document") at 3.

<sup>2</sup> Priscilla Burton, *Technical Memorandum re Permit Application – Coal Hollow Mine*, Tasm ID # 3371 (October 15, 2009) at 1.

prepare its technical analysis. Following a September 15, 2009, meeting between ACD representatives and Utah Governor Gary Herbert, and without requesting public comment or convening an informal conference on the supplemental information and analyses supplied after the June 16, 2008, informal conference, the Division issued a decision document approving ACD's permit application on October 19, 2009.

## V. STATEMENT OF FACTS

ACD's permit for the Coal Hollow Mine authorizes surface mining on 635.64 acres.<sup>3</sup> The permit provides for the mining of private coal on private land. The permit authorizes ACD to mine 2,000,000 tons of coal per year for approximately three years. The mine will operate 24 hours per day, six days per week. In addition to the mining of private coal as authorized by the Division, ACD has applied to the Bureau of Land Management to lease federal coal on 3,600 acres of adjacent public land. BLM is currently preparing a draft Environmental Impact Statement related to ACD's federal lease application.<sup>4</sup>

The Coal Hollow Mine is located approximately 3 miles south of Alton, Utah, and within 10 miles of Bryce Canyon National Park. Bryce Canyon National Park is a series of natural amphitheaters extending more than 20 miles along the Paunsaugunt Plateau. Bryce Canyon became a National Monument by order of Warren Harding in 1923, and reached National Park status in 1928.<sup>5</sup> The park has striking geological structures formed by wind and ice erosion, in glowing colors of red, white and orange. The unusual pinnacles, called hoodoos, crowd the rims of Bryce, and reach upwards at their highest to 9,000 feet. The park receives 1.5 million visitors annually, most of who travel on Highway 89 either coming to or from the park. The park has outstanding

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<sup>3</sup> *Decision Document*, Administrative Overview at 1.

<sup>4</sup> *Decision Document*, *Technical Analysis* at 1.

<sup>5</sup> National Park Service, U.S. Department of the Interior web site *available at* <http://www.nps.gov/brca/index.htm>

visual, recreational, and resource values that may be severely compromised if adjacent lands are opened to coal mining. Bryce Canyon National Park is the main visitor attraction to Garfield County, where tourism represents 60% of the economic base.<sup>6</sup>

Bryce Canyon and the surrounding lands support a vast diversity of plant and animal life. The park hosts more than 400 native plant species. Bryce Canyon is home to 175 different species of birds, 59 species of mammals, 11 species of reptiles and four species of amphibians.<sup>7</sup> The park is part of the natural habitat of three species listed under the Endangered Species Act: the Utah Prairie Dog, the California Condor, and the Southwestern Willow Flycatcher. Sage grouse populate the lands outside the park near Alton, where the mine is proposed. Analysis done by Utah's Division of Wildlife Resources indicates that the mine will destroy the southernmost existing greater sage grouse lek rangewide.<sup>8</sup>

The area also has some of the country's best air quality, approaching 200 miles of visibility.<sup>9</sup> It has a 7.4 magnitude night sky, making it one of the darkest in North America.<sup>10</sup> Stargazers can see 7,500 stars on a moonless night, while in most areas fewer than 2,000 can be seen due to light and air pollution.<sup>11</sup> Every year Bryce Canyon hosts an Astronomy Festival that attracts thousands of visitors.

The National Park Service raised concerns about the impacts of the proposed Coal Hollow Mine on the night skies, water quality, wildlife and scenic values of Bryce Canyon National Park.

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<sup>6</sup> Letter from Eddie Lopez, Superintendent, Bryce Canyon National Park, to Keith Rigtrup, BLM Kanab Field Office (Feb. 23, 2007) [hereafter "NPS Comments"].

<sup>7</sup> National Park Service website available at <http://www.nps.gov/brca/naturescience/reptiles.htm>

<sup>8</sup> Letter from James F. Karpowitz, Utah Div. of Wildlife Resources to the Office of the Governor re. Federal Coal Lease Application Filed by Alton Coal Development LLC (Feb. 23, 2007).

<sup>9</sup> National Park Service website available at <http://www.nps.gov/brca/historyculture/index.htm>

<sup>10</sup> *Id.* at <http://www.nps.gov/brca/planyourvisit/astronomyprograms.htm>

<sup>11</sup> *Id.*

The National Forest Service also raised concerns regarding the need to protect the night sky quality and other aspects of air quality in the nearby Dixie National Forest.

As approved, ACD's permit provides for the transport of coal north from Alton along U.S. Highway 89, west along State Route 20 and south along Interstate 15. U.S. Highway 89 has been designated as "The Morman Pioneer Heritage Highway" and is the main artery for tourist travel between Bryce Canyon, Zion and Grand Canyon National Parks. The mine is expected to result in hundreds of double trailer coal truck trips per day. The coal trucks will travel directly through the Panguitch National Historic District. The Panguitch National Historic District was listed on the National Register of Historic Places in 2006. It contains early residences and commercial buildings from the late 19<sup>th</sup> century. The District includes the historic town plot of Panguitch, just slightly smaller than the current city limits. The District documents the history and development of Panguitch from an agricultural outpost to a growing city with tourism as a major part of its economic base.

Numerous concerns were raised regarding the mine's adverse effects on the Panguitch National Historic District. Both the National Park Service and the National Forest Service requested that analysis of the proposed mine include how the increased truck traffic would impact the city of Panguitch. In the words of the National Forest Service, "[i]ncreased traffic would have a negative impact on both residents, which include employees, and visitors to the area."<sup>12</sup> The National Park Service echoed these concerns.<sup>13</sup> In addition, forty-seven members of the public attended the informal conference held by the Division on June 16, 2008, in Alton.<sup>14</sup> Sixteen Panguitch business

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<sup>12</sup> Letter from Donna Owens, District Ranger, Powell Ranger District, Dixie National Forest, to Mary Ann Wright, Associate Director, Mining, Division of Oil, Gas & Mining (May 9, 2008) (2008/Incoming/0048.pdf).

<sup>13</sup> Letter from Eddie Lopez, Superintendent, Bryce Canyon National Park, to Keith Rigtrup, BLM Kanab Field Office (Feb. 23, 2007).

<sup>14</sup> *Decision Document*, Permitting Chronology, at 2.

and homeowners submitted comments to the Division raising concerns about the effects to the tourist industry and to their safety by the transportation of coal in the SR 89 corridor and through the Panguitch National Historic District.<sup>15</sup>

Despite the exacting scrutiny that ACD's permit application warranted, the Division approved the application even though it suffers from at least the following deficiencies:

(1) the permit application contains no baseline hydrologic data on surface water in Sink Valley Wash further south than approximately 1.5 miles from the permit area, even though the "cumulative impact area" that the Division formulated for the proposed operation extends approximately 4.5 miles downgradient from ACD's southernmost baseline monitoring point in Sink Valley Wash;

(2) similarly, the permit application contains no baseline hydrologic data on surface water in Kanab Creek downgradient of monitoring station "S-2", which is located approximately one-quarter mile below the confluence of Kanab Creek and Lower Robinson Creek, even though the "cumulative impact area" that the Division formulated for the proposed operation extends approximately 6.0 miles downgradient from that monitoring station;

(3) with respect to numerous surface water baseline monitoring sites, the permit application does not present data (other than "no flow" entries) for at least one season or for the full two-year period that the Division's established policy effectively requires absent a permit applicant's demonstration of special circumstances;<sup>16</sup>

(4) the permit application includes only one measurement at monitoring point "SW-4" – which is the sole monitoring site on Lower Robinson Creek upgradient of the proposed permit area

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<sup>15</sup> *Decision Document, Technical Analysis*, at 12.

<sup>16</sup> Utah Department of Natural Resources, Division of Oil, Gas and Mining, *Coal Regulatory Program Guideline Tech-004* (2006) ("Tech-004") at 10 and Tables 1 and 2.

– even though Robinson Creek flows through the proposed permit area and thus will certainly be affected by proposed mining operations;

(5) the permit application includes only three complete data entries for surface water monitoring site “SW-6” – which is the only baseline monitoring site established for an area that would drain a significant portion of the mine disturbance;

(6) the permit application presents surface water baseline data for Sink Valley Wash downgradient of the proposed permit area from only one monitoring site – “SW-9” – which is located approximately 1.5 miles from the proposed permit boundary;

(7) the permit application does not contain (a) an identification of the specific locations of the potential discharge that ACD proposes to make into Lower Robinson Creek or Sink Valley Wash or (b) baseline data on the geomorphic characteristics of the stream channels of Lower Robinson Creek or Sink Valley Wash in the areas that ACD’s proposed discharge will potentially affect;

(8) the permit application contains no baseline ground water data for the portion of the Sink Valley drainage that lies more than approximately 1.5 miles downgradient from the permit area, even though the Division correctly determined that the entire Sink Valley drainage lies within the cumulative impact area for the proposed surface coal mining and reclamation operations;

(9) the permit application contains no baseline data for the ground water that ACD reports discharging from the saturated alluvial aquifer into the bed and banks of Lower Robinson Creek in or adjacent to the proposed permit area;

(10) the permit application contains no baseline data for ground water in the Kanab Creek drainage;

(11) the permit application contains no baseline data for ground water in the Dakota Formation in the proposed permit or adjacent areas;

(12) the permit application contains no baseline data on seasonal water quantity with respect to 23 of 33 water rights that are potentially affected by the proposed surface coal mining and reclamation operations;

(13) the permit application contains no baseline data on seasonal water quality with respect to 25 of 33 water rights that are potentially affected by the proposed surface coal mining and reclamation operations;

(14) the permit application contains no baseline data on seasonal water quantity with respect to 38 of the 54 hydrologic monitoring sites proposed for the operations and reclamation phases of ACD's proposed mine;

(15) the permit application contains no baseline data on seasonal water quality with respect to 45 of the 54 hydrologic monitoring sites proposed for the operations and reclamation phases of ACD's proposed mine;

(16) the permit application contains no baseline data on seasonal water quality with respect to 36 of the 44 springs, wells, and alluvial trenches that ACD uses to provide baseline ground water data with respect to the proposed mine;

(17) the permit application does not contain cross-sections and maps portraying seasonal differences of head in the alluvial aquifers in the proposed permit and adjacent areas;

(18) the permit does not contain logs showing lithologic characteristics, thickness, or location of ground water in the Dakota Formation, or chemical analysis of samples collected from the Dakota Formation;

(19) the permit application does not contain cross-sections and maps portraying seasonal differences of head in the Dakota Formation aquifer in the proposed permit and adjacent areas;

(20) the permit does not contain a probable hydrologic consequences determination that is based on baseline hydrologic and geologic information collected for the permit area or adjacent areas;

(21) the permit application does not characterize Sink Valley or certain other features in the proposed permit area as alluvial valley floors, despite the Division's 1986 and 1988 determinations that each of these areas is in fact an alluvial valley floor, nor does the permit application present data or analyses required in light of the existence of alluvial valley floors in the proposed permit and adjacent areas;

(22) the permit application does not contain hydrologic monitoring plans that describe how the data may be used to determine the impacts of the operation upon the hydrologic balance;

(23) the permit application does not contain an operations plan which describes remedial measures that ACD would undertake in the event that hydrologic monitoring data or other information indicate that ACD's operations have caused or contributed to material damage the hydrologic balance outside the permit area;

(24) the permit application does not contain data or analysis concerning the impact of ACD's usage of roads outside the permit area, including the impacts of coal truck traffic through the Panguitch National Historic District;

(25) the permit application does not contain any data on hydrology, cultural and historic resources, or other required areas of study with respect to the portion of the potential "affected area" involved in the haulage of coal by road from the proposed permit area to the proposed rail loading facility;

(26) the permit application does not contain an air quality monitoring program that provides sufficient data to evaluate the effectiveness of its fugitive dust control practices;

(27) the permit application does not contain any analysis of the mine's operations on the clarity of the night sky as seen from Bryce Canyon National Park and Dixie National Forest;

(28) the permit application does not contain documentation establishing that the Utah Division of Wildlife Resources ("UDWR") has approved ACD's fish and wildlife protection plan;

(29) the permit application does not include a specification of measures that ACD will undertake to monitor or limit road-kill of sage grouse or other wildlife;

(30) the Division's CHIA does not contain hydrologic data necessary to determine the area within which the probable hydrologic effects of ACD's proposed operations may interact with the actual or probable effects of all anticipated mining in the area;

(31) the Division's CHIA does not establish material damage criteria for each of the probable hydrologic consequences identified in ACD's PHC and the Division's technical analysis;  
and

(32) the Division's CHIA does not include among the material damage criteria that it does establish all applicable Utah water quality standards.

## **V. ARGUMENTS AND BASES OF REQUEST FOR REVIEW**

Without waiving any other arguments they may raise before the Board after a complete review of the certified administrative record, Petitioners principally argue that the Division wrongfully approved ACD's incomplete, inaccurate, and otherwise unlawful permit application in direct violation of UT ADC R645-300-133.100. With respect to numerous areas of required study, Petitioners further argue that the information or analyses that ACD presents in its permit application does not support conclusions that the Division made to support its approval of the application.

Finally, Petitioners argue that the Division unlawfully approved ACD's permit application without first performing a CHIA that fulfills the legal requirements of UT ADC R645-300-400 and the related regulations governing the CHIA process. Each error warrants an order of the Board vacating the Division's approval of ACD's permit and either directing the Division to deny the application or else remanding the matter to the Division to permit ACD and the Division to meet the applicable permitting requirements if they can.

**A. Inaccuracy and Incompleteness of ACD's Permit Application**

Each of the 32 examples of inaccuracy or incompleteness of ACD's permit application listed in the previous section of this request, standing alone, would warrant an order vacating the Division's approval decision. Collectively, however, the host of deficiencies in ACD's permit application make a perfect mockery of emphasis that the Surface Mining Control and Reclamation Act, 30 U.S.C. §§ 1201-1328 ("SMCRA") places on fully informed, scientifically sound pre-planning of surface coal mining and reclamation operations as the primary method of ensuring that such operations do not destroy the environment or impair the health and safety of the public as coal mining has done in the past.

In crafting SMCRA, Congress thoroughly reviewed environmental and social costs of past coal mining operations and found that:

Experience has shown that without a thorough and comprehensive data base presented with the permit application, and absent analysis and review by both the agency and by other affected parties based upon adequate data, [the judgment of regulators] has often traditionally reflected the economic interest in expanding a State's mining industry. **Valid environmental factors tend to receive short shrift.** To meet this problem, the bill delineates in detail the type of information required in permit applications in section 507 and 508 and the criteria for assessing the merits of the application in section 510.

H.R. Rep. 218, 95<sup>th</sup> Cong. 1<sup>st</sup> Sess. 91 (1977) (emphasis supplied); *see also* S. Rep. No. 128, 95<sup>th</sup> Cong. 1<sup>st</sup> Sess. 53, 75 (1977) (emphasizing the importance of pre-planning surface coal mining operations and stating that the information requirement now found at 30 U.S.C. § 1257(b) “is a key element of the operator’s affirmative demonstration that the environmental protection provisions of the Act can be met”). Congress especially emphasized its intent to protect water resources as part of the SMCRA permitting process. The House Report that accompanied the bill that became SMCRA noted that:

H.R. 2 requires that the operator make a determination of the probable hydrologic consequences of the proposed mining and reclamation operations. **It is intended that the data assembled with this assessment be included in the application** so that the regulatory authority, utilizing this and other information available, can assess the probable cumulative impacts of all anticipated mining in the area upon the hydrology and adjust its actions and recommendations accordingly.

H.R. Rep. No 218 at 113 (emphasis supplied). The House report goes on to make clear that:

It is intended that the data collection and resulting analysis **take place before** and continue throughout the mining and reclamation process, and be conducted **in sufficient detail so that accurate assessments of the impact of mining on the hydrologic setting of the area may be determined.**

*Id.* at 120 (emphasis supplied). In developing and obtaining approval of the Utah state regulatory program for implementing SMCRA, the Utah Legislature implicitly endorsed these Congressional findings and policies.

The fundamental requirement that the Division withhold approval of any permit application that is not both accurate and complete is the primary mechanism for achieving the environmental protection and enhancement of public safety that Congress and the Utah Legislature intended the coal regulatory program to ensure. The permit application deficiencies identified earlier in this request put the environment and the public at risk for at least the reasons set forth in the following paragraphs.

**1. Inaccurate or Incomplete Hydrologic Baseline Data.**

ACD's permit application does not contain the baseline data necessary to establish "seasonal quality and quantity of ground water" or "to demonstrate seasonal variation and water usage" with respect to surface water, as UT ADC R645-301-724.100 and 200 require. Nor does ACD's permit application contain information on the "approximate rates of discharge or usage and depth to the water in" the Dakota Formation strata that lie immediately below the coal that ACD proposes to mine, even though those strata are "potentially impacted" by ACD's proposed blasting and coal removal and thus are within the minimum scope of the baseline ground water descriptions that UT ADC R645-301-724.100 requires. In the absence of these essential components of baseline information, ACD's responses to all of the Utah program's hydrologic protection provisions are fatally flawed.

Utah's regulations require each permit applicant to characterize the surface water and ground water resources that exist within both the proposed "permit area" and the associated "adjacent area."

UT ADC R645-301-724.100 and -724.200. The applicant defines the proposed "permit area" by establishing the boundaries of the land that the applicant legally controls and proposes to use during the mining and reclamation process. UT ADC R645-100-200 ("*permit area*"). The "adjacent area" extends beyond the permit area to encompass all other land "where a resource or resources . . . are or reasonably could be expected to be adversely impacted by proposed coal mining and reclamation operations." UT ADC R645-100-200 ("*adjacent area*").

The Division has determined that, to be sufficient to demonstrate seasonal variation, a permit applicant should collect surface water quality and quantity data for each baseline monitoring station at least quarterly (that is, once in every three month period, with at least one month interval between sampling events) for a minimum of two years prior to permit approval. Tech-004 at 4

(“quarterly sampling”), 10, and Tables 1 and 2. Although the Division’s determination does not carry the mandatory force of a regulation or statute, it does establish a presumption concerning data sufficiency that a permit applicant may avoid only by documenting special geologic and hydrologic circumstances of the proposed permit and adjacent areas that warrant a less extensive baseline monitoring frequency or duration. ACD’s permit application contains no such documentation, nor does it contain any other information suggesting that the proposed permit and adjacent areas may be accurately characterized on the basis of less baseline hydrologic information than any other surface coal mine in Utah.

ACD’s permit application fails to meet the Tech-004 standards for baseline hydrologic data in at least two respects. First, for most surface water and ground water baseline monitoring stations, ACD has failed to present data collected quarterly over a minimum of two consecutive years. Second, for most surface water and groundwater baseline monitoring stations, ACD has failed to present data for each hydrologic season (*i.e.*, December-February, March-May, June-August, and September-November). ACD’s specific shortcomings are more particularly described in the tables attached as Exhibits 1-5 to this request for agency decision.

Without more, the absence of baseline data necessary to demonstrate seasonal variation in quantity and quality of surface water and ground water in ACD’s proposed permit and adjacent areas makes the Division’s decision to approve the instant permit application unlawful pursuant to UT ADC R645-300-133.100. The defect is not a mere technicality, however. An incomplete set of hydrologic baseline data provides an incomplete and potentially erroneous picture of hydrologic conditions prior to the onset of mining operations. Without a reliably accurate and complete characterization of pre-mining conditions, neither the Division nor interested members of the public

will be able to detect fully, completely, or precisely the effects of mining on the hydrologic regime in the permit and adjacent areas.

This is especially so where baseline data are incomplete with respect to monitoring stations meant to characterize conditions upgradient or downgradient of the permit area in water resources that proposed mining operations will likely affect. Here, ACD's proposed operations will certainly affect Lower Robinson Creek, which flows through the permit area and into which ACD proposes to discharge surface water runoff from both disturbed and undisturbed areas. ACD's proposed operations will also certainly affect the Sink Valley drainage, into which ACD proposes to discharge surface water runoff from both disturbed and undisturbed areas. However, ACD has presented data from only one sampling event at the sole monitoring location on Lower Robinson Creek upgradient of the proposed mine. To make matters worse, ACD's data for the monitoring sites downgradient of the proposed mine is also incomplete. As a result, neither the Division nor the public will be able either to contrast operational monitoring data with a complete picture of pre-mining conditions or to detect the effects of ACD's mining on Lower Robinson Creek. In such circumstances, scientific determination of the actual effect of ACD's mining on Lower Robinson Creek will be impossible.

Similarly, the absence of complete baseline data for the Sink Valley drainage deprives the Division and the public of an accurate and complete picture of seasonal water quantity and quality down gradient of the proposed mine prior to the commencement of operations. An accurate and complete characterization of hydrologic conditions at these critical points is necessary to enable a meaningful, scientifically competent comparison of conditions before, during, and after mining in areas directly and immediately affected by ACD's operations. In failing to present a complete data set for these and other monitoring stations, ACD has deprived both the Division and the public of

essential information for detecting the actual effects of its operations on the hydrologic balance outside the permit area.

The litany of deficiencies in ACD's hydrologic monitoring extends far beyond the examples just discussed. Petitioners look forward to further amplifying the shortcomings identified in Exhibits 1-5 at the hearing on this request.

## **2. Inaccurate Characterization of Alluvial Valley Aquifers**

On at least two prior occasions, the Division has determined that "Sections 19, 20, 29 and 30, T39S, R5W in Sink Valley constitute an Alluvial Valley Floor." *See* Memorandum to Kenneth E. May, Associate Director, Utah Division of Oil, Gas and Mining, from Richard V. Smith, Geologist dated October 13, 1988, at 2-3.<sup>17</sup> In doing so, the Division expressly rejected the notion that a 1988 study by consultants to a previous permit applicant (referred to in the Division's permit approval documents as the "WET report") warranted reversal of the Division's initial positive alluvial valley floor determination. *Id.* Instead, the Division concluded that the WET report reinforced the positive initial determination that Sink Valley is an alluvial valley floor.

In approving ACD's application, the Division arbitrarily and capriciously reinterpreted the same data on the pertinent geologic and hydrologic factors to reach a contrary conclusion on Sink Valley's status as an alluvial valley floor. The Division identified no factual or scientific error in its prior positive alluvial valley floor determination, nor any new information that was unavailable to Division in 1988 (other than the personal impressions concerning the pertinent topography that different Division personnel apparently formed during walking tours of proposed permit area in 2008 and 2009).

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<sup>17</sup> Petitioners attach a copy of this memorandum as Exhibit 6 to this request for agency decision.

In 1988 the Division reviewed all of the pertinent data on Sink Valley's status as an alluvial valley floor and correctly made a positive determination. The opposite determination that the Division conjured in 2009 from the same data on geomorphology is an arbitrary, unsupported insult to the competence and good judgment of the Division personnel who carefully reviewed **both** the subsurface data and the pertinent topography before reaching the 1988 positive determinations.

Because the pertinent information, taken as a whole, amply establishes Sink Valley's status as an alluvial valley floor, ACD's contention to the contrary rendered its permit application fatally inaccurate. The Division's approval of that inaccuracy, based upon a capricious reassessment of the same pertinent information, is an error of law that the Petitioners urge the Board to reverse in the interest of maintaining good scientific practice in the mine permitting process.

Separately, although the Division acknowledged that Kanab Creek lies in an alluvial valley floor, the Division concluded that ACD's mining operations would not adversely affect the area, apparently because ACD does not propose to disturb the surface of the valley. However, Utah regulations require coal operators to preserve the essential hydrologic functions of any alluvial valley floor not within the permit area. UT ADC R645-302-324.110. Therefore, because the Division did not thoroughly and competently evaluate the potential of ACD's operations to alter the quality or quantity of water discharging from Lower Robinson Creek to the Kanab Creek alluvial valley floor, or the likely effects of such discharges on the essential hydrologic functions of that area during or after the proposed mining operations, the Division unlawfully approved ACD's permit without ensuring the protection of the Kanab Creek alluvial valley floor.

### **3. Inaccurate Determination of Probable Hydrologic Consequences**

Utah's regulations provide that "[t]he PHC determination will be based on baseline hydrologic, geologic and other information collected for the permit application." UT ADC R645-

301-728.200. Where, as here, a permit applicant does not collect or present sufficient baseline hydrologic data to demonstrate seasonal variation in the quantity and quality of surface water or ground water, the applicant's determination of probable hydrologic consequences is inaccurate as a matter of law. This is so because without sufficient hydrologic baseline data, there is insufficient support for any of the conclusions that the permit applicant presents in its PHC. Moreover, the Division is left with no basis for discounting the likelihood of any potential adverse effect that the permit applicant has failed to identify or fully address.

#### **4. Incomplete Hydrologic Monitoring Plans**

ACD's hydrologic monitoring plans are fatally incomplete because neither the surface water plan nor the ground water plan describes how operational monitoring data may be used to determine the impacts of the operation upon the hydrologic balance, as UT ADC R645-301-731.211 and -731.221 require. Such descriptions are necessary not only to enable the public to participate meaningfully in the administration and enforcement of the Utah regulatory program but also to (a) implement the material damage criteria that a properly performed CHIA must formulate and (b) trigger the preventative and remedial measures of the permit applicant's hydrologic operations plan whenever appropriate.

Even if ACD's hydrologic monitoring plans contained adequate descriptions of how the data may be used – and those plans contain no such descriptions at all – the absence of adequate baseline hydrologic data would warrant complete reconsideration and reformulation of the plans once ACD cures those data deficiencies. Like the PHC, the hydrologic monitoring plans for a mining permit must be based upon hydrologic baseline data that presents an accurate and complete picture of the hydrologic regime prior to mining. UT ADC R645-301-733.211 and -733.221. Without such a picture, selections of monitoring stations, parameters, and frequencies are manifestly arbitrary and

capricious because they are not based on the information that Congress and the Utah Legislature meant the Division to consider in formulating surface water and ground water monitoring plans.

Finally, ACD's approved surface water monitoring plan is deficient because it does not include a station properly placed below the confluence of Kanab Creek and Sink Valley Wash. The Division's CHIA determines that the hydrologic impacts of ACD's proposed operations remain measurable to that confluence, and good scientific practice requires actual measurement of the combined effects at some point reasonably below the confluence.

#### **5. Inaccurate or Incomplete Hydrologic Operation Plan**

The fatal flaws in ACD's baseline hydrologic data, PHC, and hydrologic monitoring plans render the hydrologic operation plan presented in the permit application inaccurate, incomplete, or both. Hydrologic operation plans must be based on an applicant's PHC. UT ADC R645-301-731. Where, as here, the PHC is defective and unreliable as the result of insufficient baseline data, the hydrologic reclamation plan is not founded on full information and solid analysis as Congress and the Utah Legislature have required. Moreover, if a permit application fails to describe how operational monitoring data may be used to determine the hydrologic impact of the proposed mining operation, as is the case here, there are no established triggers for the preventative and remedial measures that each hydrologic operation plan must contain. *Id.* In sum, the deficiencies in the hydrologic protection sections of ACD's permit render the Division's approval entirely unlawful and dangerous to the environment and public health and safety.

#### **6. Incomplete Proposal of Alternative Water Sources**

Both ACD and the Division recognize that the proposed surface coal mining and reclamation operations may diminish or destroy protected water supplies. However, ACD fails to quantify the likely or potential losses. To make matters worse, ACD fails to quantify the maximum expected

production of water from the sole proposed replacement well it intends to use, which ACD apparently has yet to construct. In failing to provide data to support ACD's belief that production from its proposed replacement well will equal or exceed the volume of water that ACD may become obligated to replace over the life of its operations and potentially without limit thereafter, ACD has for this reason alone submitted an incomplete permit application that fails to meet the applicable regulatory standard. *See* UT ADC R645-301-727. The Division erred in approving ACD's permit application rather than requiring the necessary information on the planned water replacement option and additional information concerning how ACD intends to meet water replacement obligations greater than those that the planned replacement well may prove capable of meeting.

**7. Incomplete Cultural/Historic Resource Information**

The Division's regulations require each permit application to analyze potential adverse impacts from the proposed coal mining operations to "cultural and historic resources listed or eligible for listing in the National Register of Historic Places and known archaeological sites within the permit **and adjacent areas.**" UT ADC R645-301-411.140 (emphasis added). Utah Code 9-8-404(1) reinforces the Division's obligation to look beyond the immediate footprint of the permit area by requiring that "[b]efore . . . approving any undertaking, each agency shall take into account the effect of the . . . undertaking on any historic property." The term "effect" is understood in this context to include direct effects, indirect effects and cumulative effects. UT ADC R645-300-.133.600. *See also* 36 C.F.R. § 800.4.

ACD's permit application fails to include the required information regarding adjacent areas. In a May 8, 2008 Technical Memo, Division staff identified the failure of ACD's Cultural Resource Management Plan ("CRMP") to include "cultural resources such as the National Register of Historic

Places District in Panguitch.” ACD had focused “solely on archaeology.” In addition, ACD had failed to include potential transportation routes in its analysis.

Nothing in the permit files indicates that any of these issues have been addressed. The Utah State Historic Preservation Officer provided its concurrence on ACD’s CRMP and Data Recovery Plan on July 14, 2008. This concurrence was made in response to a request from the Division for concurrence on July 10, 2008. The concurrence was apparently based upon review of the May 23, 2008 CRMP provided by ACD. This plan, however, provides no analysis of adjacent areas as required by the Division’s regulations. There is no discussion of the effects of the proposed mining on the Panguitch National Historic District.

Panguitch was listed on the National Register of Historic Places on November 16, 2006. The district contains almost 400 contributing primary resources including early residences and commercial buildings from the late 19<sup>th</sup> century. The district documents the history and development of Panguitch from an agricultural outpost to a growing city with tourism as a major part of its economic base. The district contains a large number of original buildings constructed of locally-made red brick. Historic residences include a large number of individualistic Arts & Crafts bungalows.

The CRMP acknowledges that the “affected area” of the project includes the “reasonably foreseeable transportation route” for the coal. *Cultural Resource Management Plan* for ACD (May 23, 2008), at 3. The specified transportation route extends west from Alton on CR-10/ Cistern Road, north along US-89 through the Panguitch National Historic District. *Id.* Figure 3. Despite the plan’s explicit inclusion of the Panguitch National Historic District within the affected area of the project, the plan contains no analysis of the amount of truck traffic expected through the town or the effects of such traffic on the Historic District. The Division’s approval of the ACD permit application

without analysis of the impacts of the proposed mining on the Panguitch National Historic District was unlawful.

#### **8. Incomplete Air Pollution Control Plan**

ACD's permit application fails to include an air quality monitoring program which provides sufficient data to evaluate the effectiveness of its fugitive dust control practices in violation of UT ADC R645-301-420. ACD submitted its fugitive dust control plan on October 13, 2009. The plan relies on "EPA Method 9" for monitoring the effectiveness of the proposed fugitive dust controls. On its face, this method is designed for monitoring the opacity of plumes from stationary sources. *See EPA, Emission Measurement Technical Information Center Test Method-009* (October 25, 1990), Attachment 3 to *Fugitive Dust Control Plan for Coal Hollow Project*. The Division explicitly acknowledged that it "does not have the expertise to evaluate the use of method 9." Email from Priscilla Burton to Jon Black re. Fugitive Dust Plan (Oct. 13, 2009). The Division has unlawfully approved ACD's permit without first establishing the effectiveness of the air quality monitoring program for fugitive dust.

In addition, Alton's permit application fails to provide a fugitive dust control plan that addresses the impact of the proposed mining operations on the night sky as seen from Bryce Canyon National Park and the Dixie National Forest in violation of UT ADC R645-301-423.200. The clarity of the night sky is one of the most valuable environmental resources of the area affected by the proposed Alton mine. Both the National Park Service and the Forest Service raised concerns regarding the mine's potential impact on the night sky. Fugitive dust, as well as light pollution, degrade the quality of the night skies. In the words of the Forest Service, "Night sky quality is principally degraded by light pollution – emissions from outdoor lights that cause direct glare and reduce the contrast of the night sky – but atmospheric clarity as plays a role." Letter from Donna

Owens, District Ranger, Powell Ranger District, Dixie National Forest, to Mary Ann Wright, Associate Director, Mining, Division of Oil, Gas, & Mining (May 9, 2008).

The Division explicitly required Alton to “explain the equipment for lighting the 24 hour operation and the effect on the night sky as seen from Bryce Canyon National Park and the Dixie National Forest.” *See Decision Document, Technical Analysis* at 82. The Technical Analysis goes on to state that “the Applicant has not discussed the effect on the night sky as seen from Bryce Canyon N.P. and the Dixie N.F. Therefore, this deficiency remains and must be addressed prior to receiving a recommendation for approval.” *Id.* at 83. The Division unlawfully approved the Alton permit without first receiving and analyzing the requested information from ACD regarding the impact of the mine’s 24-hour operations on the night sky.

**B. Inadequate and Improper CHIA**

Properly performed, the CHIA for proposed surface coal mining and reclamation operations accomplishes at least three important things. First, the CHIA defines the area within which the hydrologic impacts of the proposed operation may interact with the impact of all other existing and anticipated mining. UT ADC R645-100-200 (“*Cumulative Impact Area*”). Importantly, anticipated mining includes “all operations required to meet diligent development requirements for leased federal coal for which there is actual mine development information available.” *Id.* Second, based on the applicant’s PHC and any independent analysis that the regulatory authority may undertake, the CHIA defines criteria that, if exceeded, would constitute “material damage” to the hydrologic balance in the cumulative impact area. These “material damage criteria” must guide formulation of the hydrologic monitoring plans for the proposed operation and trigger the preventative and remedial components of the hydrologic operation plan in the event that actual operations substantially threaten the hydrologic balance. Third, the CHIA must explain the regulatory

authority's reasoning for its determination whether the proposed operation has been designed to prevent material damage outside the permit area. UT ADC R645-300-133.400. In each respect, the Division's CHIA for ACD's proposed operations in Coal Hollow is fatally flawed.

To begin with, as a practical matter every CHIA is based upon the applicant's baseline hydrologic data and PHC. Where these are inaccurate or incomplete, as is the case here for reasons previously discussed, a CHIA can be properly done only if the regulatory authority on its own develops accurate and complete baseline data for the permit area (as well for the remainder of the cumulative impact area) and then makes its own, properly grounded, determination of the probable hydrologic consequences of the proposed mine. Although it is not the regulatory authority's responsibility to undertake this extra work, Utah regulations expressly forbid permit approval in the absence of complete information concerning the cumulative impact area (which by definition includes the permit area). UT ADC R645-301-725.300. Here the Division took no steps to cure the defects in ACD's permit application, but nonetheless unlawfully approved the application anyway.

Even if the hydrologic protection components of ACD's permit application were accurate and complete, which they are not, the Division's CHIA would fall short of applicable legal and scientific standards for at least three reasons. Petitioners discuss each in turn.

**1. Failure to Define the Cumulative Impact Area Correctly**

The Division's selection of the cumulative impact area for ACD's proposed mine suffers from at least two major flaws. First, in delimiting the cumulative impact area the Division did not discuss, and apparently did not consider, whether the area within which the hydrologic impact of ACD's proposed mine on **ground water** may interact with the ground water impacts of the anticipated mining on neighboring federal coal leases. Although it is possible that the cumulative impact area for ground water coincides precisely with the cumulative impact area for surface water,

that is frequently not the case. For example, although the topographical ridges that define Water Canyon and Swapp Hollow canyons may properly serve as cumulative impact area boundaries for surface water, neither ACD nor the Division provides any data or analysis that demonstrates the existence of a concurrent ground water divide beneath those ridges. At a minimum the pertinent regulations require the Division to acknowledge the potential that the cumulative impact areas for surface water and ground water often are different and then to justify the selection of a single cumulative impact area on the basis of hydrologic data and analysis of ground water interactions. The Division did not do that, and for that reason alone its selection of the cumulative impact area fails to meet the applicable legal standard or comply with good scientific practice.

Second, the Division delimited the southern (downgradient) boundary of the cumulative impact area at the confluence of Kanab Creek and Sink Valley Wash, based on a finding that “[t]he confluence of these drainages represents the most downstream point where any hydrological impacts can be measured.” This simply is not so. Assuming for the sake of argument that the confluence in question is the most downgradient point at which surface waters from the mined areas combine, accurate and complete measurement of the combined hydrologic impact must be made some distance downstream of the that confluence. This is especially important because that downstream measuring station, properly chosen, must be established as a surface water monitoring point during operations and reclamation activities.

In sum, the Division did not delimit the cumulative impact area for ACD’s proposed surface coal mining and reclamation operations according to the governing legal requirements or sound scientific practice. As a result, the Division failed to consider the full cumulative impact of the ACD mine and anticipated neighboring operations. Without more, this failure undermines the Division’s

remaining CHIA components and merits reversal of the decision to approve ACD's permit application.

**2. Failure to Define Material Damage Criteria Properly**

To determine whether ACD has designed the proposed Coal Hollow mine to prevent material damage to the hydrologic balance outside the permit area, as UT ADC R645-300-400 requires, the Division necessarily must define "material damage" in terms of discernable criteria. Although the Division recognized its responsibility to do this, the Division erred in failing to establish material damage criteria for each hydrologic concern identified either in the PHC or in the Division's own CHIA analysis.

The Division's CHIA establishes only two material damage criteria for surface waters: diminution of low flow and increased concentration of total dissolved solids ("TDS"). *CHIA* at 40. Although the Division acknowledges that the applicable Utah state water quality standard for TDS is 1,200 mg/L, the Division set the material damage criterion for this pollutant at 3,000 mg/L based on the observation that "TDS concentrations can exceed levels over 3,000 mg/L in the stream channels." *Id.* In doing so, the Division erred both as a matter of fact and as a matter of law.

Although ACD's baseline hydrologic data does contain a few TDS sampling results that approximate or exceed 3,000 mg/L, the pertinent overall values derived even from ACD's incomplete data set are well below the 1,200 mg/L water quality standard. Thus, as a matter of fact, the Division had no basis for setting the material damage criterion for TDS above the 1,200 mg/L Utah state water quality standard for that pollutant.

Even if there were a factual basis for the Division's action, the law prohibits regulatory authorities from implementing SMCRA in ways that conflict with the Federal Water Pollution Prevention and Control Act, 33 U.S.C. §§ 1251-1387 ("CWA"). 30 U.S.C. § 1292(a)(3). Utah's

state water quality standard for TDS concentration is an implementation of the CWA's program for identifying and rehabilitating water resources that are unacceptably polluted. *See* 33 U.S.C. § 1313. That aspect of the CWA precludes any SMCRA regulatory authority from setting material damage criteria in excess of any applicable water quality standard. Although OSM's regulations do not expressly define "material damage to the hydrologic balance outside the permit area," the preamble to OSM's CHIA regulations makes clear that all regulatory authorities must recognize water quality standards and effluent limitations established pursuant to the CWA as minimum fixed material damage criteria. 48 Fed. Reg. 43,973 col. 1 (Sept. 26, 1983) ("OSM has not established fixed criteria, except for those established under [30 C.F.R.] §§ 816.42 and 817.42 related to compliance with water-quality standards and effluent limitations"). Thus, as a matter of law, the Division had no authority to set the material damage criterion for TDS above the 1,200 mg/L Utah state water quality standard for that pollutant.<sup>18</sup>

Also with respect to surface water, the Division's CHIA fails to enumerate selenium and boron concentrations as hydrologic concerns, even though the Division's conditions of approval (a) require special handling with respect to materials that have potential to release those pollutants and (b) require monitoring of selenium concentrations in all surface water discharges through final bond release. Given the Division's obvious concern that water may become polluted with these contaminants, the Division was obligated to establish material damage criteria for them, at no less than the applicable Utah water quality standard for each. The Division erred in failing to meet that obligation.

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<sup>18</sup> Petitioners further contend that the Division erred in setting the material damage criterion for TDS in groundwater at the highest observed concentration rather than at the mean or median concentration shown in a competent set of hydrologic baseline data.

Similarly, the Division correctly recognized the potential that discharge of surface water from ACD's mine may result in substantially increased stream flows in Lower Robinson Creek, Kanab Creek, and other affected waterways. That concern required the Division to establish material damage criteria for increased stream flow or its physical effects on affected waterways. Again, the Division erred in failing to meet this requirement.

Although the CHIA recognized that interception of ground water by ACD's mining operation and diminution of downgradient water resources are potential areas of concern, *CHIA* at 32-33, the Division declined to establish material damage criteria with respect to these potential effects on ground water within the Dakota Formation. The Division contended that the Dakota Formation is a poor transmitter of ground water and plays an insignificant role in the pre-mining hydrologic balance. This assertion, however, is at odds with available hydrologic data. Moreover, as explained earlier in this request for agency action, those data are fatally incomplete. For all these reasons, the Division erred in failing to formulate material damage criteria with respect to the potential interception of ground water flow in the Dakota formation.

**3. Unsupported Determination That ACD's Mine Has Been Designed to Prevent Material Damage to the Hydrologic Balance Outside the Permit Area**

In light of all the deficiencies identified in ACD's presentation of hydrologic information and analysis and in the Division's identification of cumulative impact area and material damage criteria, the Division's determination that ACD's proposed mine has been designed to prevent material damage to the hydrologic balance outside the permit area is manifestly arbitrary, capricious, and otherwise inconsistent with law. The Division lacked the required baseline information to make a reasoned decision, and its preliminary work during the CHIA process erroneously narrowed and distorted its focus on the pertinent hydrologic issues. Moreover, it appears that the Division

performed its CHIA without collecting and documenting in the permit approval papers the necessary baseline data for the portions of the cumulative impact area that lie outside the proposed permit area. Petitioners therefore urge the Board to vacate the Division's decision on this ground and require the Division to re-perform the CHIA correctly after receiving adequate baseline data and complete hydrologic analysis from ACD.

**C. Unlawful Waiver of Stream Buffer Zone Protection for Lower Robinson Creek**

Based on a finding that ACD's surface coal mining and reclamation operations within 100 feet of Lower Robinson Creek will neither cause nor contribute to violation of applicable Utah or federal water quality standards and will not adversely affect the water quantity and quality or other environmental resources of Lower Robinson Creek, the Division waived the requirement to establish and maintain buffer zones for that stream. However, as explained more fully in previous sections of this request for agency action, ACD failed to present the necessary baseline data on pre-mining hydrologic conditions in Lower Robinson Creek, either above, within, or below the proposed permit area. Without a competent characterization of Lower Robinson Creek prior to mining, the Division had no rational basis on which to conclude that ACD's operations would not cause or contribute to violation of applicable water quality standards or would not adversely affect water quantity in that stream. Indeed, because ACD proposes to discharge significant quantities of water from mined areas into Lower Robinson Creek, there exists a very real potential for accelerated erosion of the downgradient stream channel and for damage to existing biological communities there. For at least these reasons, the Division's waiver of stream buffer zone protection for Lower Robinson Creek was arbitrary, capricious, and otherwise contrary to law.

**D. Inadequate Protections for Sage Grouse**

ACD's permit application fails to include adequate protections for sage grouse in violation of UT ADC R645-301-330. The Division's regulations require that each permit contain "a plan for protection of vegetation, fish, and wildlife resources throughout the life of the mine." UT ADC R645-301-330. The application must include "fish and wildlife information for the permit area **and adjacent areas.**" UT ADC R645-301-322 (emphasis supplied). Here, UDWR raised several deficiencies with ACD's proposed plan for the protection of sage grouse. Neil Perry, UDWR, *Comments re. Alton Coal Mine Mitigation Plan* (March 9, 2009). At least some of these deficiencies appear to remain unaddressed.

**1. Failure to address road-kill**

The deficiencies raised by UDWR included the failure to address the issue of road-kill. In the words of UDWR's biologist, "Coal haul trucks can have severe impacts to wildlife populations along highways. Specifically, the UDWR is concerned with impacts along the State Routes 89 and 20. The mitigation plan should include measures to efficiently monitor and remove road kill by haul trucks." *Id.* Utah's coal permit regulations explicitly require the inclusion of information in the fish and wildlife resource protection plan addressing "the location and operation of haul and access roads and support facilities." UT ADC R645-301-333. ACD's Sage-Grouse Habitat Mitigation Plan dated October 2009 makes no mention of steps taken to monitor or limit road-kill. The Division unlawfully approved ACD's permit without the information addressing road kill requested by UDWR.

**2. Failure to protect local sage grouse population**

UDWR also criticized the adequacy of the proposed mitigation measures for sage-grouse. In the words of UDWR's biologist, ACD is "digging up the 'current sage grouse habitat.'" *Id.*

UDWR's biologist described the situation as follows: "the local population of sage-grouse is vulnerable to elimination, the probability of extirpation would be greatly increased by mining activities proposed by the Coal Hollow Project." *Id.* While ACD submitted revisions to its sage-grouse mitigation plan in October 2009, nothing in the records available to date indicates that the revised plan was found sufficient by UDWR.

The permit regulations explicitly require the Oil, Gas and Mining Division to determine the scope and level of detail of fish and wildlife resource information "in consultation with state and federal agencies with responsibilities for fish and wildlife." UT ADC R645-301-322.100. The determination of the sufficiency of the information submitted to design the fish and wildlife protection and enhancement plan is also explicitly required to be made in consultation with state and federal agencies with responsibilities for fish and wildlife. *Id.* The Division unlawfully approved ACD's permit application without first consulting with UDWR regarding ACD's revised Sage-Grouse Habitat Mitigation Plan dated October 2009.

## VI. CONCLUSIONS AND PRAYER FOR RELIEF

For the foregoing reasons, Petitioners respectfully request this Board determine that the Division failed to follow its own regulations in approving ACD's permit application for the Coal Hollow mine and accordingly to vacate the Division's approval of ACD's permit application and enter an order denying it as inaccurate, incomplete, or both. Alternatively, Petitioners request that the Board vacate the approval decision and remand the matter to the Division to allow ACD to correct identified permit deficiencies, if it can. Petitioners further request that this Board provide such other and further relief as may be appropriate.

**Dated: November 18, 2009**

Respectfully submitted,

By:

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**EXHIBIT 1**

Table 1  
Coal Hollow  
Surface Water Baseline Monitoring Sites  
Dates of Data Collection

Water Monitoring Station	Spring 1987	Summer 1987	Fall 1987	Winter 1988	Spring 1988	Winter 1989	Spring 2005	Summer 2005	Fall 2005	Winter 2006	Spring 2006	Summer 2006	Fall 2006	Winter 2007	Spring 2007	Summer 2007	Fall 2007	Winter 2008	Spring 2008	Summer 2008	Fall 2008	Winter 2009	Spring 2009	
<b>Kanab Creek Drainage</b>																								
SW-1		7/1; 8/3	9/4; 10/26; 11/13	12/8; 1/15; 2/20	3/17		5/27		9/25; 11/03		3/31; 5/30		9/7	12/30	3/29	6/22	9/29	12/30		6/18; 8/21				5/26
SW-2	5/27	7/7; 8/10	10/29	12/16; 1/13; 2/11	3/17		5/27		9/25; 11/03		5/30		9/7		3/29	6/22	9/29			6/18; 8/21				3/19; 5/25
SW-3		7/1; 8/3	9/4; 10/26; 11/13	12/16; 1/9; 2/20	3/17		5/27		9/25; 11/03		3/31; 5/30		9/7	12/21	3/29	6/22	9/29	12/30	3/22	6/18; 8/21				3/19; 5/25
Lamb Canal							5/27		9/25		5/30				3/29	6/22	9/29			6/18				5/25
<b>Sink Valley Wash Drainage</b>																								
SW-6											3/30													3/18; 3/19
SW-7																								
SW-8		7/6; 8/6	9/17; 10/28; 11/17	12/15; 1/13; 2/17	3/21			6/18; 8/12	9/24; 11/04		5/30		9/7	12/20	3/29	6/22	9/29; 11/30			6/18; 8/21				3/19; 5/25
SW-9			10/29; 11/17	2/16	3/24						3/30									3/21				
SW-10		7/9; 8/10	9/14; 10/29; 11/17	12/16; 1/13	3/11	2/11														3/21; 3/22				
RID-1									11/4	1/8	5/29			12/21	3/28	6/21	9/29			6/18; 8/20	9/25			3/19; 5/25
<b>Lower Robinson Creek Drainage</b>																								
SW-4							5/27																	
SW-5		8/10	9/14; 10/29; 11/18	2/11	3/17		5/27				5/30		9/7				9/29			6/18; 8/21				3/19; 5/25
SW-101							5/27				3/31									3/21				3/17; 3/18; 3/20
BLM-1															3/29	6/22	9/30			7/17; 8/20				3/18; 5/20

■ = NO DATA

Winter - December, January, and February

Spring - March, April, and May

Summer - June, July, and August

Fall - September, October, and November

(Reference: Western Regional Climate Center)

Dates of data collection retrieved from DOGM electronic data base on 11/16/09

**EXHIBIT 2**

Table 2a  
Coal Hollow  
Ground Water Baseline Monitoring Sites  
Dates of Data Collection

Water Monitoring Station	Proposed Operational Monitoring	# Seasons Laboratory Quality Data	Summer	Fall	Winter	Spring	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
			1987	1987	1988	1988	2005	2005	2005	2005	2006	2006	2006	2006	2007	2007	2007	2007	2008	2008	2008	2008	2009
<b>Springs</b>																							
SP-3	YES	4	7/7; 8/7	9/16; 10/31; 11/22	12/16; 1/9; 2/15	3/24		6/18	9/24; 11/3		3/30; 5/29		9/8	12/20	3/29	6/20	9/30	12/29		6/17; 8/20			3/18; 5/24
SP-4	YES	4	7/1; 8/3	9/4				6/18	9/24; 11/3		3/30; 5/29		9/7	12/21	3/30	6/20	9/30	12/29	3/22	6/17; 8/20		12/30	3/18; 5/24
SP-5		0																					
SP-6	YES	4							9/24; 11/3		5/29		9/7	12/30	3/30	6/20	9/30	12/30		6/17; 8/20			3/18; 5/24
SP-8	YES	4					5/27		9/24; 11/4		3/31; 5/29			12/30; 1/15	3/29	6/21	9/30	12/30	3/22	6/18; 8/20		12/31	3/18; 5/24
SP-14	YES	2									5/16		9/8	12/21; 1/15	3/28	6/22	9/29	12/30		6/18; 8/21			3/19; 5/25
SP-15		0									11/10				3/31; 5/16					8/21			3/20; 5/25
SP-16	YES	3							11/4	1/25	5/16; 5/29			12/30	3/29	6/22				6/18; 8/21			3/19; 5/25
SP-17		0									5/16			12/21									
SP-18		0									5/16												
SP-19	YES	0							11/4		3/31; 5/16			12/21		6/22	9/29; 11/30			6/18; 8/21			3/19; 5/25
SP-20	YES	2									3/31; 5/16			12/30; 1/15	3/29	6/22	9/29	12/30		6/18; 8/21			3/19; 5/24
SP-21		0									5/16; 5/29												5/25
SP-22	YES	0							11/10		5/16			12/21		6/22	9/30; 11/29			6/18; 8/21			3/20; 5/25
SP-23	YES	0							11/10		5/16			12/21		6/22	9/30; 11/29			6/18; 8/21			3/19; 5/24
SP-24		0							11/10		5/16			12/21		6/22	9/30; 11/29			6/18; 8/21			3/20; 5/25
SP-25		0							11/10		5/16			12/21		6/22	9/30; 11/29			6/18; 8/21			3/20; 5/25
SP-26		0							11/10		5/16			12/21		6/22	9/30; 11/29			6/18; 8/21			3/20; 5/25
SP-27		0							9/24; 11/3		5/16			12/21	3/29	6/20	9/30			6/17; 8/20; 8/27			5/24
SP-28		0						6/17	9/24; 11/3		5/16			12/21	3/30	6/20				6/17; 8/20			
SP-29		0						6/17	9/24; 11/3		5/16			12/21		6/20				6/17; 8/20			
SP-30		0						6/17	9/24; 11/3		5/16			12/21	3/30	6/20				6/17; 8/20			
SP-31		0						6/17	9/24; 11/3		5/16			12/21	3/30	6/20				6/17; 8/20			
SP-32		0						6/17	9/24; 11/3		5/16			12/21	3/30	6/20				6/17; 8/20			
SP-33	YES	4						6/18	9/24; 11/3		3/30; 5/29		9/8	12/21	3/30	6/20	9/30	12/29	3/22	6/17; 8/20		12/30	3/18; 5/24
SP-34		0									5/16; 5/29			12/20		6/20	9/30			6/17; 8/20			5/24
SP-35		0												12/21						6/22; 8/21			3/30; 5/25
SP-36		Not in DOGM Data Base																					
SP-37		0												1/2	3/30					8/20			
Sorenson	YES	4						8/12	11/4		3/31; 5/29		9/8	12/20			9/29	12/30	3/22	6/18; 8/21		12/31	3/19; 5/25

     = NO DATA  
     = Not Seasonal Water Quality Data

Notes:  
 1) Monitor stations from Appendix 7-1, Table7-1.  
 2) Dates of data collection retrieved from DOGM electronic data base on 11/16/09

Winter - December, January, and February  
 Spring - March, April, and May  
 Summer - June, July, and August  
 Fall - September, October, and November  
 (Reference: Western Regional Climate Center)

Table 2b  
Coal Hollow  
Ground Water Baseline Monitoring Sites  
Dates of Data Collection

Water Monitoring Station	Proposed Operational Monitoring	# Seasons Laboratory Quality Data	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	
			2005	2005	2005	2006	2006	2006	2006	2006	2007	2007	2007	2007	2007	2008	2008	2008	2008	2008
<b>Wells</b>																				
Y-102 (A5)	YES	4	5/27		9/24; 11/4	1/26	5/29		9/8	12/21	3/28	6/21	9/29	12/30	3/22	6/18; 8/21			3/20; 5/25	
Y-45	YES	0			11/4		5/30		9/7	12/20	3/29	6/22	9/29; 11/30			6/18; 8/21			3/19; 5/25	
Y-61	YES	4		8/12	11/4		3/31; 5/29		9/8	12/20	3/29	6/22	9/29	12/30	3/22	6/18; 8/21			12/31	3/19
Y-59		0										6/22	9/29; 11/30		3/22	6/18; 8/21			12/31	3/19; 5/25
Y-63	YES	0		6/18	9/24; 11/3		3/30; 5/16		9/8	12/21	3/30	6/20	9/30	12/29	3/22	6/17; 8/20			12/31	3/18; 5/24
Y-36	YES	0		8/12	11/4		3/31; 5/29		9/7	12/21; 1/15	3/29	6/22	9/29	12/30	3/22	6/18; 8/21				3/19; 5/25
Y-38	YES	0		6/17	9/25; 11/3		3/30; 5/30		9/8	12/21	3/30	6/21	9/29; 11/27		3/22	6/18; 8/20			12/30	3/17; 5/24
Y-98 (A1)	YES	0	5/27		9/25; 11/4	1/25	5/29		9/8	12/21	3/28	6/21	9/29; 11/29			6/18; 8/20				3/19; 5/25
Y-99 (A2)		0	5/25; 5/27		11/4		5/29		9/8	12/21	3/28	6/21	9/29; 11/29			6/18; 8/20				3/19; 5/25

**Alluvial Trenches**

SVT-01	0	4/21 - Quality data only, no flow or depth reported
SVT-02		
SVT-03	0	4/21 - Quality data only, no flow or depth reported
SVT-04		
SVT-05	0	4/21 - Quality data only, no flow or depth reported
SVT-06	0	4/21 - Quality data only, no flow or depth reported

= NO DATA  
 = Not Seasonal Water Quality Data

Notes:

- 1) Monitor stations from Appendix 7-1, Table 7-1.
- 2) Dates of data collection retrieved from DOGM electronic data base on 11/16/09

Winter - December, January, and February

Spring - March, April, and May

Summer - June, July, and August

Fall - September, October, and November

(Reference: Western Regional Climate Center)

**EXHIBIT 3**

Table 3  
Coal Hollow  
Operational and Reclamation Monitoring Sites  
Dates of Data Collection

Water Monitoring Station	# Seasons Laboratory Quality Data	# Seasons									
		Winter 2007	Spring 2007	Summer 2007	Fall 2007	Winter 2008	Spring 2008	Summer 2008	Fall 2008	Winter 2009	Spring 2009
<b>Wells</b>											
C0-18	0	1/19		6/22	9/30; 11/27		3/22	6/17; 8/21			3/17; 5/25
C0-54	0	1/19		6/22	9/30; 11/27		3/22	6/17; 8/21		12/31	3/17; 5/25
C1-24	0	1/19; 2/1		6/22	9/29	12/30		6/18; 8/20			3/17; 5/25
C2-15	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20			3/17; 5/24
C2-28	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20			3/17; 5/24
C2-40	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20			3/17; 5/24
C3-15	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20			3/17; 5/24
C3-30	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20			3/17; 5/24
C3-40	0	2/1		6/21	9/30; 11/28		3/22	6/18; 8/20			3/17; 5/24
C4-15	0	1/31		6/21	9/30; 11/28		3/22	6/18; 8/20		12/31	3/17; 5/24
C4-30	0	1/31		6/21	9/30	12/30	3/22	6/18; 8/20		12/31	3/17; 5/24
C4-50	0	1/31		6/21	9/30	12/30	3/22	6/18; 8/20		12/31	3/17; 5/24
C5-130	0		3/29	6/22	9/29	12/30	3/22	6/18; 8/20		12/31	3/19; 5/25
C7-20	0	2/1		6/21	9/30; 11/28		3/22	6/17; 8/20		12/31	3/17; 5/24
C9-15	0	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 5/24
C9-25	0	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 5/24
C9-40	0	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 5/24
LR-45	1	1/19		6/22				6/17; 8/20			3/18; 5/25
LS-28	0	1/19	3/30	6/20	9/30	12/30	3/22	6/17; 8/20		12/30	3/18; 5/24
LS-60	0	1/19	3/30	6/20	9/30	12/30	3/22	6/17; 8/20		12/30	3/18; 5/24
LS-85	2		3/30	6/20	9/30		3/22	6/17; 8/20		12/31	3/18; 5/24
SS-15	0	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 5/24
SS-30	2	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 3/18; 5/24
SS-75	0	1/31		6/21	9/30	12/30	3/22	6/17; 8/20		12/31	3/17; 5/24
UR-70	1	1/19		6/22	9/29	12/29		6/18; 8/20			3/18; 5/25

     = NO DATA  
     = Not Seasonal Water Quality Data

Notes:  
1) Monitor stations from Appendix 7-1, Table7-5 (only includes sites not evaluated in Baseline wells).  
2) Dates of data collection retrieved from DOGM electronic data base on 11/16/09

Winter - December, January, and February  
Spring - March, April, and May  
Summer - June, July, and August  
Fall - September, October, and November  
(Reference: Western Regional Climate Center)

**EXHIBIT 4**

**Table 4**  
**Coal Hollow**  
**Water Rights Baseline Data Collection**

Water Right Number	ACD Monitoring Number(s)	Seasonal Baseline Data Provided to DOGM	
		Quantity	Quantity
<b>Stream Reaches</b>			
85-162	SW-2, SW-3	YES (SW-3)	YES (SW-3)
85-303	SW-2, SW-3	YES (SW-3)	YES (SW-3)
85-608	SW-4, SW-101	NO	NO
85-463	SW-4, SW-101	NO	NO
85-209	SW-4, SW-101	NO	NO
85-210	SW-4, SW-101	NO	NO
85-458	BLM-1, SW-5	NO	NO
85-211	BLM-1, SW-5	NO	NO
85-459	BLM-1, SW-5	NO	NO
85-393	BLM-1, SW-5	NO	NO
85-213	SVWOBS-1, SVWOBS-2	NO	NO
85-387	SVWOBS-1, SVWOBS-2	NO	NO
85-388	SVWOBS-2, SW-9	NO	NO
<b>Surface Diversions</b>			
85-366	SVWOBS-1, SVWOBS-2	NO	NO
85-367	SVWOBS-2, SW-9	NO	NO
85-368	SVWOBS-2, SW-9	NO	NO
85-365	SW-8, SW-9	YES (SW-8)	NO
85-369	SVWOBS-2, SW-9	NO	NO
85-370	SVWOBS-2, SW-9	NO	NO
85-371	SVWOBS-2, SW-9	NO	NO
85-372	SVWOBS-2, SW-9	NO	NO
85-356	SVWOBS-2, SP-33, SW-9	YES (SP-33)	YES (SP-33)
<b>Springs</b>			
85-214	SP-14	YES	NO
85-350	SP-16	NO	NO
85-373	SP-40	YES	YES
85-374	SP-19	NO	NO
85-351	SP-20	NO	NO
85-352	SP-22	NO	NO
85-215	SP-23	NO	NO
85-353	SP-8	YES	YES
85-375	SP-6	YES	YES
85-355	SP-33	YES	YES
85-1011	SP-33	YES	YES
		No = 23/33	No = 25/33

Water Rights Number and ACD Monitoring Numbers From Appendix 7-1, Table 7-12

**EXHIBIT 5**

Table 5  
Coal Hollow  
Operational and Reclamation Monitoring Sites

Site	Baseline Data (Seasonal, 2 yrs)	
	Quantity	Quantity
<b>Streams</b>		
BLM-1	NO	NO
RID-1	YES	NO
SW-2	NO	NO
SW-3	YES	YES
SW-4	NO	NO
SW-5	NO	NO
SW-6	NO	NO
SW-8	YES	NO
SW-9	NO	NO
SW-101	NO	NO
<b>Springs</b>		
Sorenson	YES	YES
SP-3	YES	YES
SP-4	YES	YES
SP-6	YES	YES
SP-8	YES	YES
SP-14	YES	NO
SP-16	NO	NO
SP-19	NO	NO
SP-20	NO	NO
SP-22	NO	NO
SP-23	NO	NO
SP-33	YES	YES
<b>Wells</b>		
Y-36	YES	NO
Y-38	YES	NO
Y-45	NO	NO
Y-61	YES	YES
Y-63	YES	NO
Y-98	YES	NO
Y-102	YES	YES
C0-18	NO	NO
C0-54	NO	NO
C1-24	NO	NO
C2-15	NO	NO
C2-28	NO	NO
C2-40	NO	NO
C3-15	NO	NO
C3-30	NO	NO
C3-40	NO	NO
C4-15	NO	NO
C4-30	NO	NO
C4-50	NO	NO
C5-130	NO	NO
C7-20	NO	NO
C9-15	NO	NO
C9-25	NO	NO
C9-40	NO	NO
LR-45	NO	NO
LS-28	NO	NO
LS-60	NO	NO
LS-85	NO	NO
SS-15	NO	NO
SS-30	NO	NO
SS-75	NO	NO
UR-70	NO	NO
	NO = 38/54	NO = 45/54

**EXHIBIT 6**

0001



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter  
Governor

Dee C. Hansen  
Executive Director

Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
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Salt Lake City, Utah 84180-1203  
801-538-5340

October 13, 1988

TO: Kenneth E. May, Associate Director  
Lowell P. Braxton, Administrator  
John J. Whitehead, Permit Supervisor

FROM: Richard V. Smith, Geologist *RVS*

RE: Review of Document Entitled "Geomorphological and Sedimentological Characteristics of Sink Valley, Kane County, Utah", Nevada Electric Investment Company, Alton Coal Project, PRO/025/003, Folder #2, Kane County, Utah

The applicant, under signature of a consultant, submitted the above-referenced document for Division review. The document was not formatted for insertion into the Permit Application Package (PAP) and accordingly, is not considered to constitute a formal submittal. However, this document may, in the future, be reformatted and formally submitted for insertion into the PAP.

### Synopsis of Information Given in Submittal

The submittal provides supplementary information about Sink Valley topography and near surface stratigraphy. Nine topographic cross sections are presented in conjunction with 37 stratigraphic columns.

Stratigraphic columns were derived from 31 backhoe pits (approximately 12 feet deep) and seven outcrops along stream channels (9-21 feet of exposure). Variations in grain size, bedding and lithologic composition were identified for each column. Descriptions commonly indicate sediments are selectively sorted into clay/silt, sand or gravel units. The most prevalent lithology shown appears to be fine- to medium-grained sand.

Topographic cross sections indicate the presence of channels that are greater than 3.0 feet wide and 0.5 feet deep within Sink Valley.

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Memo to K. May, L. Braxton  
and J. Whitehead  
PRO/015/003  
October 13, 1988

### Division Determination of Sink Valley AVF

The Division utilized (ICR dated February 8, 1988) information published in U.S. Geological Survey and Utah Geological and Mineral Survey reports in conjunction with data presented in the 1982 and 1987 Permit Application Packages to positively determine, pursuant to SMC 785.19(c)(2)(i) and (ii), that Sections 19, 20, 29 and 30, T39S, R5W in Sink Valley constitute an Alluvial Valley Floor.

According to SMC 785.19(c)(2)(i) and (ii), a positive AVF determination requires Division identification of both the presence of unconsolidated stream-laid deposits holding streams and sufficient water to support agricultural activities.

The Division recognized the presence of unconsolidated stream-laid deposits holding streams by:

1. Identifying Sink Valley to be a topographic valley having channels with bankfull widths and depths that exceed 3.0 and 0.5 feet, respectively; and
2. Delineating the presence of flood plains within Sink Valley as evidenced by the occurrence of relatively smooth surfaces of land composed of alluvium.

### Analysis of Information Given in Submittal

Backhoe pit and outcrop stratigraphic data indicate most of the near surface deposits are sand sized and have been selectively sorted. These data are most plausibly interpreted to represent evidence for a fluvial system acting as the dominant transport system. Deposition predominantly occurred within and adjacent to stream channels. Accordingly, it is appropriate to lithostratigraphically define and geologically map these deposits as alluvium.

Topographic cross sections also indicate the presence of relatively smooth land surfaces and channels exceeding 3.0 feet and 0.5 feet in width and depth within Sink Valley.

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Memo to K. May, L. Braxton

and J. Whitehead

PRO/015/003

October 13, 1988

Conclusion

Information concerning near surface lithologies, surface topography and the occurrence of channels allow further verification of the previously identified occurrence of unconsolidated stream-laid deposits holding streams within Sink Valley. Consequently, these data in conjunction with irrigation information reconfirm the Division's positive determination of an alluvial valley floor occurring within Sink Valley.

djh

cc: P. Grubaugh-Littig

J. Fricke

T. Munson

H. Sauer

B. Stettler

13A/13-15

**CERTIFICATE OF SERVICE**

I hereby certify that on the 18<sup>th</sup> day of November, 2009, I served a true and correct copy of **REQUEST FOR AGENCY ACTION AND REQUEST FOR A HEARING BY PETITIONERS UTAH CHAPTER OF THE SIERRA CLUB *ET AL.*** to each of the following persons via United States first-class mail, postage pre-paid:

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Tiffany Bartz