Public Participation Summary

Nitrate Corrective Action Plan
Stipulation and Consent Order, Docket No. UGW12-04
Energy Fuels Resources (USA) Inc.
White Mesa Uranium Mill
San Juan County, Utah
September 11, 2012

TABLE OF CONTENTS

Public Participation Summary
White Mesa Uranium Mill Nitrate Corrective Action Plan
Stipulation and Consent Order, Docket No. UGW12-04
September 11, 2012

Introduction

The purpose of this document is to respond to public comments received by the Director of the Utah Division of Radiation Control (Director) regarding proposed approval of an Energy Fuels Resources (USA) Inc. Nitrate Contamination Corrective Action Plan for remediation of a chloride and nitrate plume located at the White Mesa Uranium Mill, Blanding, Utah. The Director has proposed approval of the Corrective Action Plan (with stipulations) through the issuance of a Stipulation and Consent Order, Docket No. UGW12-04. An associated Statement of Basis was also prepared with information regarding the basis for the approval.

Two sets of written comments were received from the public during the comment period which ended on Wednesday, August 22, 2012 (associated documents included as Attachment 1). Specifically, comments were received from the Ute Mountain Ute Tribe and from Energy Fuels Resources (USA) Inc. A public meeting was held on August 20, 2012 in Blanding Utah to received public comment.

Please note that Denison Mines (USA) Corp. changed its name and is now named Energy Fuels Resources (USA), Inc., which was effective July 25, 2012, and occurred during the public notice and comment process. The DRC responses use the new name, although the previous company name is used in several of the received comments. The ownership entity of the White Mesa Uranium Mill remains the same.

Comments from Celene Hawkins, Associate General Counsel, Ute Mountain Ute Tribe and H. Michael Keller, Special Counsel, Ute Mountain Ute Tribe, on August 17, 2012

The Ute Mountain Ute Tribe ("Tribe") submits the following comments regarding the Stipulation and Consent Order, Docket No. UGW12-04 ("Stipulation") and the Corrective Action Plan for Nitrate, White Mesa Uranium Mill Near Blanding, Utah, May 27, 2012 ("CAP"). The Tribe notes that it is in the process of engaging the State of Utah (including the Utah Department of Environmental Quality ("DEQ") and its Divisions) in government-to-government consultation regarding the Tribe's concerns with Denison Mines (USA) Corp.'s ("DUSA") operation of the White Mesa Mill ("WMM"). The Tribe also notes that it has filed public comments ("December 16,2011 Comments") in DUSA's pending action Radioactive Materials License Renewal DRC-045 ("RML Renewal"), and that the December 16,2011 Comments addressed the subject of the UGW 12-04 corrective action plan in the broader context of deficiencies in the proposed RML Renewal. The Tribe submits these comments as public comments pursuant to Utah Admin. Code R317-6-6.15(E) and R305-6-105(2)(a).

The Tribe has organized these comments into four major sections. Section I provides a short

introduction to Tribal concerns about groundwater contamination at the WMM facility. Section II addresses specific deficiencies in the Stipulation and CAP. Section III addresses how deficiencies in the stipulation and CAP impact Tribal comments and concerns on the renewal of DUSA's radioactive materials license. Section IV provides a bulleted list of Tribal demands on the Stipulation and CAP.

I. TRIBAL BACKGROUND AND CONCERN WITH GROUNDWATER CONTAMINATION AT THE WMM FACILITY.

The Ute Mountain Ute Tribe is a federally-recognized Indian tribe with lands located in southwestern Colorado, northwestern New Mexico, and southeast Utah. There are two Tribal communities on the Ute Mountain Ute Reservation: Towaoc, in southwestern Colorado, and White Mesa, which is located in Utah within three miles of the WMM facility. Ute Mountain Ute Tribal Members ("UMU Tribal Members") have lived on and around White Mesa for centuries and intend to do so forever.

The community of White Mesa depends on groundwater resources buried deep in the Navajo (deep confined) aquifer for its municipal (domestic) needs. UMU Tribal members also make use of the perched (shallow) aquifer near the WMM facility and near the White Mesa community. Uses of the perched (shallow) aquifer include direct uses for drinking and ceremonial use, as well as indirect uses through livestock watering and the harvesting of wildlife and plants. Because Tribal uses of the Navajo aquifer and the perched aquifer are downgradient of the WMM facility, the Tribe has a strong interest in maintaining the long-term quality of these resources and preventing short-term users like DUSA from polluting these sources.

The Tribe has serious concerns about the manner in which the WMM facility is currently operated and regulated, and the Tribe is especially concerned about DRC's enforcement of DUSA's groundwater permit. Because of these concerns, the Tribe has engaged DRC in public comment on both DUSA's groundwater permit and DUSA's radioactive materials license to express its concerns about the regulation and to propose practical and technically sound solutions to the regulatory deficiencies. See December 16,2011 Comments § III(A). Despite these efforts, the Tribe remains concerned that effective and aggressive regulatory action is not being taken to protect shallow and deep groundwater from the impacts of DUSA's operations. The Tribe was recently dismayed that DRC, on the basis of enforcement discretion, removed DUSA's compliance obligation under the groundwater permit to test the integrity of a deep drinking water supply well that is completed in the Navajo aquifer to determine if the well is providing a contamination pathway to the aquifer. See Letter from Scott Clow to Rusty Lundberg, April 23,2012, attached as Exhibit A. The testing requirement was a critical permit provision for ensuring protection of the Navajo aquifer. The Tribe also continues to be concerned with DRC's failure to take regulatory action against DUSA in response to the increasingly elevated concentrations of indicator parameters data in

monitoring well MW-22 located near the southern boundary of the WMM's monitoring network and, therefore, near the border with the White Mesa Community. Id.

DRC Response 1: As the Ute Mountain Ute Tribe is aware, on February 13, 2012 the Director issued a Notice of Enforcement Discretion (NOED) and Closeout Letter to Energy Fuels Resources (USA) Inc. for failing to perform the investigation required by Part I.H.3(a) of the Permit . The Director concluded that although Energy Fuels Resources (USA) Inc. failed to perform the required investigation, the deep aquifer in which well WW-2 is completed, was protected and enforcement discretion was appropriate for the following reasons:

1. Well WW-2 is located upgradient of the tailings cells and the Chloroform and Nitrate plumes, therefore, it is unlikely that groundwater in this well has been affected or will be affected by these sources. Attached Figure 1 shows the location of well WW-2 in relation to the tailings cells and the nitrate and chloroform plumes.

2. Well WW-2 currently provides the White Mesa Uranium Mill with water for eye wash stations and showers, is pumped several times a day, and yields about 160 gallons per minute. No contaminant issues have been identified during these pumping activities.

3. The deeper confined (Navajo) aquifer is protected due to local confining clay/shale layers above and the artesian conditions (strong upward vertical gradient) in the confined (Navajo) aquifer below.

4. Well WW-2 is required to conform to water quality and well protection regulations overseen by the Utah Division of Drinking Water (DDW). Energy Fuels Resources (USA) Inc. is required to sample the well for a number of drinking water parameters (including nitrate and chloroform) and submit the results to DDW. DDW confirmed that appropriate enforcement action, as required by State and Federal laws and regulations, will be taken if any sample results exceed the Maximum Contaminant Level (MCL) for any constituent, or if there are any detectable concentrations of VOCs observed.

In response to Ute Mountain Ute comments related to monitoring well MW-22, per DRC review of data results from 2008 through 2011, none of the monitoring parameter concentrations are increasing per review of all historic well data results. DRC notes that concentrations of uranium and nitrate are decreasing.

The Tribe supports and encourages the immediate implementation of an effective corrective action plan requiring DUSA to remediate the nitrate/chloride plume, but without relieving DUSA of its other regulatory obligations to identify and effectively control or remove

sources of groundwater contamination at the WMM. The Tribe also reiterates the sections of the December 16, 2011 Comments requesting concurrent reclamation of Tailings Cells 1,2, and 3, as this concurrent reclamation will likely provide both critical, long-term protection of groundwater near the WMM facility and the basis of a proper corrective action plan to address the nitrate/chloride plume. See December 16,2011 Comments at III(A).

The Tribe submits these comments to identify the deficiencies in the Stipulation and CAP and to request that DRC take appropriate regulatory action to protect the health and safety of the public, UMU Tribal members, and the environment.

DRC Response 2: As the Ute Mountain Ute Tribe is aware, the University of Utah conducted a study at the Energy Fuels Resources (USA) Inc. White Mesa Uranium Mill from July 17 - 26 of 2007[4]. The purpose of the University Study was to discover if elevated trace metal concentrations (such as uranium) found in certain monitoring wells at the White Mesa Uranium Mill were due to leakage from the site tailings cells.

After reviewing the May, 2008 University Study, DRC staff concluded that downgradient wells with more elevated total uranium concentrations (including well MW-22) are not due to tailings cell leakage. This conclusion was based on the following isotopic evidence.

1. Tritium Signature – The groundwater in wells MW-3, MW-3A, MW-14, MW-15, MW-22 is older and of a different origin than the tailings wastewater. This is demonstrated by the fact that water in these downgradient wells had tritium signatures in groundwater at or below the detection limit (0.3 Tritium Units), see 2008 University Report[4] p. 26. These values are more than an order of magnitude below the corresponding surface water results found in either the tailings cells or the wildlife ponds. Consequently, the groundwater in these five downgradient wells is older than water in the tailings cells, and is of a different origin than the tailings wastewater.
2. Stable Isotopes of Deuterium and Oxygen-18 in Water - the Deuterium and Oxygen-18 content of the groundwater matrix and tailings wastewater matrix was tested in all of the water sources studied. University results showed that wells MW-3, MW-3A, MW-14, MW-15, and MW-22 had Deuterium / Oxygen-18 signatures that were almost twice as negative as any of the surface water results (see 2008 University Report[4] p. 42). Consequently, groundwater in these downgradient wells had a different geochemical origin than the tailings cell wastewater.
3. Stable Isotopes on Dissolved Sulfate – The University Report evaluated two stable isotopes found on sulfate minerals dissolved in the water samples (Oxygen-18, and Sulfur-34). These samples showed that the sulfate solutes in groundwater from downgradient wells MW-3, MW-3A, MW-14, MW-15, and MW-22 had a different isotopic signature than the sulfate minerals dissolved in the tailings wastewater. In

> the case of Oxygen-18 isotopes on sulfate, the downgradient wells showed more negative values than the tailings cells wastewater. For Sulfur-34, the results were inversed, with groundwater showing more positive values than the negative values seen in the tailings wastewater (see 2008 University Report[4] p. 46). As a result, the sulfate dissolved in the downgradient wells, with elevated uranium concentrations, has a different origin than the tailings wastewater.

Based on the University Report findings, the Director is confident that constituent concentrations observed in monitoring wells MW20 and MW-22, located downgradient from the tailings cells have not been caused by leakage from the site tailings cells. Monitoring wells are in place much farther upgradient of MW-20 and MW-22, closer to the tailings cells which have been designed and constructed and are routinely monitored to provide an earlier warning of any potential tailings cell leakage into the shallow groundwater.

The DRC also requires that monitoring wells MW-20 and MW-22 be sampled quarterly for all of the constituents listed in Table 2 of the Permit even though they are not point of compliance (POC) wells. Energy Fuels Resources (USA) Inc. is required to submit the MW-20 and MW-22 results in their quarterly groundwater monitoring reports, which are reviewed by DRC staff. Although the Director does not see a significant reason to change these wells to POC wells, the Director reserves the right to revisit the status of monitoring wells MW-20 and MW-22 in the future if there is a significant change in the sampling results.

II. THE PROPOSED STIPULATION AND CAP FAIL TO MEET THE REQUIREMENTS OF UTAH ADMIN. CODE R317-6 ET SEQ.

In Sections III(A) and III(C) of its December 16, 2011 Comments, the Tribe provides a detailed analysis of its concerns with groundwater contamination at the WMM facility. That analysis includes an initial review of an earlier version of the CAP, but focuses on broader concerns with groundwater contamination and deficiencies under federal and Utah state laws governing DUSA's RML Renewal for the WMM facility. The Tribe reiterates and expands its December 16, 2011 Comments here to focus on specific deficiencies in the Stipulation and CAP under the Utah Water Quality Standards Regulations, Utah Admin. Code R317-6 et. seq.

A. THE STIPULATION AND CAP IMPROPERLY REMOVED DUSA'S RESPONSIBILITY TO IDENTIFY SOURCES OF THE CONTAMINANT PLUME UNDER UTAH ADMIN. CODE R 317-6-6.15(D)(l)(b)(5).

Under Utah Admin. Code R317-6-6.15(C), DRC may order regulated entities like DUSA to undertake a contamination investigation report that includes, among other items, "type, location and description of possible sources of the pollution at the facility." Utah Admin. Code R317-6-6.15(D)(l)(b)(5). Utah Admin. Code R317-6-6.15(C)(4) allows DRC to waive

Contamination Investigation requirements when a request for a waiver is submitted to the Director and "when the person subject to this rule demonstrates that the information that would otherwise be required is not necessary to the [Directorl's evaluation of the Contamination Investigation or Corrective Action Plan."

DRC exercised its Utah Admin. Code R317-6-6.15(C) authority in 2009 when it required DUSA to begin a nitrate contaminant investigation that included identification of possible sources of the plume. See Stipulation at p. 2. DRC and DUSA then spent more than two years engaging in submitting (DUSA) and revising (DRC) work on the contamination investigation and entering into tolling agreements to defer monetary penalties assessed to DUSA. ***See*** *id. In August of 2011, the DRC issued a review letter stating that it "will be extremely difficult for DUSA to demonstrate that the White Mesa Mill Site has not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill." See also CAP at p. 6 (DUSA recognizes that DRC "cannot eliminate" Mill activities as a potential cause, either in full or in part, of the contamination."). From that, DRC and DUSA determined that "resources will be better spent developing a CAP.. .rather than continuing with further investigations as to the source(s) of contamination." Stipulation at p. 5.*

The fact that it is difficult or expensive for DUSA to determine the source of the contaminant plume does not demonstrate that the required information on the source of the contaminant plume is not necessary for the Director's evaluation of the contamination investigation or corrective action plan. Indeed, a corrective action plan that meets the requirements of Utah Admin. Code R317-6-6.15(E) must identify the cause of the contamination, including the source, and a plan for removal or other action that produces a permanent effect on the contamination.

The lack of a continued requirement for DUSA to continue with the contaminant investigation on source identification cannot be justified using the discretion provided under Utah Admin. Code R317-6-6.15(C)(4). As a procedural matter, neither DUSA nor DRC has indicated that DUSA has requested a R317-6-6.15(C)(4) waiver or that DUSA or DRC has justified the waiver under that rule. As a more substantive matter, the Tribe asserts that source identification is still necessary to the Director's review of the CAP because DUSA has, perhaps willfully, failed to identify and investigate two likely sources of the nitrate/chloride plume: the tailings cells and the Roberts Pond area.

The Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about groundwater contamination caused by leaking liners in Tailings Cells 1,2, and 3 and the Tribe's specific concerns about corrective action on the nitrate/chloride plume. See Dec. 16, 2011 Comments III(A)(l)(a). Those comments provide detailed text and exhibits to support the Tribe's assertion that, ". ..given the evidence of chloride, nitrate, and nitrite contamination, it is likely that the liners of Tailings Cells 1,2, and 3 are currently leaking and that there is a risk of catastrophic liner failure in each of these cells." Id. at p. 7.

The December 16, 2011 Comments also address additional risks posed by alternative feed material containing solvents that are incompatible with the PVC liners in Tailings Cells l, 2, and 3. Dec. 16,201 1 Comments III(C)(l)(a). Finally, the December 16,2011 Comments provide exhibits of DRC documentation and correspondence demonstrating that, ". . .DRC understands that, give the design of the leak detection system ("LDS") in Tailings Cells 1,2, and 3, evidence of chloride, nitrate, and nitrite in the groundwater monitoring system is a "smoking gun" or "primary" indicator that the cell liners in Tailings Cells 1,2, and 3 are leaking.. ." Id. at p. 6 (emphasis supplied).

Since the Tribe submitted its December 16, 2011 Comments, DRC may have identified another potential source of the contamination: the Roberts Pond area. ***See*** *Groundwater Permit UGW37004, 3 .b(3)(e) (describing Roberts Pond and Intera Nitrate Contamination Investigation Report of December 30,2009, Report Figure 7 and identifying the Roberts Pond area approximately 300 feet from TWN-2).*

Both DRC and DUSA have admitted that, "the nitrate and chloride at the Mill site are co-extensive and appear to originally come from the same source." DUSA First Quarter 2012 Nitrate Quarterly Monitoring Report; ***see*** *also CAP at p. 12 ("chloride appears to be co-located with nitrate in groundwater at the Mill"). Given this admission, and given the December 16, 2011. Comments and evidence available to DRC indicating that the tailings cells and the Roberts Pond area are likely sources of the nitrate/chloride plume, there is no justification for DRC waiving any requirement that DUSA investigate the tailings cells and the Roberts Pond area as sources of the contamination or that DUSA begin taking interim measures to control leakage from these areas. Not only are the tailings cells and Roberts Pond area likely sources of the plume, they are likely significant sources, given their contents, size, volume, hydrostatic head and age.*

Instead, DRC should assume that Tailings Cells 1,2 and 3 and the Roberts Pond area are potential sources of the nitrate/chloride plume, unless and until DUSA provides an adequate contamination investigation report ruling them out as sources of the plume.

DRC Response 3: The Tailings Cells 1, 2 and 3 and Roberts Pond were considered as a potential source of the nitrate and chloride plume in the Energy Fuels Resources (USA) Inc. December 30, 2009 Nitrate Contaminant Investigation Report[1], as well as prior reports (Tischler , 2008[2], and Intera, 2008[3]). The investigation found that Tailings Cells 1, 2, and 3 and Roberts Pond were not a source of the contamination. Specifically, the investigation found that:

1. The highest concentrations of nitrate and chloride in the plume are in the area of monitoring wells TWN-2 and TWN-3 which are located more than 1,000 feet upgradient of the tailings cells.

2. Calculations based on conservative concentrations of nitrate in the tailings solution and nitrate concentrations in the plume (based on conservative 2 dimensional area, ft^2), and expected mixing with uncontaminated ground water would require 13,329,360 gallons of tailings solution to have discharged to the ground water table. This would have created a ground water mound of 5 ft on average across 40 acres of the site, no such mounding has been observed.

3. Results of the University of Utah Study (Solomon and Hurst, 2008[4]) indicate that the Tailings Solution has not discharged to groundwater (See Comment 4 above).

Per an October 5, 2010 DRC Notice of Additional Required Action[5] Letter signed by the Director, Energy Fuels Resources (USA) Inc. was required to investigate all on-site sources that have a high likelihood to have created/contributed to the nitrate plume.

This study was subsequently conducted through soil sampling (shallow borings to refusal) to determine nitrate and Ammonia (as N) concentrations, in comparison with area background concentrations, as measured during the study. Energy Fuels Resources was also required to investigate and/or justify potential offsite sources through the same techniques. According to the results of the study, it was determined that the Ammonia Crystal Tanks were a likely source contributing, in part or whole, to the nitrate plume. Source control of these tanks is required by Stipulation and Consent Order, UGW12-04.

Based on mass balance evaluation of data obtained during the study (including soil data obtained in the area of Roberts Pond), other sources were not found to be likely contributors. It was determined that resources would be better spent on isolation and remediation of the nitrate contamination rather than conducting additional studies related to these sources or to investigate other potential historical sources.

There is no indication that a continuing source is present. The plume concentrations of nitrate and chloride do not appear to be increasing with time. Phase II of the CAP will be evaluated for performance based on the collection of data (pump performance and plume concentrations) collected during the first five years of pumping.

There is currently no justification to delay remediation of the plume for additional source investigation.

B. THE STIPULATION AND CAP FAIL TO PROTECT THE PUBLIC OR TRIBAL MEMBER HEALTH AND THE ENVIRONMENT AS REQUIRED BY UTAH ADMIN. CODE R317-6-6.15(E)(2).

Under Utah Admin. Code R317-6-6.15(E)(2), DRC is required to ensure that the Stipulation

and CAP are "protective of the public health and the environment." The Stipulation and CAP fail to meet this regulatory requirement because they: (1) fail to require DUSA to investigate leakage from Tailings Cells 1, 2, or 3 as the source of the nitrate/chloride plume; (2) fail to require DUSA to provide a surety estimate that includes all future work and elimination of the source of the nitrate/chloride plume; and (3) fail to require DUSA to assess impacts to down-gradient water sources used by Tribal members and the general public.

1. The Stipulation and CAP Are Inadequate to Protect Public Health and the Environment Because They Fail to Require DUSA to Investigate Tailings Cells 1,2, and 3 and the Roberts Pond Area as Sources of the Nitrate/chloride Plume.

As described above, the Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about groundwater contamination caused by leaking liners in Tailings Cells 1,2, and 3 and the Tribe's specific concerns about corrective action on the Nitrate/chloride plume. See 5 II(A) supra. As also described above, DRC has consistently identified chloride and nitrate in the DUSA groundwater monitoring system as "primary" or "smoking gun" indicators of liner leakage in the tailings cells, and has confirmed the co-location of chloride and nitrate in the contamination plume. Id.

Nonetheless, DUSA states in the CAP that DUSA and DRC have concluded that there is "no known significant unaddressed currently active source" of the nitrate plume. CAP at p. 24. Using this conclusion, DUSA designed, and DRC proposes to approve, a CAP that does not require the investigation of active contamination sources like Tailings Cells 1,2, and 3 and the Roberts Pond area that could be the cause of the co-location of nitrate and chloride in the groundwater.[3]

This means that, although DRC has repeatedly documented that nitrate and chloride are primary indicators of tailing cell leakage, and although DRC and DUSA have documented a contamination plume with co-extensive nitrate and chloride contamination coming from the same source, DRC is now proposing to issue a Stipulation tiered to DUSA's CAP, which never contemplates the investigation of Tailings Cells 1, 2, and 3 or the Roberts Pond area as potential contamination sources. In doing so, DRC is not only failing to require DUSA to find the real source of the nitrate/chloride contamination plume, but is also failing to investigate or regulate potential leaks from Tailings Cells 1, 2, and 3 or the Roberts Pond area that could be releasing dangerous chemicals (including chemicals contained in alternative feed material) and radioactive materials into the groundwater table. Both failures demonstrate that the current CAP is insufficient to protect public and Tribal member health and the environment as required by Utah Admin. Code R317-6-6.15(E)(2).

DRC Response 4: See DRC Responses 2 and 3 above.

2. The Stipulation and CAP are Inadequate to Protect Public Health and the Environment

Because They Fail to Require DUSA to Provide for Costs for Phase III of the CAP and Other Phases or Corrective Action Plans Needed for Full Remediation of Groundwater Contamination at the WMM.

The Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about final reclamation and surety estimates at the White Mesa Mill. See Dec. 16, 2011Comments IV. In those comments, the Tribe provides detailed text and exhibits (including an expert's report providing several methods of calculating a reasonable surety estimate for the facility[4]) to support its assertion that DRC's minimum surety estimate for the facility is grossly insufficient to ensure adequate decontamination and decommissioning of the White Mesa Mill facility. The Tribe now asserts that DRC is exacerbating the surety estimate deficiency by only requiring DUSA to provide a surety estimate for Phases I and II of the CAP work.

The current CAP only requires DUSA to provide a surety for costs for Phases I and II of the CAP "for a period of time until [Director] approval of Phase III of the CAP to restore groundwater to the established site specific groundwater cleanup standards pursuant to UAC R317-6-6.15 before the site is transferred to the federal government for long term custody." CAP at p. 13. This means that the surety estimate for at least the first five years of the CAP will only cover remediation at the Ammonium Sulfate Crystal Storage Tanks and the near-term groundwater pumping under Phase II, and it will not include any work under Phase III, any work to address the Tailings Cells as a source of the nitrate/chloride plume, or other remediation work needed to address the groundwater contamination. As described above, the Tribe asserts that, because the plume contains co-located nitrate and chloride contamination, and because Tailings Cells 1,2, and 3 are likely active sources of nitrate and chloride contamination, there will likely be significant costs associated with Phase III and other work required to remediate groundwater contamination from the tailings cells.

In its December 16, 2011 Comments, the Tribe raised several concerns about DRC's failure to provide an adequate minimum surety estimate to DUSA, including a concern that "the operation of the WMM facility with the ultimate reclamation and surety plan to be a DOE legacy site will allow DUSA to avoid liability for environmental contamination and will allow DUSA to operate the WMM facility in a manner that poses an increased threat to both the short-term and the long-term health and safety of UMU Tribal Members December 16, 2011 Comments IV(B)(l). The Tribe reiterates that concern here, and asserts that DRC is failing to protect public health and the environment by allowing DUSA to post only a partial surety estimate on the CAP groundwater reclamation work.

DRC Response 5: The Phase II pumping performance cannot be evaluated, and a compliance timeline cannot be projected until ample data is obtained through onsite pumping and evaluation. Additionally, Phase II pumping may be the most effective long term treatment solution to remediate the plume to Utah Ground Water Standards for nitrate.

Therefore, mandatory implementation of an alternate Phase III remediation technology, prior to collection of Phase II performance data and comparisons of potential alternate Phase III remediation technologies, and collection of Phase III surety, is premature for inclusion into the Stipulation and Consent Order, UGW12-04 at this time.

The Stipulation and Consent Order, UGW12-04 D.2 requires that Energy Fuels Resources (USA) Inc. submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report unless the contamination has been removed to State Groundwater Standards (10 mg/L) within a 5 year period. The CACME Report is required in order to evaluate alternate remedial technologies and clean-up timelines against the continuation of Phase II pumping alone and to identify any changes to Phase II which can be implemented to improve the effectiveness of the remediation and accelerate the restoration timeline.

As mentioned in the Ute Mountain Ute Tribe comments, Stipulation and Consent Order, UGW12-04 D.3. requires the submission of a revised Reclamation Plan and financial surety cost estimate per the revised Stipulated Consent Agreement, UGW09-03-A[6] Part 11.E. Part 11.E requires the cost estimate to provide for all cost for Phases I and II of the CAP and anticipates a future adjustment of surety for Phase III and/or future adjustments for continuation of Phase II. Future adjustments will be reviewed by the Director to cover costs of Phase III (or continued Phase II) based on the CACME Report which is needed to calculate long term surety requirements. These actions are reasonable and protective of public health and the environment.

3. The Stipulation and CAP are Inadequate to Protect Public Health, and in Particular, Tribal Member Health, and the Environment Because the CAP Disregards Down-Gradient Uses.

The Tribe has already submitted comments and correspondence to DRC explaining the Tribe's concerns about identifying and promptly minimizing contamination pathways from the WMM facility to water resources used by Tribal members and the public. ***See*** *Dec. 16,2011 Comments § III(A)(3); Exhibit A. The Tribe is concerned here that discrepancies between DRC's Statement of Basis and the CAP in describing down-gradient water uses, and particularly Tribal down-gradient water uses, will allow DUSA to implement the phased CAP without properly protecting down-gradient uses or impacts on down-gradient public health and the environment.*

The nitrate/chloride plume addressed in the Stipulation and CAP has the potential to impact uses of the perched aquifer by Tribal members and livestock owners that occur down-gradient of the WMM facility. These uses include drinking and traditional ceremonial use and use by livestock, wildlife, and plants. The Statement of Basis recognizes some of these uses, stating that, "[d]owngradient of the mill site, the perched aquifer supports stock watering and wildlife habitat." The Statement of Basis also recognizes that the Tribal

community in White Mesa depends on the deep confined aquifer for its drinking water supply. ***See*** *id. The CAP, however, only describes uses of water up gradient of the WMM facility, and does not address protection of public and Tribal member health or the environment downgradient of the WMM facility.*

It is unclear to the Tribe why the Statement of Basis and the CAP differ so widely in addressing this important component of ensuring that the CAP protects public health and the environment. However, because neither the Stipulation nor the attached CAP adequately addresses impacts to downgradient users, the Stipulation and CAP are currently inadequate to protect public health and the environment.

DRC Response 6: The nitrate ground water withdrawal system will consist of four currently installed ground water monitoring wells: TW4-22, TW4-24, TW4-25, and TWN-2. These wells were selected based on their location within high nitrate concentrations of the plume, and also with consideration of current pumping wells and hydraulic capture zones induced by the operating chloroform remediation system. Per the CAP and as outlined in the Statement of Basis, it is anticipated that pumping these wells will flatten the hydraulic gradients within the plume, reducing rates of any potential down gradient migration of pollutants and reducing the concentration within the hydraulic capture zone of the pumping system.

The performance of the pumping system will be monitored by Energy Fuels Resources (USA) Inc. and quarterly reports will be submitted to the Director to substantiate the expected performance objectives (See the Stipulation and Consent Order, UGW12-04 Part E.3. and Part E.4 for stipulated penalty amounts if Energy Fuels Resources fails to submit quarterly reports on time or fails to meet these performance criteria). Additionally, the reports will provide continual update regarding the plume location and potential migration. Per the CAP, Energy Fuels Resources (USA) Inc. must demonstrate that the plume has been captured and is not migrating downgradient.

The Statement of Basis prepared with the Stipulation and Consent Order UGW12-04 (provided on the DRC website) provides justification as to why the CAP is appropriate and protective of public health and the environment; the Stipulation and Consent Order UGW12-04 further enforces the CAP elements through the inclusion of daily stipulated penalties.

Regarding overall protection of downstream users please also refer to DRC Responses above regarding the installed ground water monitoring network which provides for early detection of any potential contaminant release.

C. THE CAP FAILS T O PRODUCE A PERMANENT EFFECTAS REQUIRED BY UTAH ADMIN CODE R317-6-6.15(E)(4).

Under Utah Admin. Code R317-6-6.15(E)(4), DRC is required to ensure that the CAP "shall

produce a permanent effect." The CAP fails to meet this regulatory requirement because no portion of the phased approach is designed to permanently address and remove the source of the nitrate/chloride plume.

Phases I and II of the CAP are fairly limited in scope: as described in Section II(B)(l), n.3, supra, Phase I is designed to remove a contamination source that cannot be the source of the coextensive nitrate and chloride in the plume. In addition, the Tribe asserts that any analysis identifying the Ammonium Sulfate Crystal Storage Tanks as the & source of the nitrate in the plume is flawed. Based on the distance between the tanks, groundwater well locations, depths of wells, hydraulic conductivity estimates, concentrations in those wells, and recorded precipitation, it is highly unlikely that there is enough water on the land surface at the tank location to move the ammonium ions to the well locations in the time period that has been identified as a precursor to the groundwater plume and its extent. Thus, while the Tribe supports DRC requiring DUSA to remove the Ammonium Sulfate Crystal Storage Tank contamination, the Tribe reasserts that Phase I will not produce a permanent effect on the current nitrate plume because the Ammonium Sulfate Crystal Storage Tank contamination does not produce the kind of contamination or the extent of contamination identified in the nitrate/chloride plume.

Phase II of the CAP is designed as a near-term groundwater pumping regime that will target high-concentration zones in the nitrate plume. ***See*** *Statement of Basis at p. 8. Under this regime, DUSA will attempt to address the nitrate contamination by pumping contaminated groundwater from the plume to the tailings cells and by relying on natural attenuation to dilute the nitrate levels. CAP at p. 1. Although DUSA seems to anticipate that this near-term pumping of groundwater will produce a permanent effect to lower the concentration of nitrate in the plume below the CACL,* ***see*** *CAP at pp. 11-12, DRC indicates in its Statement of Basis that its order for the initial Phase III planning document is required to produce a "permanent effect" under Utah Admin. Code R317-6- 6.15E(4), Statement of Basis at pp. 9-10.*

The Tribe asserts here that DRC's order for the Phase II planning document is still insufficient to provide a permanent effect under Utah Admin. Code R317-6-6.15(E)(4) because nothing in the Stipulation or the CAP requires DUSA to do source analysis (or specifically, analysis of Tailings Cells 1,2, and 3 or the Roberts Pond area of the WMM facility as the source for the coextensive chloride and nitrate plume) or to control the potential sources in place. Given that such co-location of nitrate and chloride presents a "smoking gun" indicator of leakage from active Tailings Cells 1, 2, and 3, the Tribe asserts that Phase II, without a concurrent Phase III that includes an assessment of leakage from Tailings Cells 1,2, and 3, will fail to produce a permanent effect. ***See*** *Section II(C)(l), infra (describing further contamination problems with pumping contaminated groundwater into a leaking Tailings Cell 1,2 or 3).*

The Tribe also asserts that DRC's long (five-year) timeline on producing the Phase III planning document and the total lack of detail in the CAP or Stipulation about what will be required under Phase III make it difficult for the Tribe to evaluate whether the critical phase of the remediation plan will be sufficient to produce a permanent effect. However, given DUSAs reluctance to address the long-term plan for remediation at the WMM facility and DUSA's refusal to consider the tailings cells as sources, and given that both DUSA and DRC mention DUSA seeking an alternate corrective action concentration limit after implementing Phase II, ***see*** *Statement of Basis at p. 9 and CAP at p. 12, the Tribe is concerned that the Stipulation and CAP do not require DUSA to undertake any other Phase III work or any work addressing leakage from Tailings Cells 1, 2, and 3. Because the Stipulation and CAP have no real plan for implementing remediation work past the near-term pumping regime outlined in Phase II of the CAP, DRC has failed to ensure that the CAP will produce a permanent effect.*

DRC Response 7: See DRC Responses 2 and 3 above and DRC Response 8 below.

D. THE CAP FAILS TO MEET CORRECTIVE ACTION CONCENTRATION LIM ITS AS SPECIFIED IN UTAH ADMIN CODE R317-6-6.15(F).

Under Utah Admin. Code R317-6-6.15E(3), DRC is required to ensure that the CAP meets corrective action concentration limits specified in R317-6-6.15(F). The CAP fails to meet this regulatory requirement because Phases I and II are fundamentally flawed. Because the Tribe is concerned that DUSA will seek to meet the nitrate corrective action concentration limit by petitioning for an alternate corrective action concentration limit ("alternate CACL"), the Tribe asserts that phasing the CAP to allow DUSA to seek a higher alternate CACL instead of performing long-term remediation work is inappropriate under Utah Admin. Code R317-6-6.15(G) and R317-6-6.15(E).

1. Flaws in the Design of Phases I and II of the Corrective Action Plan Will Keep DUSA from Meeting the CACL Requirements of Utah Admin. Code R3 17-6-6,15(F).

In Sections II(B)(l), n. 3 and II(C), supra, the Tribe explains that the removal of the Ammonium Sulfate Crystal Storage Tanks is unlikely to remove the source of the nitrate plume because the nitrate is co-located with chloride, which is not present in the Ammonium Sulfate Crystal Tank contaminated soil. The Tribe asserts that, because there is another potential active source for the nitrate/chloride plume (the tailings cells), it is likely that the contamination plume will continue to exist after the completion of Phase I.

The Tribe commends DRC for requiring DUSA to begin a groundwater pumping and monitoring regime as contemplated in Phase II of the CAP. However, Phase II of the plan is not likely to allow DUSA to meet the CACL requirement for nitrate (10 mg/L). As described in Section II(C), supra, and as explained in Exhibit G of the December 16, 2011 Comments,

if Tailings Cells 1, 2, and 3 or Roberts Pond are the source of the nitrate/chloride contamination, then there will be continued leakage of nitrate/chloride into the groundwater, and at best, DUSA will have to maintain a groundwater pumping regime indefinitely to meet the CACL requirements. The Tribe notes here that continued, unremediated leaks from Tailings Cells 1, 2, and 3 could pose harder pumping and remediation challenges in the future, and will undoubtedly pose increased risk to Tribal member and public health.

The Tribe is also concerned that, without additional monitoring components, the proposed Phase II pumping could complicate the hydrologic environment and delay or prevent the correct identification of the source of the nitrate/chloride plume. See December 16, 2011 Comments, Exhibit G (describing how Phase II could mask leakage from the tailings cells). Although this could be remedied by requiring DUSA to expand the Phase II monitoring program to include the analytes in Table 2 from DUSA's groundwater discharge permit (which could allow identification of sources like the tailings cells) the current, limited monitoring program and the potential for masking the source of the pollution makes it more difficult to identify the source of the contamination and therefore less likely that DUSA will be able to meet the CACL requirement for nitrate.

Finally, the Tribe notes that, if the Phase II pumping regime allows DUSA to pump contaminated groundwater from the plume back into Tailings Cells 1,2, or 3, it is likely that the contaminated groundwater will simply cycle through leaks in those cell liners. This could be remedied by requiring DUSA to place the contaminated groundwater into cells like Tailings Cell 4a or 4b that contain modern liner technology and more advanced leak detection systems.

DRC Response 8: In accordance with Part D.2.a. of the Stipulation and Consent Order, UGW12-04, the intention of the CAP Phase II is intended to return the ground water quality to the State Ground Water Quality Standard, 10 mg/L nitrate. After five years of accumulating performance data, if the State Ground Water Quality Standards have not been attained, Energy Fuels Resources (USA) Inc. is required to evaluate if additional time will be necessary to return the groundwater to the State Water Quality Standards.

2. DRC Should Not Allow a Phased CAP that Allows DUSA to Avoid Long-Term Remediation Work by Petitioning for a Higher Alternate Corrective Action Concentration Limit Under Utah Admin. Code R3 17-6-6.15(G).

The Tribe is concerned that the phased approach to the CAP is premised upon DUSA's intent to file for an alternate CACL. See, e.g., CAP at p. 12 (noting the possibility of petitioning the Board for an alternate CACL); Statement of Basis at 9 (specifically noting the alternate CACL potential). To the extent that DRC contemplates allowing DUSA to meet the requirements of Utah Admin. Code R317-6-6.15(F) by seeking a higher alternate CACL for

nitrate contamination, the Tribe strongly protests that the granting of an alternate CACL is inappropriate under Utah Admin. Code R317-6-6.15(G) and R3 17-6-6.15(E).

Under Utah Admin. Code R317-6-6.15(G), DUSA may petition the Utah Water Quality Control Board for a higher alternate CACL. When reviewing such a request, the Board must ensure that the limit is protective of human health and the environment and that the limit uses best available technology. Utah Admin. Code R317-6-6.15(G)(l), (3). Utah Admin. Code R317-6-6.15(G)(4) requires that the alternative CACL "shall not be granted without good cause" and that the Board may consider factors in R317-6-6.15(E) when determining good cause. Under this analysis, it is clear that DUSA should not be granted an alternate CACL on the nitrate/chloride plume.

First, as explained in Section II(B), supra, the nitrate/chloride plume poses serious concerns for the protection of public health and the environment, particularly if the nitrate/chloride plume is an indicator that Tailings Cells 1,2, and 3 are leaking other chemicals and radioactive material into the groundwater. Second, the phased approach in the current CAP does not provide any assurance that DUSA will locate the source of the nitrate/chloride contamination or that DUSA will take any long-term efforts at groundwater remediation, which makes it unlikely that, without Phase III and other work, that DUSA will produce a permanent effect. ***See*** *Section II(C), supra. Therefore, the Tribe asserts that, when considering the factors in Utah Admin. Code R317-6-6.15(E)-(G), it is unreasonable for DRC to allow a phased approach to the nitrate/chloride plume remediation that relies on a petition for an alternate CACL.*

DRC Response 9: After collection of the Phase II performance evaluation Energy Fuels Resources (USA) Inc. will submit the CACME Report and must also prepare a Phase III planning document to include, a hazard assessment, an exposure assessment, and a corrective action assessment to include an evaluation of best available remedial technologies. Per *Utah Administrative Code (UAC) R317-6-6.15.D.1.d.*, if an application for Alternate Corrective Action Concentration Limits, is contemplated (as part of the Phase III planning document in this case) then such assessment "*shall include descriptions of any risk evaluation necessary to support a proposal for a standard under R317-6-6.15.F.2 or for an Alternate Corrective Action Concentration Limit.*"

The phased approach which is included in the CAP and Stipulation and Consent Order, Docket UGW12-04 requires a thorough evaluation of remedial actions to determine:

1. Evaluations of pump performance and potential improved effectiveness and associated timelines to return to compliance will show whether it is feasible to return groundwater to State Ground Water Quality Standards through Phase II pumping alone, and;

2. An evaluation of all other best available remedial technologies for consideration which would be used as Phase III compared with continuing Phase II pumping. Phase III may also include an application for Alternate Corrective Action Concentration Limits (and long term groundwater monitoring) for Director Review, as allowed by Rule (R317-6.15.G.).

The phased approach included in the Stipulation and Consent Order is in conformance with *UAC R317-6-6.15* and provides for a comprehensive evaluation for remediation and monitoring of the plume to insure protection of the public and the environment and to ensure that the remediation provides a permanent effect.

III. DEFICIENCIES IN THE CAP HEIGHTEN TRIBAL CONCERNS RAISED IN THE DECEMBER 16, 201 1 COMMENTS.

The Tribe is concerned that DRC or other DEQ divisions may argue that DEQ has addressed the Tribe's concerns about groundwater contamination raised in the December 16,2011 Comments by approving this CAP. The Tribe acknowledges that DRC has responded to some of the Tribe's recommendations (and in particular, the recommendations to require immediate groundwater pumping and to place firm and enforceable timelines on DUSA~). However, DRC has not responded to Tribal comments and concerns about leakage from Tailings Cells 1,2, and 3; failure to address .the co-location of nitrate and chloride; inadequate surety estimate minimums; and risk of widespread contamination due to the inadequate leak detection system and long timelines to complete remediation work. The Tribe demands that DRC address these issues in amending its RML Renewal and in amending this Stipulation and CAP.

DRC Response 10: See DRC Responses 2 and 3 above regarding issues relating to elimination of Tailings Cells 1, 2, and 3 as a potential source of the nitrate and chloride contamination.

No additional costs are anticipated for remediation of the chloride plume. As noted in the Ute Mountain Ute Tribe comments, the plumes are co-located. Therefore, Phase II will capture, contain and treat chloride in conjunction with the nitrate contamination. Chloride does not have an associated groundwater standard and will not affect the remediation goals of the CAP (10 mg/L Nitrate).

See DRC Response 5 above regarding surety requirements related to the CAP and potential adjustment for long term remediation costs based on performance data.

See DRC Response 6 above regarding plume capture and monitoring requirements included in the proposed CAP to control and prevent plume migration.

IV. LIST OF DEMANDS.

In addition to the demands set forth in the December 16, 2011 Comments (tabulated in Section V of that document), the Tribe sets forth the following minimum demands on this Stipulation and CAP.

- *DRC must make it clear that Phase III of the CAP is a necessary requirement (and not at the discretion of DUSA).*

DRC Response 11: See DRC Response 8 above. Energy Fuels Resources (USA) Inc. is required to submit a CACME Report within 5 years from execution of Stipulation and Consent Order UGW12-04 to evaluate Phase II, prepare a Phase III planning document, and adjust remedial actions and surety as is most beneficial.

- *DRC must require DUSA perform a new contamination investigation evaluating Tailings Cells 1, 2, and 3 and the Roberts Pond area as the source of the nitrate/chloride plume (as part of Phase III of the CAP).*

DRC Response 12: See DRC Responses 2 and 3 above. Tailings Cells 1, 2, and 3 and Roberts Pond have been eliminated as a source of the nitrate and chloride plume based on data accumulated during the contaminant investigation process and findings in the May, 2008 University Report. Therefore, there is no justification to continue the investigation.

- *DRC must require that, if DUSA is not able to rule out Tailings Cells 1, 2, and 3 as the source of the nitrate/chloride plume in the contamination investigation, DUSA must immediately begin concurrent reclamation of Tailings Cells 1,2, and 3 (as further described in the December 16,2011 Comments).*

DRC Response 13: See DRC Responses 2 and 3 above.

- *DRC must require DUSA to perform Phase III (including the contamination investigation of Tailings Cells 1, 2, and 3 as a source of the nitrate/chloride plume)* ***concurrently*** *with Phases I and II of the CAP.*

DRC Response 14: See DRC Response 5 above.

- *As part of the investigation of Tailings Cell 1,2, and 3, and as part of Phase II of the CAP,DRC must require DUSA to expand the monitoring program to include everything required in Table 2 of DUSA's groundwater permit.*

DRC Response 15: See DRC Responses 2 and 3 above. Tailings Cells 1, 2, and 3 were investigated as a source of the nitrate and chloride plume and subsequently eliminated, the Director does not see a need to continue investigation of Cells 1, 2, and 3 as a source of nitrate and chloride at this time. Energy Fuels Resources (USA) Inc. will be required to continue monitoring of wells per the requirements of the current Utah Ground Water Discharge Permit during Phase II of the CAP. This includes sample collection and analysis for compliance monitoring wells to include all parameters in Table 2.

The construction and monitoring of wells specific to nitrate (TWN wells) was to delineate the contaminant plume; and will provide for continued monitoring of nitrate and chloride to evaluate plume characteristics (including area delineation) and Phase II capture and pump performance.

- *DRC must clarify that DUSA may only place the contaminated groundwater from the Phase II pumping into cells like Tailings Cell 4a or 4b that contain modern liner technology and more advanced leak detection systems.*

DRC Response 16: See DRC Responses 2 and 3 above. Since there is no indication that Cells 1, 2, and 3 are discharging contaminants to the environment the Director does not see a basis to limit Energy Fuels Resources (USA) Inc. use of Cell 1relative to the management of the Phase II pumped groundwater.

- *DRC must reinstate the well integrity testing requirements (removed on February 13,20 12) on WW-2 to require DUSA to remove a potential contamination pathway from the plume of contamination source to the Tribal drinking water aquifer. See Exhibit A.*

DRC Response 17: See DRC Response 1 above.

- *DRC must designate MW-20 and MW-22 as point of compliance wells to evaluate downgradient movement of contamination to the south end of the WMM property. See Exhibit A.*

DRC Response 18: See DRC Response 1 above.

- *DRC must require DUSA to provide a surety estimate that covers all phases of the CAP (including the contamination investigation of Tailings Cells 1,2, and 3 and the Roberts Pond area as the source and all future remediation work on active sources). The Tribe notes here that specific recommendations in the December 16,2011 Comments on concurrent remediation of Tailings Cells 1,2, and 3 and surety estimates for the entire facility should be considered by DRC and DUSA while formulating the surety estimate on the CAP.*

DRC Response 19: See DRC Responses 2, 3, and 5 above.

Comments from Jo Ann Tischler, Director Compliance and Permitting, Energy Fuels Resources (USA) Inc. on August 22, 2012

See Attachment 2 of this Public Participation Summary for a copy of red-line strike-out changes to the Stipulation and Consent Order, UGW12-04 proposed by Energy Fuels Resources (USA) Inc.

Written Comments from Jo Ann Tischler, Director Compliance and Permitting, Energy Fuels Resources (USA) Inc. were received via e-mail on August 22, 2012 in the form of a redline strike-out of the Stipulation and Consent Order, UGW12-04 and Statement of Basis. Additional comments were transmitted to the Director on August 27, 2012 in the form of red-line strike-out of the Stipulation and Consent Order, UGW12-04 on August 27, 2012 based on a telephone conference between Division of Radiation Control staff and Energy Fuels Resources (USA) Inc. on August 27, 2012.

DRC response to these comments is included with Attachment 4 of this Public Participation Summary in the form of a revised red-line strike-out of the Stipulation and Consent Order, UGW12-04 including all changes made after the public comment period. Changes to the Statement of Basis have been made in conjunction with the revised Stipulation and Consent Order, UGW12-04.

All changes are minor in nature: A few wording changes were included to clarify certain issues and the name on the Statement of Basis and Stipulation and Consent Order, UGW12-04 was changed from Denison Mines (USA) Corp. to Energy Fuels Resources (USA) Inc.

Public Comments

August 17, 2012: Celene Hawkins, Associate General Counsel, Ute Mountain Ute Tribe, and, H. Michael Keller, Special Counsel, Ute Mountain Ute Tribe, Written Comments (Received by the Director via e-mail on August 17, 2012 and via mail on August 23, 2012).

August 22, 2012: Jo Ann Tischler, Director Compliance and Permitting, Energy Fuels Resources (USA) Inc., Redline Version of the Stipulated Consent Order, UGW12-04 (Received by the Director via e-mail on August 22, 2012)

References

[1] Denison Mines (USA) Corp., December 30, 2009, Prepared by Intera, *Nitrate Contamination Investigation Report, White Mesa Uranium Mill Site, Blanding, Utah*

[2] Denison Mines (USA) Corp., November 19, 2008, Corporate Memorandum Prepared by Jo Ann Tischler, *Preliminary Source Review Report for Nitrate in Groundwater at the White Mesa Mill*

[3] Denison Mines (USA) Corp., November, 2008, Prepared by Intera, *Plan and Schedule for Nitrate Contamination Investigation Report and Groundwater Corrective Action Plan*

[4] T. Grant Hurst and D. Kip Solomon, May 2008, Department of Geology and Geophysics, University of Utah, *Summary of work completed, data results, interpretations and recommendations for the July 2007 Sampling Event at the Denison Mines, USA, White Mesa Uranium Mill Near Blanding, Utah*

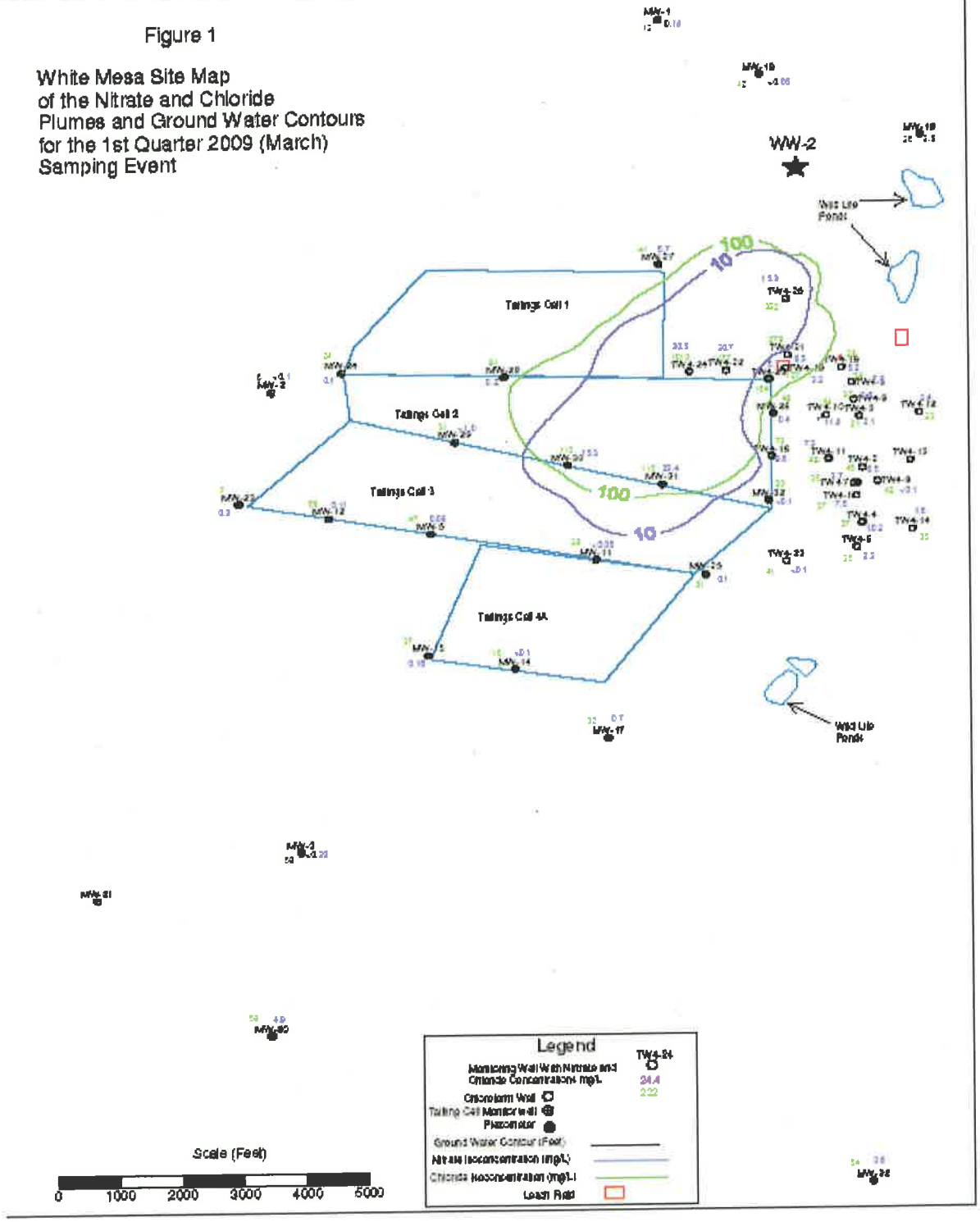
[5] Utah Division of Radiation Control, October 5, 2010, *White Mesa Uranium Mill Site Nitrate Contamination Investigation Report, December 30, 2009, Per Stipulated Consent Agreement Docket No. UGW09-03, DRC Notice of Additional Required Action*, Signed by Rusty Lundberg, Director

[6] Utah Division of Environmental Quality, Duly Executed September 30, 2011 by Rusty Lundberg (DRC Director) and David C. Frydenlund (Energy Fuels Resources USA Inc.), *Amended Stipulated Consent Agreement Docket No. UGW09-03-A*, Re: Preparation of a Nitrate Corrective Action Plan for the White Mesa Uranium Mill

Figure 1 -- Site Map of the White Mesa Uranium Mill Showing the Location of Pumping Well WW-2

Figure 1

White Mesa Site Map
of the Nitrate and Chloride
Plumes and Ground Water Contours
for the 1st Quarter 2009 (March)
Samping Event



Attachment 1 -- Summary of the Public Meeting Held in Blanding, UT on August 20, 2012

A public hearing for the Proposed Nitrate Corrective Action Plan, Stipulation and Consent Order Docket No. UGW12-04 (Order) was held at the Blanding, Utah Arts and Events Center on August 20, 2012. The meeting was held to solicit public input and comments regarding the proposed including Attachment 1 (*May 7, 2012 Energy Fuels Resources Nitrate Ground Water Corrective Action Plan for the white Mesa Uranium Recover Facility, Blanding Utah.*"

DRC Representatives Present:

Phil Goble, Manager, Compliance Section, Utah Division of Radiation Control
Tom Rushing, P.G., Compliance Section Staff, Utah Division of Radiation Control

Attendees:

Jo Ann Tischler, Energy Fuels Resources (USA) Inc.
David Turk, Energy Fuels Resources (USA) Inc.

Meeting Minutes:

Phil Goble opened the public hearing at 6:00 P.M. and provided a short presentation regarding the meeting purpose and a summary of the Order. It was noted that only two people were present in the audience, both from Energy Fuels Resources (USA) Inc. Mr. Goble asked if there were any comments that the attendees would like to make. No comments were given.

Mr. Goble reported that the public hearing would be suspended for one hour (until 7:10 P.M.) to allow for more attendees to arrive and make comments.

Mr. Goble re-convened the public hearing at 7:10 P.M. and noted that no new attendees had arrived. Mr. Goble closed the public hearing at approximately 7:15 P.M.

Public Attendance Sheet
Energy Fuels Resources (USA) Inc
Blanding, Utah
Public Meeting: August 20, 2012 (6:00-8:00)
Nitrate Corrective Action Plan

Name (Please Print)	Will You Be Making Comments? Yes / No	Organization / Affiliation Phone Number and Email Address:	Would You Like a Copy of the Public Participation Summary? Yes / No
JoAnn Tischler	No	[illegible]	Yes
David Turk	No	EPA	Yes

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF RADIATION CONTROL
NOTICE OF PUBLIC HEARING AND COMMENT PERIOD
REGARDING DRAFT STIPULATION AND CONSENT ORDER
DOCKET UGW12-04

Nitrate Ground Water Contamination Corrective Action Plan for the Denison Mines (USA) Corp. White Mesa Uranium Mill

The Utah Department of Environmental Quality, Division of Radiation Control is requesting public comment regarding a proposed Stipulation and Consent Order, Docket No. UGW12-04 to be issued to Denison Mines (USA) Corp. by the Director of the Utah Division of Radiation Control (Director). The Stipulation and Consent Order is being issued regarding Nitrate Ground Water Contamination Corrective Action at the White Mesa Uranium Mill Facility.

Facility Information:
NAME: Denison Mines (USA) Corp.
MAILING ADDRESS: 1050 17th Street, Suite 950, Denver, CO 80265
TELEPHONE NUMBER: (303) 628-7798
FACILITY LOCATION: 6 miles south of Blanding, Utah, on White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Baseline and Meridian, San Juan County, Utah

Stipulation and Consent Order Information:
The proposed Stipulation and Consent Order is being issued to approve a corrective action plan for remediation of ground water contaminated with nitrate at the White Mesa Uranium Mill in accordance with corrective actions outlined in a Denison Mines (USA) Corp. document dated May 7, 2012 titled *Corrective Action Plan for Nitrate White Mesa Mill Near Blanding, Utah*, prepared by Hydro Geo Chem, Inc. The Stipulation and Consent Order also requires additional actions prescribed to ensure conformance with the requirements of *Utah Admin. Code R317-6-6.15. Corrective Action,* which outlines the requirements for demonstration to the Director that the corrective action plan meets completeness and accuracy requirements, is protective of the public health and environment, meets all corrective action concentration limits specified by Utah Ground Water Quality Standards or alternate Corrective Action Concentration Limits, and that the corrective action produces a permanent effect.

The proposed Stipulation and Consent Order contains timelines and requirements for the Corrective Action Plan, and stipulated daily penalties if Denison Mines (USA) Corp. fails to implement and provide the required information as prescribed.

A copy of the proposed Stipulation and Consent Order, Docket UGW12-04 along with a Statement of Basis are available for review and/or copying between 8:00 a.m. and 5:00 p.m., Monday through Friday, at the Utah Division of Radiation Control Office located at 195 North 1950 West, Salt Lake City, Utah, and are also available on the Division website at: http://www.radiationcontrol.utah.gov/

A public comment period will commence on July 18, 2012 by publication of this notice on the Division of Radiation Control website, and distribution by an electronic mail server. In addition, this notice will be published in the Salt Lake Tribune, the Deseret News, and the Blue Mountain Panorama.

Public comments are invited any time prior to 5:00 p.m. on August 22, 2012. Written comments may be directed to the Division of Radiation Control, P.O. 144850, Salt Lake City, UT 84114-4850 or by email to radpublic@utah.gov. Comments sent in electronic format should be identified by putting the following in the subject line: Public Comment on White Mesa Uranium Mill Nitrate Corrective Action Plan. All comments received within the comment period will be considered for inclusion in the Stipulation and Consent Order and Corrective Action Plan.

A hearing to receive public comments will be held August 20, 2012, beginning at 6:00 p.m., at the Blanding Arts and Events Center, 715 West 200 South, Blanding, Utah.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Brooke Baker, Office of Human Resources at (801) 536-4412 (TDD 536-4414) at least 10 working days prior to close of the comment period (August 12, 2012).

Attachment 2 -- Copy of the Ute Mountain Ute Tribe August 17, 2012 Written Comments

Ute Mountain Ute Tribe

OFFICE OF THE GENERAL COUNSEL
P.O. Box 128
Towaoc, CO 81334-0128
(970) 564-5641
(970) 565-0750 Fax

August 17, 2012

Rusty Lundberg
Director
Utah Division of Radiation Control
P.O. Box 144850
Salt Lake City, Utah 84114
radpublic@utah.gov

VIA U.S. MAIL AND EMAIL

Re: Comments Regarding Denison Mines (USA) Corp., White Mesa Uranium Mill Corrective Action Plan, UGW12-04.

Dear Mr. Lundberg:

The Ute Mountain Ute Tribe ("Tribe") submits the following comments regarding the Stipulation and Consent Order, Docket No. UGW12-04 ("Stipulation") and the Corrective Action Plan for Nitrate, White Mesa Uranium Mill Near Blanding, Utah, May 27, 2012 ("CAP"). The Tribe notes that it is in the process of engaging the State of Utah (including the Utah Department of Environmental Quality ("DEQ") and its Divisions) in government-to-government consultation regarding the Tribe's concerns with Denison Mines (USA) Corp.'s ("DUSA") operation of the White Mesa Mill ("WMM"). The Tribe also notes that it has filed public comments ("December 16, 2011 Comments") in DUSA's pending action Radioactive Materials License Renewal DRC-045 ("RML Renewal"), and that the December 16, 2011 Comments addressed the subject of the UGW12-04 corrective action plan in the broader context of deficiencies in the proposed RML Renewal.[1] The Tribe submits these comments as public comments pursuant to Utah Admin. Code R317-6-6.15(E) and R305-6-105(2)(a).

The Tribe has organized these comments into four major sections. Section I provides a short introduction to Tribal concerns about groundwater contamination at the WMM facility. Section II addresses specific deficiencies in the Stipulation and CAP. Section III addresses how deficiencies in the Stipulation and CAP impact Tribal comments and concerns on the renewal of DUSA's radioactive materials license. Section IV provides a bulleted list of Tribal demands on the Stipulation and CAP.

[1] To avoid repetitive comments to the Division of Radiation Control ("DRC"), the Tribe requests that the December 16, 2011 Comments, including all exhibits, be incorporated by reference and made a part of the administrative record on this Stipulation and CAP.

I. TRIBAL BACKGROUND AND CONCERN WITH GROUNDWATER CONTAMINATION AT THE WMM FACILITY.

The Ute Mountain Ute Tribe is a federally-recognized Indian tribe with lands located in southwestern Colorado, northwestern New Mexico, and southeast Utah. There are two Tribal communities on the Ute Mountain Ute Reservation: Towaoc, in southwestern Colorado, and White Mesa, which is located in Utah within three miles of the WMM facility. Ute Mountain Ute Tribal Members ("UMU Tribal Members") have lived on and around White Mesa for centuries and intend to do so forever.

The community of White Mesa depends on groundwater resources buried deep in the Navajo (deep confined) aquifer for its municipal (domestic) needs. UMU Tribal members also make use of the perched (shallow) aquifer near the WMM facility and near the White Mesa community. Uses of the perched (shallow) aquifer include direct uses for drinking and ceremonial use, as well as indirect uses through livestock watering and the harvesting of wildlife and plants. Because Tribal uses of the Navajo aquifer and the perched aquifer are downgradient of the WMM facility, the Tribe has a strong interest in maintaining the long-term quality of these resources and preventing short-term users like DUSA from polluting these sources.

The Tribe has serious concerns about the manner in which the WMM facility is currently operated and regulated, and the Tribe is especially concerned about DRC's enforcement of DUSA's groundwater permit. Because of these concerns, the Tribe has engaged DRC in public comment on both DUSA's groundwater permit and DUSA's radioactive materials license to express its concerns about the regulation and to propose practical and technically sound solutions to the regulatory deficiencies. *See* December 16, 2011 Comments § III(A). Despite these efforts, the Tribe remains concerned that effective and aggressive regulatory action is not being taken to protect shallow and deep groundwater from the impacts of DUSA's operations. The Tribe was recently dismayed that DRC, on the basis of enforcement discretion, removed DUSA's compliance obligation under the groundwater permit to test the integrity of a deep drinking water supply well that is completed in the Navajo aquifer to determine if the well is providing a contamination pathway to the aquifer. *See* Letter from Scott Clow to Rusty Lundberg, April 23, 2012, attached as Exhibit A. The testing requirement was a critical permit provision for ensuring protection of the Navajo aquifer. The Tribe also continues to be concerned with DRC's failure to take regulatory action against DUSA in response to the increasingly elevated concentrations of indicator parameters data in monitoring well MW-22 located near the southern boundary of the WMM's monitoring network and, therefore, near the border with the White Mesa Community. *Id.*

The Tribe supports and encourages the immediate implementation of an effective corrective action plan requiring DUSA to remediate the nitrate/chloride plume, but without relieving DUSA of its other regulatory obligations to identify and effectively control or remove sources of groundwater contamination at the WMM. The Tribe also reiterates the sections of the December 16, 2011 Comments requesting concurrent reclamation of Tailings Cells 1, 2, and 3, as this concurrent reclamation will likely provide both critical, long-term protection of groundwater near the WMM facility and the basis of a proper corrective action plan to address the nitrate/chloride plume. *See* December 16, 2011 Comments at § III(A).

The Tribe submits these comments to identify the deficiencies in the Stipulation and CAP and to request that DRC take appropriate regulatory action to protect the health and safety of the public, UMU Tribal members, and the environment.

II. THE PROPOSED STIPULATION AND CAP FAIL TO MEET THE REQUIREMENTS OF UTAH ADMIN. CODE R317-6 *ET SEQ.*

In Sections III(A) and III(C) of its December 16, 2011 Comments, the Tribe provides a detailed analysis of its concerns with groundwater contamination at the WMM facility. That analysis includes an initial review of an earlier version of the CAP, but focuses on broader concerns with groundwater contamination and deficiencies under federal and Utah state laws governing DUSA's RML Renewal for the WMM facility. The Tribe reiterates and expands its December 16, 2011 Comments here to focus on specific deficiencies in the Stipulation and CAP under the Utah Water Quality Standards Regulations, Utah Admin. Code R317-6 *et. seq.*

A. THE STIPULATION AND CAP IMPROPERLY REMOVE DUSA'S RESPONSIBILITY TO IDENTIFY SOURCES OF THE CONTAMINANT PLUME UNDER UTAH ADMIN. CODE R317-6-6.15(D)(1)(b)(5).

Under Utah Admin. Code R317-6-6.15(C), DRC may order regulated entities like DUSA to undertake a contamination investigation report that includes, among other items, "type, location and description of possible sources of the pollution at the facility." Utah Admin. Code R317-6-6.15(D)(1)(b)(5). Utah Admin. Code R317-6-6.15(C)(4) allows DRC to waive Contamination Investigation requirements when a request for a waiver is submitted to the Director and "when the person subject to this rule demonstrates that the information that would otherwise be required is not necessary to the [Director]'s evaluation of the Contamination Investigation or Corrective Action Plan."

DRC exercised its Utah Admin. Code R317-6-6.15(C) authority in 2009 when it required DUSA to begin a nitrate contaminant investigation that included identification of possible sources of the plume. *See* Stipulation at p. 2. DRC and DUSA then spent more than two years engaging in submitting (DUSA) and revising (DRC) work on the contamination investigation and entering into tolling agreements to defer monetary penalties assessed to DUSA. *See id.* In August of 2011, the DRC issued a review letter stating that it "will be extremely difficult for DUSA to demonstrate that the White Mesa Mill Site has not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill." *See also* CAP at p. 6 (DUSA recognizes that DRC "**cannot eliminate** Mill activities as a potential cause, either in full or in part, of the contamination."). From that, DRC and DUSA determined that "resources will be better spent developing a CAP…rather than continuing with further investigations as to the source(s) of contamination." Stipulation at p. 5.

The fact that it is difficult or expensive for DUSA to determine the source of the contaminant plume does not demonstrate that the required information on the source of the contaminant plume is not necessary for the Director's evaluation of the contamination investigation or corrective action plan. Indeed, a corrective action plan that meets the requirements of Utah Admin. Code R317-6-6.15(E) must identify the cause of the contamination, including the source, and a plan for removal or other action that produces a permanent effect on the contamination.

The lack of a continued requirement for DUSA to continue with the contaminant investigation on source identification cannot be justified using the discretion provided under Utah Admin. Code R317-6-6.15(C)(4). As a procedural matter, neither DUSA nor DRC has indicated that DUSA has requested a R317-6-6.15(C)(4) waiver or that DUSA or DRC has justified the waiver under that rule. As a more substantive matter, the Tribe asserts that source identification is still necessary to the Director's review of the CAP because DUSA has, perhaps willfully, failed to identify and investigate two likely sources of the nitrate/chloride plume: the tailings cells and the Roberts Pond area.

The Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about groundwater contamination caused by leaking liners in Tailings Cells 1, 2, and 3 and the Tribe's specific concerns about corrective action on the nitrate/chloride plume. *See* Dec. 16, 2011 Comments § III(A)(1)(a). Those comments provide detailed text and exhibits to support the Tribe's assertion that, "...given the evidence of chloride, nitrate, and nitrite contamination, it is likely that the liners of Tailings Cells 1, 2, and 3 are currently leaking and that there is a risk of catastrophic liner failure in each of these cells." *Id.* at p. 7. The December 16, 2011 Comments also address additional risks posed by alternative feed material containing solvents that are incompatible with the PVC liners in Tailings Cells 1, 2, and 3. Dec. 16, 2011 Comments § III(C)(1)(a). Finally, the December 16, 2011 Comments provide exhibits of DRC documentation and correspondence demonstrating that, "...**DRC understands that**, give the design of the leak detection system ("LDS") in Tailings Cells 1, 2, and 3, evidence of chloride, nitrate, and nitrite in the groundwater monitoring system is a "smoking gun" or "primary" indicator that the cell liners in Tailings Cells 1, 2, and 3 are leaking..." *Id.* at p. 6 (emphasis supplied).

Since the Tribe submitted its December 16, 2011 Comments, DRC may have identified another potential source of the contamination: the Roberts Pond area. *See* Groundwater Permit UGW37004, 3.b(3)(e) (describing Roberts Pond and Interra Nitrate Contamination Investigation Report of December 30, 2009, Report Figure 7 and identifying the Roberts Pond area approximately 300 feet from TWN-2).[2]

Both DRC and DUSA have admitted that, "the nitrate and chloride at the Mill site are coextensive and appear to originally come from the same source." DUSA First Quarter 2012 Nitrate Quarterly Monitoring Report; *see also* CAP at p. 12 ("chloride appears to be co-located with nitrate in groundwater at the Mill"). Given this admission, and given the December 16, 2011 Comments and evidence available to DRC indicating that the tailings cells and the Roberts Pond area are likely sources of the nitrate/chloride plume, there is no justification for DRC waiving any requirement that DUSA investigate the tailings cells and the Roberts Pond area as sources of the contamination or that DUSA begin taking interim measures to control leakage from these areas. Not only are the tailings cells and Roberts Pond area likely sources of the plume, they are likely significant sources, given their contents, size, volume, hydrostatic head and age.

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[2]The January 19, 2012 URS memorandum indicates that the groundwater mound under TWN-2 is not influenced by the wildlife ponds and that the groundwater mound under TWN-2 has the highest concentration of nitrate at the site, and requires DUSA to explain the historic use of the "Pond." *See* p. 3 #12, p. 4 #15; *see also* CAP at 4.3.2, paragraph 2, p. 19. It is unclear to the Tribe why DRC would speculate that a historic livestock pond absent 32 or more years in almost the same location as a chemical waste storage pond (recently re-lined due to deficiencies) would be a source, but the chemical pond would not. If, in fact, the "pond" referred to by URS is Roberts Pond, then it should be explicit and identified as a potential source of the nitrate and chloride ions.

Instead, DRC should assume that Tailings Cells 1, 2 and 3 and the Roberts Pond area are potential sources of the nitrate/chloride plume, unless and until DUSA provides an adequate contamination investigation report ruling them out as sources of the plume.

B. THE STIPULATION AND CAP FAIL TO PROTECT PUBLIC OR TRIBAL MEMBER HEALTH AND THE ENVIRONMENT AS REQUIRED BY UTAH ADMIN. CODE R317-6-6.15(E)(2).

Under Utah Admin. Code R317-6-6.15(E)(2), DRC is required to ensure that the Stipulation and CAP are "protective of the public health and the environment." The Stipulation and CAP fail to meet this regulatory requirement because they: (1) fail to require DUSA to investigate leakage from Tailings Cells 1, 2, or 3 as the source of the nitrate/chloride plume; (2) fail to require DUSA to provide a surety estimate that includes all future work and elimination of the source of the nitrate/chloride plume; and (3) fail to require DUSA to assess impacts to down-gradient water sources used by Tribal members and the general public.

1. The Stipulation and CAP Are Inadequate to Protect Public Health and the Environment Because They Fail to Require DUSA to Investigate Tailings Cells 1, 2, and 3 and the Roberts Pond Area as Sources of the Nitrate/Chloride Plume.

As described above, the Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about groundwater contamination caused by leaking liners in Tailings Cells 1, 2, and 3 and the Tribe's specific concerns about corrective action on the nitrate/chloride plume. *See* § II(A) *supra*. As also described above, DRC has consistently identified chloride and nitrate in the DUSA groundwater monitoring system as "primary" or "smoking gun" indicators of liner leakage in the tailings cells, and has confirmed the co-location of chloride and nitrate in the contamination plume. *Id.*

Nonetheless, DUSA states in the CAP that DUSA and DRC have concluded that there is "no known significant unaddressed currently active source" of the nitrate plume. CAP at p. 24. Using this conclusion, DUSA designed, and DRC proposes to approve, a CAP that does not require the investigation of active contamination sources like Tailings Cells 1, 2, and 3 and the Roberts Pond area that could be the cause of the co-location of nitrate and chloride in the groundwater.[3]

This means that, although DRC has repeatedly documented that nitrate and chloride are primary indicators of tailing cell leakage, and although DRC and DUSA have documented a contamination plume with co-extensive nitrate and chloride contamination coming from the same source, DRC is now proposing to issue a Stipulation tiered to DUSA's CAP, which never contemplates the investigation of Tailings Cells 1, 2, and 3 or the Roberts Pond area as potential contamination sources. In doing so, DRC is not only failing to require DUSA to find the real source of the nitrate/chloride contamination plume, but is also failing to investigate or regulate potential leaks from Tailings Cells 1, 2, and 3 or the Roberts Pond area that could be releasing dangerous

[3] Phase I of the CAP requires DUSA to clean contamination of the Ammonium Sulfate Crystal Storage Tanks, which do not contain chlorides (and therefore cannot explain the co-location of nitrate and chloride in the contamination plume). None of the CAP phases (including Phase III, which is supposed to provide a "comprehensive long term solution for the nitrate groundwater contamination") require DUSA to investigate the tailings cells as the source of the co-located nitrate and chloride.

chemicals (including chemicals contained in alternative feed material) and radioactive materials into the groundwater table. Both failures demonstrate that the current CAP is insufficient to protect public and Tribal member health and the environment as required by Utah Admin. Code R317-6-6.15(E)(2).

2. The Stipulation and CAP are Inadequate to Protect Public Health and the Environment Because They Fail to Require DUSA to Provide for Costs for Phase III of the CAP and Other Phases or Corrective Action Plans Needed for Full Remediation of Groundwater Contamination at the WMM.

The Tribe has already submitted extensive public comments to DRC explaining the Tribe's concerns about final reclamation and surety estimates at the White Mesa Mill. *See* Dec. 16, 2011 Comments § IV. In those comments, the Tribe provides detailed text and exhibits (including an expert's report providing several methods of calculating a reasonable surety estimate for the facility[4]) to support its assertion that DRC's minimum surety estimate for the facility is grossly insufficient to ensure adequate decontamination and decommissioning of the White Mesa Mill facility. The Tribe now asserts that DRC is exacerbating the surety estimate deficiency by only requiring DUSA to provide a surety estimate for Phases I and II of the CAP work.

The current CAP only requires DUSA to provide a surety for costs for Phases I and II of the CAP "for a period of time until [Director] approval of Phase III of the CAP to restore groundwater to the established site specific groundwater cleanup standards pursuant to UAC R317-6-6.15 before the site is transferred to the federal government for long term custody." CAP at p. 13. This means that the surety estimate for at least the first five years of the CAP will only cover remediation at the Ammonium Sulfate Crystal Storage Tanks and the near-term groundwater pumping under Phase II, and it will not include any work under Phase III, any work to address the Tailings Cells as a source of the nitrate/chloride plume, or other remediation work needed to address the groundwater contamination. As described above, the Tribe asserts that, because the plume contains co-located nitrate and chloride contamination, and because Tailings Cells 1, 2, and 3 are likely active sources of nitrate and chloride contamination, there will likely be significant costs associated with Phase III and other work required to remediate groundwater contamination from the tailings cells.

In its December 16, 2011 Comments, the Tribe raised several concerns about DRC's failure to provide an adequate minimum surety estimate to DUSA, including a concern that "the operation of the WMM facility with the ultimate reclamation and surety plan to be a DOE legacy site will allow DUSA to avoid liability for environmental contamination and will allow DUSA to operate the WMM facility in a manner that poses an increased threat to both the short-term and the long-term health and safety of UMU Tribal Members." December 16, 2011 Comments § IV(B)(1). The Tribe reiterates that concern here, and asserts that DRC is failing to protect public health and the environment by allowing DUSA to post only a partial surety estimate on the CAP groundwater reclamation work.

[4] The Tribe notes here that the expert's calculations in Exhibit H did not include calculations for groundwater remediation, although the expert recommended a "liberal allowance" for groundwater reclamation due in part to known contamination plumes like the nitrate plume. *See* Dec. 16, 2011 Comments, Exhibit H, § 3.25.

3. The Stipulation and CAP are Inadequate to Protect Public Health, and in Particular, Tribal Member Health, and the Environment Because the CAP Disregards Down-Gradient Uses.

The Tribe has already submitted comments and correspondence to DRC explaining the Tribe's concerns about identifying and promptly minimizing contamination pathways from the WMM facility to water resources used by Tribal members and the public. *See* Dec. 16, 2011 Comments § III(A)(3); Exhibit A. The Tribe is concerned here that discrepancies between DRC's Statement of Basis and the CAP in describing down-gradient water uses, and particularly Tribal down-gradient water uses, will allow DUSA to implement the phased CAP without properly protecting down-gradient uses or impacts on down-gradient public health and the environment.

The nitrate/chloride plume addressed in the Stipulation and CAP has the potential to impact uses of the perched aquifer by Tribal members and livestock owners that occur down-gradient of the WMM facility. These uses include drinking and traditional ceremonial use and use by livestock, wildlife, and plants. The Statement of Basis recognizes some of these uses, stating that, "[d]owngradient of the mill site, the perched aquifer supports stock watering and wildlife habitat." The Statement of Basis also recognizes that the Tribal community in White Mesa depends on the deep confined aquifer for its drinking water supply. *See id.* The CAP, however, only describes uses of water up gradient of the WMM facility, and does not address protection of public and Tribal member health or the environment downgradient of the WMM facility.

It is unclear to the Tribe why the Statement of Basis and the CAP differ so widely in addressing this important component of ensuring that the CAP protects public health and the environment. However, because neither the Stipulation nor the attached CAP adequately addresses impacts to downgradient users, the Stipulation and CAP are currently inadequate to protect public health and the environment.

C. THE CAP FAILS TO PRODUCE A PERMANENT EFFECT AS REQUIRED BY UTAH ADMIN. CODE R317-6-6.15(E)(4).

Under Utah Admin. Code R317-6-6.15(E)(4), DRC is required to ensure that the CAP "shall produce a permanent effect." The CAP fails to meet this regulatory requirement because no portion of the phased approach is designed to permanently address and remove the source of the nitrate/chloride plume.

Phases I and II of the CAP are fairly limited in scope: as described in Section II(B)(1), n.3, *supra*, Phase I is designed to remove a contamination source that cannot be the source of the co-extensive nitrate and chloride in the plume. In addition, the Tribe asserts that any analysis identifying the Ammonium Sulfate Crystal Storage Tanks as the sole source of the nitrate in the plume is flawed. Based on the distance between the tanks, groundwater well locations, depths of wells, hydraulic conductivity estimates, concentrations in those wells, and recorded precipitation, it is highly unlikely that there is enough water on the land surface at the tank location to move the ammonium ions to the well locations in the time period that has been identified as a precursor to the groundwater plume and its extent. Thus, while the Tribe supports DRC requiring DUSA to remove the Ammonium Sulfate Crystal Storage Tank contamination, the Tribe reasserts that Phase I will not produce a permanent effect on the current nitrate plume because the Ammonium Sulfate Crystal Storage Tank contamination does not produce the kind of contamination or the extent of contamination identified in the nitrate/chloride plume.

Phase II of the CAP is designed as a near-term groundwater pumping regime that will target high-concentration zones in the nitrate plume. *See* Statement of Basis at p. 8. Under this regime, DUSA will attempt to address the nitrate contamination by pumping contaminated groundwater from the plume to the tailings cells and by relying on natural attenuation to dilute the nitrate levels. CAP at p. 1. Although DUSA seems to anticipate that this near-term pumping of groundwater will produce a permanent effect to lower the concentration of nitrate in the plume below the CACL, *see* CAP at pp. 11-12, DRC indicates in its Statement of Basis that its order for the initial Phase III planning document is required to produce a "permanent effect" under Utah Admin. Code R317-6-6.15E(4), Statement of Basis at pp. 9-10.

The Tribe asserts here that DRC's order for the Phase III planning document is still insufficient to provide a permanent effect under Utah Admin. Code R317-6-6.15(E)(4) because nothing in the Stipulation or the CAP requires DUSA to do source analysis (or specifically, analysis of Tailings Cells 1, 2, and 3 or the Roberts Pond area of the WMM facility as the source for the co-extensive chloride and nitrate plume) or to control the potential sources in place. Given that such co-location of nitrate and chloride presents a "smoking gun" indicator of leakage from active Tailings Cells 1, 2, and 3, the Tribe asserts that Phase II, without a concurrent Phase III that includes an assessment of leakage from Tailings Cells 1, 2, and 3, will fail to produce a permanent effect. *See* Section II(C)(1), *infra* (describing further contamination problems with pumping contaminated groundwater into a leaking Tailings Cell 1, 2 or 3).

The Tribe also asserts that DRC's long (five-year) timeline on producing the Phase III planning document and the total lack of detail in the CAP or Stipulation about what will be required under Phase III make it difficult for the Tribe to evaluate whether the critical phase of the remediation plan will be sufficient to produce a permanent effect. However, given DUSA's reluctance to address the long-term plan for remediation at the WMM facility and DUSA's refusal to consider the tailings cells as sources, and given that both DUSA and DRC mention DUSA seeking an alternate corrective action concentration limit after implementing Phase II, *see* Statement of Basis at p. 9 and CAP at p. 12, the Tribe is concerned that the Stipulation and CAP do not require DUSA to undertake any other Phase III work or any work addressing leakage from Tailings Cells 1, 2, and 3. Because the Stipulation and CAP have no real plan for implementing remediation work past the near-term pumping regime outlined in Phase II of the CAP, DRC has failed to ensure that the CAP will produce a permanent effect.

D. THE CAP FAILS TO MEET CORRECTIVE ACTION CONCENTRATION LIMITS SPECIFIED IN UTAH ADMIN. CODE R317-6-6.15(F).

Under Utah Admin. Code R317-6-6.15E(3), DRC is required to ensure that the CAP meets corrective action concentration limits specified in R317-6-6.15(F). The CAP fails to meet this regulatory requirement because Phases I and II are fundamentally flawed. Because the Tribe is concerned that DUSA will seek to meet the nitrate corrective action concentration limit by petitioning for an alternate corrective action concentration limit ("alternate CACL"), the Tribe asserts that phasing the CAP to allow DUSA to seek a higher alternate CACL instead of performing long-term remediation work is inappropriate under Utah Admin. Code R317-6-6.15(G) and R317-6-6.15(E).

1. Flaws in the Design of Phases I and II of the Corrective Action Plan Will Keep DUSA from Meeting the CACL Requirements of Utah Admin. Code R317-6-6.15(F).

In Sections II(B)(1), n. 3 and II(C), *supra*, the Tribe explains that the removal of the Ammonium Sulfate Crystal Storage Tanks is unlikely to remove the source of the nitrate plume because the nitrate is co-located with chloride, which is not present in the Ammonium Sulfate Crystal Tank contaminated soil. The Tribe asserts that, because there is another potential active source for the nitrate/chloride plume (the tailings cells), it is likely that the contamination plume will continue to exist after the completion of Phase I.

The Tribe commends DRC for requiring DUSA to begin a groundwater pumping and monitoring regime as contemplated in Phase II of the CAP. However, Phase II of the plan is not likely to allow DUSA to meet the CACL requirement for nitrate (10 mg/L). As described in Section II(C), *supra*, and as explained in Exhibit G of the December 16, 2011 Comments, if Tailings Cells 1, 2, and 3 or Roberts Pond are the source of the nitrate/chloride contamination, then there will be continued leakage of nitrate/chloride into the groundwater, and at best, DUSA will have to maintain a groundwater pumping regime indefinitely to meet the CACL requirements. The Tribe notes here that continued, unremediated leaks from Tailings Cells 1, 2, and 3 could pose harder pumping and remediation challenges in the future, and will undoubtedly pose increased risk to Tribal member and public health.[5]

The Tribe is also concerned that, without additional monitoring components, the proposed Phase II pumping could complicate the hydrologic environment and delay or prevent the correct identification of the source of the nitrate/chloride plume. *See* December 16, 2011 Comments, Exhibit G (describing how Phase II could mask leakage from the tailings cells). Although this could be remedied by requiring DUSA to expand the Phase II monitoring program to include the analytes in Table 2 from DUSA's groundwater discharge permit (which could allow identification of sources like the tailings cells) the current, limited monitoring program and the potential for masking the source of the pollution makes it more difficult to identify the source of the contamination and therefore less likely that DUSA will be able to meet the CACL requirement for nitrate.

Finally, the Tribe notes that, if the Phase II pumping regime allows DUSA to pump contaminated groundwater from the plume back into Tailings Cells 1, 2, or 3, it is likely that the contaminated groundwater will simply cycle through leaks in those cell liners. This could be remedied by requiring DUSA to place the contaminated groundwater into cells like Tailings Cell 4a or 4b that contain modern liner technology and more advanced leak detection systems.

[5] The reason that nitrate and chloride are consistently cited as "primary" indicators of tailings cell leakage is due to their mobility in groundwater. If the tailings are the source of groundwater contamination, then the existing nitrate/chloride plume will be followed by metals, radionuclides and solvents, which may travel slower in the subsurface, but which are more threatening to the public and more difficult to remediate.

2. DRC Should Not Allow a Phased CAP that Allows DUSA to Avoid Long-Term Remediation Work by Petitioning for a Higher Alternate Corrective Action Concentration Limit Under Utah Admin. Code R317-6-6.15(G).

The Tribe is concerned that the phased approach to the CAP is premised upon DUSA's intent to file for an alternate CACL. *See, e.g.*, CAP at p. 12 (noting the possibility of petitioning the Board for an alternate CACL); Statement of Basis at 9 (specifically noting the alternate CACL potential). To the extent that DRC contemplates allowing DUSA to meet the requirements of Utah Admin. Code R317-6-6.15(F) by seeking a higher alternate CACL for nitrate contamination, the Tribe strongly protests that the granting of an alternate CACL is inappropriate under Utah Admin. Code R317-6-6.15(G) and R317-6-6.15(E).

Under Utah Admin. Code R317-6-6.15(G), DUSA may petition the Utah Water Quality Control Board for a higher alternate CACL. When reviewing such a request, the Board must ensure that the limit is protective of human health and the environment and that the limit uses best available technology. Utah Admin. Code R317-6-6.15(G)(1), (3). Utah Admin. Code R317-6-6.15(G)(4) requires that the alternative CACL "shall not be granted without good cause" and that the Board may consider factors in R317-6-6.15(E) when determining good cause. Under this analysis, it is clear that DUSA should not be granted an alternate CACL on the nitrate/chloride plume.

First, as explained in Section II(B), *supra*, the nitrate/chloride plume poses serious concerns for the protection of public health and the environment, particularly if the nitrate/chloride plume is an indicator that Tailings Cells 1, 2, and 3 are leaking other chemicals and radioactive material into the groundwater. Second, the phased approach in the current CAP does not provide any assurance that DUSA will locate the source of the nitrate/chloride contamination or that DUSA will take any long-term efforts at groundwater remediation, which makes it unlikely that, without Phase III and other work, that DUSA will produce a permanent effect. *See* Section II(C), *supra*. Therefore, the Tribe asserts that, when considering the factors in Utah Admin. Code R317-6-6.15(E)-(G), it is unreasonable for DRC to allow a phased approach to the nitrate/chloride plume remediation that relies on a petition for an alternate CACL.

III. DEFICIENCIES IN THE CAP HEIGHTEN TRIBAL CONCERNS RAISED IN THE DECEMBER 16, 2011 COMMENTS.

The Tribe is concerned that DRC or other DEQ divisions may argue that DEQ has addressed the Tribe's concerns about groundwater contamination raised in the December 16, 2011 Comments by approving this CAP. The Tribe acknowledges that DRC has responded to some of the Tribe's recommendations (and in particular, the recommendations to require immediate groundwater pumping and to place firm and enforceable timelines on DUSA[6]). However, DRC has **not** responded to Tribal comments and concerns about leakage from Tailings Cells 1, 2, and 3; failure to address the co-location of nitrate and chloride; inadequate surety estimate minimums; and risk of widespread contamination due to the inadequate leak detection system and long timelines to

[6] Here, the Tribe is acknowledging that DRC has placed stipulated penalties on DUSA to complete actions under the CAP. The Tribe asserts, however, that, because most of the work needed to address the nitrate contamination will occur in Phase III and in unplanned studies to address leakage from Tailings Cells 1, 2, and 3, the CAP does not contain any real timelines for full cleanup of the nitrate/chloride plume.

complete remediation work. The Tribe demands that DRC address these issues in amending its RML Renewal and in amending this Stipulation and CAP.

IV. LIST OF DEMANDS.

In addition to the demands set forth in the December 16, 2011 Comments (tabulated in Section V of that document), the Tribe sets forth the following minimum demands on this Stipulation and CAP.

- DRC must make it clear that Phase III of the CAP is a necessary requirement (and not at the discretion of DUSA).

- DRC must require DUSA perform a new contamination investigation evaluating Tailings Cells 1, 2, and 3 and the Roberts Pond area as the source of the nitrate/chloride plume (as part of Phase III of the CAP).

- DRC must require that, if DUSA is not able to rule out Tailings Cells 1, 2, and 3 as the source of the nitrate/chloride plume in the contamination investigation, DUSA must immediately begin concurrent reclamation of Tailings Cells 1, 2, and 3 (as further described in the December 16, 2011 Comments).[7]

- DRC must require DUSA to perform Phase III (including the contamination investigation of Tailings Cells 1, 2, and 3 as a source of the nitrate/chloride plume) **concurrently** with Phases I and II of the CAP.

- As part of the investigation of Tailings Cell 1, 2, and 3, and as part of Phase II of the CAP, DRC must require DUSA to expand the monitoring program to include everything required in Table 2 of DUSA's groundwater permit.

- DRC must clarify that DUSA may only place the contaminated groundwater from the Phase II pumping into cells like Tailings Cell 4a or 4b that contain modern liner technology and more advanced leak detection systems.

- DRC must reinstate the well integrity testing requirements (removed on February 13, 2012) on WW-2 to require DUSA to remove a potential contamination pathway from the plume or contamination source to the Tribal drinking water aquifer. *See* Exhibit A.

- DRC must designate MW-20 and MW-22 as point of compliance wells to evaluate downgradient movement of contamination to the south end of the WMM property. *See* Exhibit A.

- DRC must require DUSA to provide a surety estimate that covers all phases of the CAP (including the contamination investigation of Tailings Cells 1, 2, and 3 and the Roberts Pond

[7] The Tribe notes here that it has already demanded concurrent reclamation of these tailings cells in the comments for other reasons, including, but not limited to, violations of federal law, *see* December 2011 Comments at § III(B)(3), and insufficiencies in the Reclamation Plan and overall site surety estimates, *see* December 2011 Comments at § IV.

area as the source and all future remediation work on active sources). The Tribe notes here that specific recommendations in the December 16, 2011 Comments on concurrent remediation of Tailings Cells 1, 2, and 3 and surety estimates for the entire facility should be considered by DRC and DUSA while formulating the surety estimate on the CAP.

The Tribe appreciates your time and attention to these comments. If you have any questions, please do not hesitate to contact Special Counsel H. Michael Keller at (801) 237-0287, Associate General Counsel Celene Hawkins at (970) 564-5642, or Scott Clow, Environmental Programs Director, at (970) 564-5432.

Sincerely

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April 23, 2012

Rusty Lundberg
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VIA U.S. MAIL AND EMAIL

Re: Follow Up on Groundwater Issues; Denison Mines (USA) Corp. Radioactive Materials License Renewal DRC-045

Dear Mr. Lundberg:

Thank you for making time to meet with Ute Mountain Ute Tribal staff and attorneys during our recent visit to Salt Lake City. We were encouraged to see the level of State of Utah and DEQ attendance at the meetings, and we look forward to continued work and information sharing between the Tribe and the DEQ divisions. *See* attached Letter to Amanda Smith, April 23, 2012.

We thought it was important to write to you separately to provide you the Tribe's continued concerns with some of the groundwater contamination issues discussed at the staff-level meeting held after the main meeting on March 15, 2012. The Tribe anticipates these issues, as well as the other issues mentioned in the UMUT Comments (December 16, 2011), will continue to cause the Tribe concern until the DRC requires appropriate and timely action from Denison Mines (USA) Corp. ("DUSA") to respond to the Tribe's concerns.

1. Deep Water Supply Well WW-2

The Tribe has already included written comments to DRC regarding its concern with Deep Water Supply Well WW-2 serving as a contamination pathway to the Tribe's drinking water aquifer (the Navajo aquifer). *See* UMUT Comments (December 16, 2011), Section III(A)(3), page 11. At the March 15, 2012 staff-level meeting, DRC staff informed the Tribe that the WW-2 work had recently been resolved between DRC and DUSA. After that meeting, the Tribe reviewed DRC's February 13, 2012 letter to DUSA.

The Tribe is very concerned about DRC's February 13, 2012 action to use enforcement discretion to remove the requirements of Part I.H.3(a) of DUSA's groundwater permit to investigate the integrity of the well casing on WW-2. The Tribe has already justified its request for an implementation plan for periodic monitoring of the well casing by citing the well as a direct conduit to the Tribe's drinking water supply and to the communities of Bluff, Blanding, and Montezuma Creek. *See, e.g.*, Public Participation Summary Modification to Groundwater Quality Discharge Permit UGW370004, p. 13 (January 20, 2010). DRC has already "determined that because it is unknown if an annular seal exists in well WW-2, that active pumping of the supply well has the potential to draw contaminants from the shallow aquifer into the deep supply well." *Id.* at 14. DRC addressed the Tribe's concerns about WW-2 by adding Part I.H.3(a) to DUSA's groundwater permit and by "making the new requirements enforceable." *Id.* at 15. DRC has also justified its subsequent environmental analysis on groundwater issues at the White Mesa Mill by citing to the Part I.H.3(a) permit requirements. *See, e.g.*, Division of Radiation Control, Denison Mines (USA) Corp., Review of License Amendment Request and Environmental Report for Cell 4B, Safety Evaluation Report Under UAC R313-24 and UAC R317-6, p. 8-10 (April 6, 2010).

The Tribe's concerns about the integrity of the well casing on WW-2 (and the potential pathway to the Tribe's drinking water supply) have not changed since 2010. DRC has justified its choice not to use its enforcement authority against DUSA for DUSA's admitted "violation of Part I.H.3(a) of the Permit" because: (1) DRC alleges that WW-2 is upgradient of the tailings cells and the chloride and nitrate plume; (2) active well pumping will deliver contaminants back to the ground surface; and (3) WW-2 is regulated by the Division of Drinking Water ("DDW"). The first two explanations for the DRC's reversal were noted in the January 2010 Public Participation Summary that recognized the Tribe's concern over the casing and the risk to the deep aquifer as substantiated and guaranteed the well casing analysis in response to the Tribe's comments. The third explanation—that DDW regulates the well—does not remove the Tribe's concern about the integrity of the well casing. The Tribe asserts here that it is unlikely that DDW is evaluating the integrity of the well casing as a pathway to the Tribe's drinking water aquifer, and instead, DDW is likely only requiring an annual monitoring report for a limited list of water quality parameters that does not include many parameters (chloride, uranium, manganese, gross alpha, etc.) that would indicate leakage from the tailings cells. Accordingly, it appears to the Tribe that DRC had no basis to effectively remove the I.H.3(a) well casing provisions from DUSA's groundwater permit, and the Tribe asserts here that DRC should enforce DUSA's violation of Part I.H.3(a)[1] and that DRC must require DUSA to, at a minimum, immediately perform the well casing investigation work on WW-2.

[1] The Tribe notes here that, by refusing to find DUSA in violation of its groundwater permit for failing to complete the Part I.H.3(a) work, DRC continues to limit the Environmental Protection Agency's ability to make a sound business decision regarding delivery of alternative feed materials to the White Mesa Mill Facility. *See* UMUT Comments (Dec. 16, 2011), Section III(C)(3), p. 22.

2. MW-22 Fourth Quarter Results (Increasingly Elevated Concentrations of Indicator Parameters)

The Tribe already included written comments regarding excessive levels of indicator parameters in MW-22. UMUT Comments (Dec. 16, 2011), Section III(A)(1)(a), page 6 and Exhibit C. These written comments and our discussion on March 15, 2012 emphasize that the Tribe is concerned about elevated levels of indicator parameters in wells near the southern border of the WMM facility because these wells are downgradient of the tailings cells and because these wells are the closest monitoring wells to the Tribal community at White Mesa. *See* UMUT Comments (Dec. 16, 2011), Exhibit C. In its comments, the Tribe demanded that DRC conduct a source identification of MW-20 and MW-22 and that DRC designate MW-20 and MW-22 as point of compliance wells. UMUT Comments (Dec. 16, 2011), Section III(A)(1)(a), page 9.

After our March 15, 2012 meeting, the Tribe received the fourth quarter results (sampled on October 11, 2011) for MW-22. These results show increasingly elevated concentrations of indicator parameters in the well, and the concentrations of beryllium, cadmium, manganese, molybdenum, and nickel all exceed the Utah ground water quality standards. This increases the Tribe's concern that contamination originating from the tailings cells is present in the groundwater at the southern boundary of the Mill's monitoring network. Accordingly, the Tribe reiterates its comments regarding MW-22 and re-emphasizes the importance of designating MW-20 and MW-22 as point of compliance wells.

The Tribe looks forward to continued communication regarding groundwater and other issues associated with the White Mesa Mill's license renewal and the operation of the White Mesa Mill facility.

Sincerely,

Scott Clow
Environmental Programs Director
Ute Mountain Ute Tribe

Cc: Gary Hayes, Chairman, Ute Mountain Ute Tribe
Peter Ortego, General Counsel, Ute Mountain Ute Tribe
Celene Hawkins, Associate General Counsel, Ute Mountain Ute Tribe
H. Michael Keller, Special Counsel, Ute Mountain Ute Tribe
Amanda Smith, UT Department of Environmental Quality
Bryce Bird, Director, UT Division of Air Quality

Attachment 3 -- Copy of the Energy Fuels Resources (USA) Inc. August 22, 2012 Red-line Strike-out Statement of Basis and Stipulation and Consent Order, UGW12-04

Statement of Basis

Utah Division of Radiation Control
Draft Stipulation and Consent Order Docket No. UGW12-04
Nitrate Plume Corrective Action Plan for the Uranium Milling Facility
at White Mesa, South of Blanding, Utah

Denison Mines (USA) Corp.
Independence Plaza, Suite 950
1050 Seventeenth Street
Denver, CO 80265

~~July 18~~2August __, 2012

Purpose

The purpose of this Statement of Basis (SOB) is to describe the technical and regulatory basis for the proposed Stipulation and Consent Order (Order) Docket No. UGW12-04, and Denison Mines (USA) Corp. (DUSA) May 7, 2012 Ground Water Corrective Action Plan for Nitrate (CAP) concerning the nitrate plume remediation at the White Mesa Uranium Mill facility located approximately six miles south of Blanding, Utah on the White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Base and Meridian, San Juan County, Utah.

Introduction and History

The White Mesa Uranium Mill was constructed in 1979-1980 and licensed under federal regulations by the Nuclear Regulatory Commission (Source Material License SUA-1358). Initially, the facility consisted of the Mill works and one tailings disposal cell, Cell 2, which was completed in May, 1980. In June 1981, construction of a wastewater storage pond, Cell 1, was completed. Construction of a second tailings cell, Cell 3, was completed in September, 1982. Tailings disposal Cell 4A was completed in January, 1990. On September 17, 2008, Tailings disposal Cell 4A was approved to receive tailings and wastewater. On January 27, 2011, Tailings disposal Cell 4B was completed and approved to receive tailings and wastewater.

Groundwater at White Mesa is primarily found in two aquifers: a shallow unconfined aquifer, and a deep underlying confined aquifer. The shallow aquifer is found almost entirely in the Cretaceous-age Burro Canyon Formation, where groundwater is perched on the top of the underlying Jurassic-age Brushy Basin Member of the Morrison Formation. The Brushy Basin Member is about 200-400 feet thick and consists of low permeability shale and mudstone in the Blanding area (Hintze, p. 200). At White Mesa, the Brushy Basin member is about 250 feet thick (7/94 Titan Environmental Report, Fig. 1.2) and the geologic contact between these two formations is found at a depth of about 78 to 149 feet below

ground surface (bgs, see 9/6/02 IUC map submittal). The water table in the perched aquifer is found at shallow depths, and discharges to seeps and springs along the margin of White Mesa. Upgradient to the mill site, the perched aquifer is used for drinking water, stock watering, and irrigation. Downgradient of the mill site, the perched aquifer supports stock watering and wildlife habitat.

The deep confined aquifer under White Mesa is found in the Entrada Sandstone and underlying Navajo Sandstones. IUC/DUSA estimates the top of the Entrada Sandstone at the site is found at a depth of more than 1,150 ft bgs (7/94 Titan Environmental Report, Fig 2.3). This deep aquifer is hydraulically isolated from the shallow perched aquifer by at least two (2) shale members of the Morrison Formation, including the Brushy Basin (~295 feet thick) and the Recapture (~120 feet thick) Members (ibid., 1.2). Other formations are also found between the perched and deep confined aquifers, that also include many layers of thin inter bedded shale that contribute to the hydraulic isolation of the shallow and deep groundwater systems, including: the Morrison Formation Westwater Canyon (~120 feet thick) and Salt Wash (~120 feet thick) Members, and the Summerville Formation (~100 feet thick) [ibid]. Artesian groundwater conditions found in the deep Entrada/Navajo Sandstone aquifer display a pressurized system which reinforces the concept of hydraulic isolation from the shallow perched system. Regionally, the deep confined aquifer is the primary drinking water supply, and must be protected from pollution sources. A few miles south of the mill site, the Ute Mountain Ute Tribe community depends on this deep confined aquifer for drinking water.

Nitrate contamination of the shallow groundwater aquifer (Burro Canyon) was originally detected by Utah Division of Radiation Control (DRC) staff during preparation of a Permit Modification and review of the White Mesa Uranium Mill Quarterly Ground Water Reports. The initial DRC action was to issue DUSA a written request for a "*Voluntary Plan and Schedule to Investigate and Remediate Nitrate Contamination*" by letter dated September 30, 2008. In response to the September 30, 2008 request, DUSA submitted a "*Plan and Schedule for Nitrate Contamination Investigation Report and Groundwater Corrective Action Plan*" dated November 19, 2008.

Subsequent to the DUSA November 19, 2008 Report, the follow actions took place,

Document/Meeting Date	Author / Event	Document/Meeting Summary
1/27/2009	DRC/DUSA	The Director of the Utah Division of Radiation Control (DIRECTOR)[1] and DUSA entered into a Stipulated Consent Agreement, Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water beneath and in the vicinity of the White Mesa

[1] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Document/Meeting Date	Author / Event	Document/Meeting Summary
		Uranium Mill
12/1/2009	DRC Letter	The DIRECTOR issued DUSA a letter noting that elevated chloride concentrations exist, apparently coincident with elevated nitrate concentrations.
12/30/2009	DUSA Report	DUSA submitted to the DIRECTOR a Nitrate and Chloride Contaminant Investigation Report, prepared by their consultant INTERA, Inc.
10/5/2010	DRC Letter	The DIRECTOR issued a Notice of Additional Required Action (NARA) letter that notified DUSA of the DIRECTOR'S determination that the 2009 CIR was incomplete.
12/20/2010	DRC/DUSA Tolling Agreement	DUSA and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA
2/18/2011	DUSA Plan and Schedule	Pursuant to the Tolling Agreement (Rev. 0), DUSA submitted a Plan and Schedule
3/21/2011	DRC Comments	The DIRECTOR provided comments to DUSA regarding the Plan and Schedule
4/20/2011	DRC/DUSA Meeting	DUSA and the DIRECTOR agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study.
4/28/2011	DRC/DUSA Tolling Agreement	DUSA and the DIRECTOR entered into a Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting.
5/6/2011	DUSA	Pursuant to the Tolling Agreement (Rev. 1), DUSA submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation
5/11/2011	DRC Comments	The DIRECTOR provided comments to DUSA regarding the May 6, 2011 Work Plan

Document/Meeting Date	Author / Event	Document/Meeting Summary
May and June 2011	DUSA Fieldwork	All comments were resolved, and DUSA conducted field and laboratory work for the Phase 1A-C study
6/3/2011	DUSA Work Plan	Pursuant to the Tolling Agreement (Rev. 1), DUSA submitted a Revised Phase 2 through 5 Work Plan and Schedule
6/23/2011	DRC Comments	The DIRECTOR provided comments to DUSA regarding the June 3, 2011 Work Plan
6/30/2011	DRC/DUSA Tolling Agreement	DUSA and the DIRECTOR entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011.
7/1/2011	DUSA Work Plan	DUSA submitted a detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 of the investigation.
7/7/2011	DRC Comments	The DIRECTOR provided comments to DUSA regarding the July 1, 2011 Work Plan
7/12/2011	DUSA Revised Work Plan	DUSA provided a revised July 12, 2011 Phase 2 QAP and Work Plan
7/18/2011	DRC	The DIRECTOR provided DUSA a letter of conditional approval for the Jule 12, 2011 Phase 2 Work Plan
8/1/2011	DUSA	DUSA submitted preliminary laboratory results for Phase 1A through 1C of the study.
8/4/2011	DUSA Work Plan	DUSA provided a revision to the Phase 2 – 5 Work Plan
8/11/2011	DRC Comments	The DIRECTOR provided DUSA comments regarding the August 1, 2011 laboratory results and August 4, 2011 Phase 2 – 5 Work Plan.
8/18/2011	DUSA Work Plan	DUSA submitted a revised Phase 2 – 5 Work Plan
8/25/2011	DRC Review Letter	The DIRECTOR advised DUSA that based on deficiencies in the Phase 2-5 Work Plan and based on review of the preliminary laboratory results it "will be extremely difficult for DUSA to demonstrate that the White Mesa Mill Site has not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill."

At a meeting between DUSA and DRC representatives on August 29, 2011, to discuss the

DIRECTORS's August 25, 2011, findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward, the parties agreed to the following:

a) After over two years of investigation it had been determined that there are site conditions that make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the potential various nitrate and chloride source(s) ~~at the White Mesa site~~;
b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;
c) The DIRECTOR and DUSA agreed that activities related to the White Mesa Nitrate CIR would cease and that conclusions regarding the causation and attribution of nitrate and chloride ground water contamination source(s) would be left undetermined.
d) The DIRECTOR has determined that a CAP is required at the DUSA White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);
e) DUSA agreed to develop and implement a CAP after receiving DIRECTOR approval.

On August 21, 2011, DUSA and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring DUSA to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

On September 30, 2011, the DIRECTOR and DUSA entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for DUSA to submit a Nitrate Contamination Corrective Action Plan (CAP) for DIRECTOR approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA, the Utah Code Annotated, and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

DUSA submitted a November 30, 2011, Nitrate CAP for DIRECTOR review and approval in accordance with the SCA UGW09-03-A. The On January 19, 2012, the DIRECTOR submitted comments and additional required information regarding the November 30, 2011 CAP to DUSA via URS Memorandum and cover letter. It was agreed by DUSA and the DIRECTOR that a revised CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before February 27, 2012

DUSA submitted a February 27, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. The DIRECTOR submitted comments and additional required information regarding the February 27, 2012 Nitrate CAP to DUSA on March 19, 2012 via URS Memorandum and cover letter. It was agreed by DUSA and the DIRECTOR that a revised

CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before May 7, 2012

DUSA submitted a May 7, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

Summary of Stipulation and Consent Order UGW12-04

The Order is organized into 6 sections as summarized below:

A - STATUTORY AUTHORITY

This section cites laws (Utah Code Annotated) and rules (Utah Administrative Code) which provide the legal basis for issuing the order and legal definitions allowing the Director of the Utah Division of Radiation Control to issue orders which enforce the Water Quality Act and associated rules and permits.

B - APPLICABLE STATUTORY AND REGULATORY PROVISIONS

This section cites the applicable statutes and regulations under which the order is promulgated. Code Annotated 19-5-107(1)(a), Utah Admin. Code R317-6-6.15, and Stipulated Consent Agreement Docket Number UGW09-03A are cited in this section. The Stipulated Consent Agreement specifically required DUSA to submit a Nitrate CAP for DIRECTOR review and approval and outlined that the CAP approval process would be achieved through the issuance of a future consent order by the DIRECTOR.

C - FINDINGS OF FACT

This section provides the history of the nitrate contamination at the White Mesa Uranium Mill, contaminant investigation activities, previous agreements, tolling orders, timelines, etc. This is to provide an understanding of the history, agreements and regulatory and legal provisions leading up to the Order.

D - ORDER

The Order consists of three items for mandatory implementation by DUSA:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein. A

summary of the CAP is included below; also, a copy of the CAP will be attached to the Order.

2. Five (5) years from the effective date of the Order DUSA must submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the DRC that will include:

   a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;
   b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;
   c) Preparation of a Phase III planning document including, if necessary, a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

   In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must to be certified by a Utah Licensed Professional Engineer or Geologist, and exposed to public notice and comment before DIRECTOR approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for DIRECTOR review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E - STIPULATED PENALTIES

The Order provides future penalties (economic incentives) for DUSA to comply with the terms of the CAP, five (5) year performance evaluation, and, surety adjustment requirements.

The Order specifies daily stipulated penalties in the event that DUSA fails to provide data in compliance with quality objectives outlined in the CAP and/or facility Quality Assurance Plan; fails to provide reports or CAP objectives according to specified timelines; or fails to provide performance objectives as outlined in the CAP. These stipulated penalties are included as 12 numbered items in the Order and are based on Utah Admin. Code R317-1-8-8.3 daily penalty categories and, as deemed appropriate, based on the nature of the potential violation. The inclusion of stipulated penalties provides incentive for DUSA to comply with all elements of the CAP and Order within the specified timelines.

F - NOTICE

The Order clarifies that additional penalties will apply for submitting false information or for violations of the Water Quality Act or the Order according to statutory maximums of $10,000 per day or $25,000 per day (willfulness or gross negligence).

Summary of the May 7, 2012 CAP Content / Requirements

The May 7, 2012 CAP is structured to provide control and remediation of the Nitrate contamination in three phases as follows:

Phase I – Source Control for the Ammonium Sulfate Crystal Storage Tanks

Phase I includes a methodology to evaluate the physical extent of the soil contamination in the area of the ammonium sulfate crystal storage tanks and provide a concrete cover to prevent infiltration of surface water into the contaminated soils.

DUSA will provide soil borings (to bedrock) in the area of the ammonium sulfate crystal tanks, according to agreed upon soil background screening levels (as determined during the contaminant investigation Phase 1A) and will provide estimates of the contaminated soil volumes. Contaminated soil volumes will be removed and disposed of prior to site closure. Surety estimates will include conservative estimates of all future soil volume and disposal costs.

The construction of the concrete cover will be subject to DIRECTOR review and approval and will be constructed with a minimum thickness of six (6) inches and appropriately sloped to provide drainage away from potential infiltration/migration into contaminated soil.

DUSA will provide a plan for annual inspection, required repairs and annual documentation of the condition of the concrete cover in a revised version of the Discharge Minimization Technology Plan for the White Mesa Mill.

All soil sampling methodologies and Quality Assurance will be consistent with procedures implemented for the Phase 1A-C soils investigations employed for the nitrate contaminant investigation. The Nitrate Investigation Phase 1 work plan was dated May 13, 2011. Soil sampling will be conducted in rows successively farther away from the ammonium sulfate tanks to ~~insure that all~~ delineate the approximate lateral extent of the area~~s~~ above the approved soil screening levels for nitrate and ammonia (as N) ~~are delineated.~~

Phase II – Near Term Pumping of Contaminated Groundwater and Plume Assessment

Phase II of the CAP consists of near term ground water pumping within the high concentration areas of the nitrate plume, calculation and monitoring of hydraulic capture zones, and monitoring of nitrate concentrations within the plume inside and outside of the hydraulic capture zones as delineated by plume maps included with the CAP.

The nitrate pumping system will consist of four currently installed ground water monitoring wells: TW4-22, TW4-24, TW4-25, and TWN-2. These wells were selected based on their location within high nitrate concentrations of the plume, and also with consideration of current pumping wells and hydraulic capture zones for the chloroform remediation system. DUSA expects that pumping these wells will flatten the hydraulic gradients within the plume, reducing rates of any potential down gradient migration of pollutants and reducing the concentration within the hydraulic capture zone of the pumping system. The performance of the pumping system will be monitored by DUSA and reports will be submitted to the DIRECTOR to substantiate the expected performance objectives.

The productivities and pump rates of the nitrate system are expected to be similar to those of the chloroform pumping wells, based on comparisons of hydraulic parameters. Monitoring at wells down gradient of the capture zone will be assessed to insure that the plume is not expanding and to determine the rate of natural attenuation at monitoring wells outside of the hydraulic capture zone.

Quarterly reports will be submitted to the DIRECTOR which will include all elements of the current chloroform corrective action monitoring reports including:

1. Tabular compilations of groundwater level measured in non-pumped wells over time,
2. Water level data from pumped wells over time,
3. Running and cumulative groundwater volumes removed from each pumping well,
4. Calculation of quarterly nitrate mass removed by pumping,
5. Comparison of the current areal extent of the nitrate plume from the latest quarter with the previous reporting period, and
6. Discussion of any contingencies to be implemented.

The Order includes stipulated penalties for failing to provide the reports in compliance with the May 7, 2012 CAP and defines a due date of on or before 60 calendar days following the end of the quarter consistent with requirements of the facility Ground Water Discharge Permit.

Phase III – Long Term Nitrate Assessment and Planning

As anticipated by the Stipulated Consent Agreement Docket UGW09-03-A, the May 7 2012 CAP does not specify the details of the Phase III comprehensive long term remediation plan for the nitrate contamination. The May 7, 2012 CAP Part 7.3 commits to an evaluation of the Phase II activities following the collection of five (5) years of performance data, written to include the following:

1. Estimate of the rate of nitrate plume remediation and a potential estimation of a project timeline for remediation through the continued implementation of Phase II (and surety adjustment), or

2. Identification of changes to Phase II to improve its effectiveness or accelerate the restoration timeline, or
3. Identify whether Phase III activities, including application for potential alternate corrective action concentration limits (ACACL) may be necessary in lieu of, or in combination with, Phase II activities.

In order to eliminate ambiguity in the May 7, 2012 CAP regarding the timing and content of the Phase III implementation and timelines, the DIRECTOR has included an Order requirement for a mandatory submission of a performance evaluation of the CAP including a Phase III planning document, five (5) years from the effective date of the Order. This requirement is also discussed in the Order Summary section above.

The DIRECTOR sees this requirement as necessary in order to fulfill the requirement in Utah Admin. Code R317-6-6.15(E) that the corrective action will produce a permanent effect.

DIRECTOR Findings Required by UAC R317-6-6.15(E)

After review of the May 7, 2012 DUSA Correction Action Plan, and with consideration of all required actions included in the proposed Order, the DIRECTOR has determined the requirements of UAC R317-6-6.15(E) are met as follows:

1. Completeness and Accuracy of the Corrective Action Plan [§ 6.15(E)(1)] – The DIRECTOR has determined that the available records of groundwater and other technical information used in the development of the May 7, 2012 CAP is sufficient to support source control and a pump and treat remediation strategy for the White Mesa nitrate contamination.

2. Action Protective of Public Health and the Environment [§ 6.15(E)(2)] – The DIRECTOR has determined that the pump and treat technology proposed in the May 7, 2012 CAP, will protect public health and the environment by maintaining the nitrate plume on property owned by DUSA, and by ongoing evaluation of the plume remediation (performance standards) efficiency and future decisions related to continued nitrate plume remediation based on acquired performance data.

3. Concentration Limits [§ 6.15(E)(3)] – The groundwater cleanup concentration goals are based on the State Groundwater Quality Standards in UAC R317-6-2, Table 1. Therefore, the May 7, 2012 CAP, as proposed by DUSA, meets this rule requirement.

4. Action Produces a Permanent Effect [§ 6.15(E)(4)] – The DIRECTOR has determined that this requirements is met, in that the pump and treat technology proposed by DUSA will maintain the contamination on land owned by DUSA in the near term, and that DUSA will provide an evaluation of long term remediation, based on acquired performance data, five (5) years from the effective date of the Order.

5. Action May Use Other Additional Measures [§ 6.15(E)(5)] – The May 7, 2012 CAP includes adequate long-term monitoring, operation, and maintenance requirements to be protective of public health and the environment. Periodic review of the remediation activities for the nitrate plume will be to be provided by quarterly monitoring and reporting.

References

Denison Mines (USA) Corp., May 7, 2012 *Corrective Action Plan for Nitrate, White Mesa Uranium Mill Near Blanding, Utah*, prepared by Hydro Geo Chem, Inc.

Denison Mines (USA) Corp., May 25, 2012, *White Mesa Uranium Mill Groundwater Monitoring Quality Assurance Plan*

EPA 600/R-08/003, January 2008, *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems*

Hintze, L.F., 1988, *Geologic History of Utah*, Brigham Young University Geology Studies Special Publication 7, 202 pp.

State of Utah, Ground Water Discharge Permit, Permit No UGW370004, Denison Mines USA Corp. Uranium Milling and Tailings Disposal Facility, Blanding Utah

Titan Environmental Corporation, July 1994, *Hydrogeologic Evaluation of White Mesa Uranium Mill*

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF **Denison Mines (USA) Corporation** **1050 17th Street, Suite 950** **Denver, CO 80265**	**STIPULATION AND CONSENT ORDER** **DOCKET No. UGW12-04**

A. STATUTORY AUTHORITY

This **STIPULATION AND CONSENT ORDER (ORDER)** is issued to Denison Mines (USA) Corporation (**DUSA**) facility, by the Director of the Utah Division of Radiation Control [2] (**DIRECTOR**) under the Utah Water Quality Act, Utah Code Ann. §§ 19-5-101 to 19-5-123 (**ACT**), including sections 19-5-104, -106, -111 and -115. This **ORDER** is also issued in accordance with the Utah Administrative Procedures Act, Utah Code Ann. §§ 63G4-101 to 63G-4-601 and Administrative Procedure Rules, Utah Admin. Code (UAC) R305-6.

Under the Water Quality Act, Utah Code Title 19, Chapter 5, "Director" for purposes of groundwater quality at a facility licensed by and under the jurisdiction of the Division of Radiation Control, means the Director of the Division of Radiation Control. Utah Code Ann. § 19-5-102(6).

The **DIRECTOR** may enforce rules made by the Water Quality Board through the issuance of orders in accordance with Utah Code Ann. § 19-5-106(2)(d)

B. APPLICABLE STATUTORY AND REGULATORY PROVISIONS

1. Utah Code Ann. § 19-5-107(1)(a) requires that "Except as provided in this chapter or rules made under it, it is unlawful for any person to discharge a pollutant into waters of the state or to cause pollution which constitutes a menace to public health and welfare, or is harmful to wildlife, fish or aquatic life or impairs domestic, agricultural, industrial, recreational, or other beneficial uses of water, or to place or cause to be placed any wastes in a location where there is probable cause to believe it will cause pollution."

2. Utah Admin. Code R317-6-6.15 Corrective Action – outlines the requirements for demonstration to the **DIRECTOR** that a corrective action plan meets completeness and accuracy requirements, is protective of the public health and environment, meets all corrective action concentration limits specified by Utah Ground Water Quality Standards or alternate Corrective Action Concentration Limits, and that the corrective action produces a permanent effect.

3. The **DIRECTOR** and **DUSA** entered into a Stipulated Consent Agreement (SCA), Docket Number UGW09-03-A which was duly executed on September 30, 2011. The Stipulated Consent Agreement included a requirement that **DUSA** submit a Nitrate Contamination

[2] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and Utah Admin. Code cited therein (including R317-6-6.15) to remediate (return to compliance) ground water contaminated with nitrate at concentrations above Utah Ground Water Quality Standards at the White Mesa Uranium Mill. The Stipulated Consent Agreement additionally required updates to the White Mesa Mill Surety. Development of the Corrective Action Plan was required to be implemented in Phases as follows:

a) Phase I – to include nitrate source control for potential ground water contamination from ammonia (as N) and nitrate contaminated soil in the vicinity of the Ammonium Sulfate Crystal Tanks at the White Mesa Uranium Mill,

b) Phase II – to include near term active remediation of the ground water nitrate contamination by development, implementation, operation and monitoring requirements for a pumping well network designed to contain and hydraulically control the nitrate ground water plume to maintain concentrations at or below the Utah Groundwater Quality Standard of 10 mg/L.

c) Phase III – if Phase II has not already done so, to include a comprehensive long term solution for the ground water nitrate contamination based on an i) evaluation of the continuation of Phases I and II activities alone or in combination with monitored natural attenuation, and as necessary, ii) an evaluation of additional remediation and monitoring technologies and techniques, determination of any additional hydrogeologic characterization, groundwater contaminant travel times and directions, determination of ultimate points of exposure to the public and/or wildlife, appropriate risk analysis, cost benefit analysis; and possible development of a petition to the **DIRECTOR** for alternate corrective action concentration limits pursuant to Utah Admin. Code R317-6-615(G). The Stipulated Consent Agreement specified that Phase III of the CAP will not be determined at the outset, ~~need not include the details of Phase III~~ but may be proposed by EFR ~~until~~ at a later date, after enough data had been collected to evaluate the effectiveness of Phase II.

C. FINDINGS OF FACT

1. **DUSA** receives and processes natural uranium-bearing ores including certain specified alternate feed materials, and possesses byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee's milling operations. This facility is located approximately 6 miles south of Blanding, Utah on White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Baseline and Meridian, San Juan County, Utah (White Mesa Uranium Mill).

2. On January 27, 2009, the **DIRECTOR** and **DUSA** entered into a 2009 Stipulated Consent Agreement (2009 SCA), Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water beneath and in the vicinity of the White Mesa Uranium Mill. Part of which set forth the following requirements:

a) **DUSA** was required to submit a written Contaminant Investigation Report (CIR) for the **DIRECTOR** to review and approve. Among other things the CIR was to characterize the source(s), physical extent, transfer mechanisms and characteristics of Nitrate contamination of the shallow aquifer at the White Mesa Mill; and

b) If determined by the **DIRECTOR** that a Corrective Action Plan (CAP) were required to address and resolve the Nitrate contamination, **DUSA** would then enter into a new SCA which would require submittal of a CAP, for **DIRECTOR** review and approval. Said CAP would be required to set forth required performance standards and an implementation schedule for groundwater corrective actions.

3. Pursuant to Item 6.A of the 2009 SCA, **DUSA** submitted a CIR to the **DIRECTOR.** The CIR, dated December 30, 2009, and entitled "Nitrate Contamination Investigation Report White Mesa Uranium Mill Site Blanding, Utah" (2009 CIR) had been prepared by their consultant INTERA, INC.

4. On October 5, 2010, the **DIRECTOR** issued a Notice of Additional Required Action (NARA) letter that notified **DUSA** of the **DIRECTOR'S** determination that the 2009 CIR was incomplete and that, as a result of this determination, under Item 7.C of the 2009 SCA, **DUSA** was to remedy the omissions in the 2009 CIR.

5. On December 20, 2010, **DUSA** and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA.

6. Pursuant to the Tolling Agreement (Rev. 0), **DUSA** submitted a Plan and Schedule on February 14, 2011 and a revised Plan and Schedule on February 18, 2011, and by agreement of both parties, the **DIRECTOR** provided his comments on the revised Plan and Schedule on March 21, 2011.

7. In an April 20, 2011 meeting, **DUSA** and the **DIRECTOR** agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study, including:

a) Phase 1A through C – including geoprobe drilling, and soil sampling / analysis of soils to investigate:
a) Possible natural nitrate salt reservoir in the vadose zone (Phase 1A);
b) Potential nitrate sources in the mill site area (Phase 1B); and
c) Other potential nitrate sources (Phase 1C).

b) Phase 2 – including groundwater quality sampling and analysis of existing monitoring wells for non-isotopic analytes.

c) Phase 3 – including deep bedrock core sampling / analysis of possible nitrate reservoir and nitrate source locations, with similar objectives as Phases 1A through C.

d) Phase 4 – including stable isotopic sampling / analysis of groundwater in existing monitoring wells. Details of this investigation were to be determined at a later date, and approved by both parties.

e) Phase 5 – including stable isotopic sampling / analysis of soil/core samples, if needed.

8. On April 28, 2011, **DUSA** and the **DIRECTOR** entered into a new Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting. Under the Tolling Agreement (Rev. 1), **DUSA** agreed to submit a Revised Phase 1 (A through C) Work Plan on or before May 6, 2011 and a Revised Phase 2 through 5 Work Plan and Schedule on or before June 3, 2011.

9. Pursuant to the Tolling Agreement (Rev. 1), on May 6, 2011, **DUSA** submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation prepared by INTERA, for **DIRECTOR** review.

10. On May 11, 2011, the Utah Division of Radiation Control (DRC) e-mailed comments to **DUSA** on the May 6, 2011 Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C, which included a May 11, 2011 URS memorandum, and requested that **DUSA** resolve all DRC comments before initiation of field activities.

11. All comments were resolved, and **DUSA** conducted field and laboratory work for the Phase 1A-C study in May and June, 2011.

12. Pursuant to the Tolling Agreement (Rev. 1), **DUSA** submitted a June 3, 2011 Revised Phase 2 through 5 Work Plan and Schedule (Phase 2 – 5 Work Plan), prepared by INTERA, for **DIRECTOR** review.

13. In a letter dated June 23, 2011 the DRC provided comments on the June 3, 2011 **DUSA** document in the form of a URS memorandum, dated June 23, 2011. The **DIRECTOR** advised **DUSA** that in order to revise the 2009 SCA to incorporate the deliverables and timelines set out in an Phase 2 through 5 Work Plan, it would be necessary to provide a level of detail in revisions of that Work Plan for Phases 2, 3, 4, and 5 comparable to the level of detail for Phase 1 contained in Attachment 1 of the Tolling Agreement (Rev. 1).

14. On June 30, 2011, **DUSA** and the **DIRECTOR** entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011, to allow time to revise the Phase 2 through 5 Work Plan to provide the level of detail required to construct a replacement SCA.

15. Pursuant to the Tolling Agreement (Rev.2), **DUSA** submitted a separate July 1, 2011 detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 investigation only (Phase 2 Plan, Revision 0). **DIRECTOR** comments on this document were provided in a July 7, 2011 DRC letter to **DUSA**.

16. Pursuant to the Tolling Agreement (Rev. 2), **DUSA** provided a revised July 12, 2011 Phase 2 QAP and Work Plan (Phase 2, Revision 1.0). DRC conditionally approved this document in a letter dated July 18, 2011.

17. On August 1 and 2, 2011 **DUSA** submitted preliminary laboratory results for the Phase 1A-C study to the **DIRECTOR** by email.

18. Pursuant to the Tolling Agreement (Rev. 2), on August 4, 2011, **DUSA** provided a revision to the Phase 2 – 5 Work Plan (Phase 2-5 Work Plan, Revision 1.0), prepared by INTERA, for **DIRECTOR** review.

19. On August 11, 2011, in a conference call and email which included an August 11, 2011 URS memorandum (August 11, 2011 URS Memo) the DRC commented on the Phase 2-5 Work Plan, Revision 1.0 and on the August 1, 2011 preliminary laboratory results for the Phase 1A-C study.

20. In accordance with the Tolling Agreement (Rev. 2) on August 18, 2011, **DUSA** submitted a revised Phase 2-5 Work Plan (Phase 2-5 Work Plan, Revision 2.0) for **DIRECTOR** review, in response to the DRC comments provided to **DUSA** on August 11, 2011.

21. In a DRC letter dated August 25, 2011, the **DIRECTOR** advised that:

    a) after review of the Phase 2-5 Work Plan, Revision 2.0, the **DIRECTOR** determined that a finalized Plan and Schedule, that meets the satisfaction of the **DIRECTOR**, and which would allow the preparation of a replacement SCA, is not possible at this time;

    b) based on the multiple deficiencies in the Phase 2-5 Work Plan, Revision 2.0, the development of a replacement SCA for continued contaminant investigation activities is not supported, and

    c) based on the August 1, 2011 DUSA preliminary results of Phases 1A through 1C, it would be extremely difficult for DUSA to demonstrate that the White Mesa Mill Site had not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill.

22. On August 29, 2011, **DUSA** and DRC representatives met to discuss the **DIRECTOR's** August 25, 2011 findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward. At the meeting the parties agreed to the following:

    a) After over two years of investigation it was determined that site conditions make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the various potential nitrate and chloride source(s);
    b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;
    c) The **DIRECTOR** and **DUSA** agreed that activities related to the White Mesa Nitrate CIR would cease and that conclusions regarding the causation and attribution of

nitrate and chloride ground water contamination source(s) would be left undetermined.

d) The **DIRECTOR** determined that a CAP was required at the **DUSA** White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);

e) **DUSA** agreed to develop and implement a CAP after receiving **DIRECTOR** approval.

23. On August 21, 2011, **DUSA** and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring **DUSA** to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

24. On September 30, 2011, the **DIRECTOR** and **DUSA** entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for **DUSA** to submit a Nitrate Contamination Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

25. On November 30, 2011, **DUSA** submitted a Nitrate CAP for **DIRECTOR** review and approval in accordance with the SCA UGW09-03-A.

26. The **DIRECTOR** sent a January 19, 2012 URS Memorandum and cover letter to **DUSA** commenting and requiring additional information on the November 30, 2011 CAP. **DUSA** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before February 27, 2012.

27. **DUSA** submitted a Revised Nitrate CAP to the **DIRECTOR** for review and approval, dated February 27, 2012.

28. The **DIRECTOR** sent a March 19, 2012 URS Memorandum and cover letter to **DUSA** commenting and requiring additional information on the February 27, 2012 CAP. **DUSA** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before May 7, 2012.

29. On May 7, 2012 **DUSA** submitted a revised Nitrate CAP to the **DIRECTOR** for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

D. ORDER

In view of the foregoing **FINDINGS**, and pursuant to Utah Code Annotated §§ 19-5-106(2)(d) and 19-5-115 **DUSA** is hereby ordered to:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, Phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein.

2. Five (5) years from the effective date of this **ORDER**, DUSA shall submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the Utah Division of Radiation Control (DRC) that will include:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;

    b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

    c) Preparation of a Phase III planning document including, if necessary, a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

    In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must be certified by a Utah licensed Professional Engineer or Geologist, and will be exposed to public notice and comment before **DIRECTOR** approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for **DIRECTOR** review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E. STIPULATED PENALTIES

In the event that **DUSA** fails to provide the required information in accordance with timelines outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, or Stipulated Consent Agreement Docket No. UGW09-03-A, then **DUSA** agrees to pay stipulated daily penalties upon written determination by the **DIRECTOR** as follows:

1. If **DUSA** fails to provide the **DIRECTOR** at least 14 calendar day notice prior to undertaking the following field activities; initial soil sampling, initial ground water pump installations, initial construction of the ammonium sulfate area cover, and initiation of well abandonment activities; related to Phase I and Phase II of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then **DUSA** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

2. If **DUSA** fails to comply with the May 7, 2012 White Mesa Uranium Mill CAP Quality Control requirements and/or the currently approved White Mesa Uranium Mill Ground Water Monitoring Quality Assurance Plan for collection and analysis of soil and water samples, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

3. If **DUSA** fails to provide quarterly reports as outlined in Part 10.2.6 of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP on or before 60 calendar days following the monitoring quarter, pursuant to monitoring reporting timelines included in the White Mesa Mill Ground Water Discharge Permit, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

4. If **DUSA** fails to meet any mandatory performance criteria outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

5. If **DUSA** fails to perform Phase I initial soil sampling within 30 days of the effective date of this **ORDER** or such other date as approved by the **Director**, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

6. If **DUSA** fails to submit analytical data and a proposed Phase I cover design for the Ammonium Sulfate Crystal Tank source area for **DIRECTOR** review and approval within 60 days of **DUSA** receipt of all Phase I soil sampling data results, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

7. If **DUSA** fails to construct the Ammonium Crystal Tank source area cover within 60 days of design approval by the **DIRECTOR** or such other schedule as approved by the **Director** then **DUSA** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

8. If **DUSA** fails to submit Discharge Minimization Technology Plan revisions with concrete pad maintenance and inspection requirements to the **DIRECTOR** on or before 45 days of the effective date of this **ORDER**, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

9. If **DUSA** fails to begin pumping wells TW4-22, TW4-24, TW4-25 and TWN-2 on or before 45 days after the effective date of this **ORDER**, then **DUSA** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

10. If **DUSA** fails to submit a detailed Corrective Action Comprehensive Monitoring Evaluation (CACME) Report of the Phase II Nitrate CAP data and Phase III evaluation (5) years from the effective date of this **ORDER**; including but not limited to:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone including appropriate adjustments to the reclamation surety estimate;

    b) Identification of changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

c) Preparation of a Phase III planning ~~document~~ document, including, if required, a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3;

then DUSA agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

11. If **DUSA** fails to submit the revised surety cost estimate, in compliance with Part 11.E. of Stipulated Consent Agreement Docket UGW09-03-A and the May 7, 2012 White Mesa Uranium Mill Nitrate CAP Table 1, on or before 60 days from the effective date of this **ORDER**, then **DUSA** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

12. If **DUSA** fails to submit evidence of adequate surety for Phase I and II of the White Mesa Mill Nitrate CAP within 30 days of **DIRECTOR** approval of the Phase I and II revised surety cost estimate, then **DUSA** will pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

DUSA agrees to pay any required penalties in the form of a check, within 30 calendar days of written notice from the **DIRECTOR**, made payable to the State of Utah, and delivered or mailed to:

Division of Radiation Control,
Utah Department of Environmental Quality
P.O. Box 144850
168 North 1950 West
Salt Lake City Utah, 84114-4850

F. NOTICE

Compliance with the provisions of this **ORDER** is mandatory. Providing false information may subject **DUSA** to further civil penalties or criminal fines.

UCA § 19-5-115 provides that a violation of the ACT or a related order may be subject to a civil penalty of up to $10,000 per day of violation. Under certain circumstances of willfulness or gross negligence, violators may be fined up to $25,000 per day of violation.

Signed this _____ day of ~~June~~August, 2012

UTAH DIVISION OF RADIATION CONTROL

_____

Rusty Lundberg
Director

Attachment 4 – Statement of Basis and Stipulation and Consent Order, UGW12-04 - Redline/Strikeout Versions Showing Additional Changes to the Stipulation and Consent Order, UGW12-04 and Statement of Basis after the Public Comment Period

Statement of Basis

Utah Division of Radiation Control
Draft Stipulation and Consent Order Docket No. UGW12-04
Nitrate Plume Corrective Action Plan for the Uranium Milling Facility
at White Mesa, South of Blanding, Utah

Energy Fuels Resources (USA) Inc.~~Denison Mines (USA) Corp.~~
225 Union Blvd., Suite 600~~Independence Plaza, Suite 950~~
Lakewood, CO 80228~~1050 Seventeenth Street~~
~~Denver, CO 80265~~

~~July 18~~September 6~~August~~, 2012

Purpose

The purpose of this Statement of Basis (SOB) is to describe the technical and regulatory basis for the proposed Stipulation and Consent Order (Order) Docket No. UGW12-04, and ~~Denison Mines (USA) Corp~~EnergyFuels Resources (USA), Inc. (~~DUSA~~EFR) May 7, 2012 Ground Water Corrective Action Plan for Nitrate (CAP) concerning the nitrate plume remediation at the White Mesa Uranium Mill facility located approximately six miles south of Blanding, Utah on the White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Base and Meridian, San Juan County, Utah.

Introduction and History

The White Mesa Uranium Mill was constructed in 1979-1980 and licensed under federal regulations by the Nuclear Regulatory Commission (Source Material License SUA-1358). Initially, the facility consisted of the Mill works and one tailings disposal cell, Cell 2, which was completed in May, 1980. In June 1981, construction of a wastewater storage pond, Cell 1, was completed. Construction of a second tailings cell, Cell 3, was completed in September, 1982. Tailings disposal Cell 4A was completed in January, 1990. On September 17, 2008, Tailings disposal Cell 4A was approved to receive tailings and wastewater. On January 27, 2011, Tailings disposal Cell 4B was completed and approved to receive tailings and wastewater.

Groundwater at White Mesa is primarily found in two aquifers: a shallow unconfined aquifer, and a deep underlying confined aquifer. The shallow aquifer is found almost entirely in the Cretaceous-age Burro Canyon Formation, where groundwater is perched on the top of the underlying Jurassic-age Brushy Basin Member of the Morrison Formation. The Brushy Basin Member is about 200-400 feet thick and consists of low permeability shale and mudstone in the Blanding area (Hintze, p. 200). At White Mesa, the Brushy Basin member is about 250 feet thick (7/94 Titan Environmental Report, Fig. 1.2) and the geologic contact between these two formations is found at a depth of about 78 to 149 feet below

ground surface (bgs, see 9/6/02 IUC map submittal). The water table in the perched aquifer is found at shallow depths, and discharges to seeps and springs along the margin of White Mesa. Upgradient to the mill site, the perched aquifer is used for drinking water, stock watering, and irrigation. Downgradient of the mill site, the perched aquifer supports stock watering and wildlife habitat.

The deep confined aquifer under White Mesa is found in the Entrada Sandstone and underlying Navajo Sandstones. IUC/~~DUSA~~EFR estimates the top of the Entrada Sandstone at the site is found at a depth of more than 1,150 ft bgs (7/94 Titan Environmental Report, Fig 2.3). This deep aquifer is hydraulically isolated from the shallow perched aquifer by at least two (2) shale members of the Morrison Formation, including the Brushy Basin (~295 feet thick) and the Recapture (~120 feet thick) Members (ibid., 1.2). Other formations are also found between the perched and deep confined aquifers, that also include many layers of thin inter bedded shale that contribute to the hydraulic isolation of the shallow and deep groundwater systems, including: the Morrison Formation Westwater Canyon (~120 feet thick) and Salt Wash (~120 feet thick) Members, and the Summerville Formation (~100 feet thick) [ibid]. Artesian groundwater conditions found in the deep Entrada/Navajo Sandstone aquifer display a pressurized system which reinforces the concept of hydraulic isolation from the shallow perched system. Regionally, the deep confined aquifer is the primary drinking water supply, and must be protected from pollution sources. A few miles south of the mill site, the Ute Mountain Ute Tribe community depends on this deep confined aquifer for drinking water.

Nitrate contamination of the shallow groundwater aquifer (Burro Canyon) was originally detected by Utah Division of Radiation Control (DRC) staff during preparation of a Permit Modification and review of the White Mesa Uranium Mill Quarterly Ground Water Reports. The initial DRC action was to issue ~~DUSA~~EFR a written request for a "*Voluntary Plan and Schedule to Investigate and Remediate Nitrate Contamination*" by letter dated September 30, 2008. In response to the September 30, 2008 request, ~~DUSA~~EFR submitted a "*Plan and Schedule for Nitrate Contamination Investigation Report and Groundwater Corrective Action Plan*" dated November 19, 2008.

Subsequent to the ~~DUSA~~EFR November 19, 2008 Report, the follow actions took place,

Document/Meeting Date	Author / Event	Document/Meeting Summary
1/27/2009	DRC/~~DUSA~~EFR	The Director of the Utah Division of Radiation Control (DIRECTOR)[3] and ~~DUSA~~EFR entered into a Stipulated Consent Agreement, Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water

[3] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Document/Meeting Date	Author / Event	Document/Meeting Summary
		beneath and in the vicinity of the White Mesa Uranium Mill
12/1/2009	DRC Letter	The DIRECTOR issued ~~DUSA~~EFR a letter noting that elevated chloride concentrations exist, apparently coincident with elevated nitrate concentrations.
12/30/2009	~~DUSA~~EFR Report	~~DUSA~~EFR submitted to the DIRECTOR a Nitrate and Chloride Contaminant Investigation Report, prepared by their consultant INTERA, Inc.
10/5/2010	DRC Letter	The DIRECTOR issued a Notice of Additional Required Action (NARA) letter that notified ~~DUSA~~EFR of the DIRECTOR'S determination that the 2009 CIR was incomplete.
12/20/2010	DRC/~~DUSA~~EFR Tolling Agreement	~~DUSA~~EFR and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA
2/18/2011	~~DUSA~~EFR Plan and Schedule	Pursuant to the Tolling Agreement (Rev. 0), ~~DUSA~~EFR submitted a Plan and Schedule
3/21/2011	DRC Comments	The DIRECTOR provided comments to ~~DUSA~~EFR regarding the Plan and Schedule
4/20/2011	DRC/~~DUSA~~EFR Meeting	~~DUSA~~EFR and the DIRECTOR agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study.
4/28/2011	DRC/~~DUSA~~EFR Tolling Agreement	~~DUSA~~EFR and the DIRECTOR entered into a Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting.
5/6/2011	~~DUSA~~EFR	Pursuant to the Tolling Agreement (Rev. 1), ~~DUSA~~EFR submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation
5/11/2011	DRC Comments	The DIRECTOR provided comments to

Document/Meeting Date	Author / Event	Document/Meeting Summary
		~~DUSA~~EFR regarding the May 6, 2011 Work Plan
May and June 2011	~~DUSA~~EFR Fieldwork	All comments were resolved, and ~~DUSA~~EFR conducted field and laboratory work for the Phase 1A-C study
6/3/2011	~~DUSA~~EFR Work Plan	Pursuant to the Tolling Agreement (Rev. 1), ~~DUSA~~EFR submitted a Revised Phase 2 through 5 Work Plan and Schedule
6/23/2011	DRC Comments	The DIRECTOR provided comments to ~~DUSA~~EFR regarding the June 3, 2011 Work Plan
6/30/2011	DRC/~~DUSA~~EFR Tolling Agreement	~~DUSA~~EFR and the DIRECTOR entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011.
7/1/2011	~~DUSA~~EFR Work Plan	~~DUSA~~EFR submitted a detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 of the investigation.
7/7/2011	DRC Comments	The DIRECTOR provided comments to ~~DUSA~~EFR regarding the July 1, 2011 Work Plan
7/12/2011	~~DUSA~~EFR Revised Work Plan	~~DUSA~~EFR provided a revised July 12, 2011 Phase 2 QAP and Work Plan
7/18/2011	DRC	The DIRECTOR provided ~~DUSA~~EFR a letter of conditional approval for the Jule 12, 2011 Phase 2 Work Plan
8/1/2011	~~DUSA~~EFR	~~DUSA~~EFR submitted preliminary laboratory results for Phase 1A through 1C of the study.
8/4/2011	~~DUSA~~EFR Work Plan	~~DUSA~~EFR provided a revision to the Phase 2 – 5 Work Plan
8/11/2011	DRC Comments	The DIRECTOR provided ~~DUSA~~EFR comments regarding the August 1, 2011 laboratory results and August 4, 2011 Phase 2 – 5 Work Plan.
8/18/2011	~~DUSA~~EFR Work Plan	~~DUSA~~EFR submitted a revised Phase 2 – 5 Work Plan
8/25/2011	DRC Review Letter	The DIRECTOR advised ~~DUSA~~EFR that based on deficiencies in the Phase 2-5 Work Plan and based on review of the preliminary laboratory results it "will be extremely difficult for

Document/Meeting Date	Author / Event	Document/Meeting Summary
		~~DUSA~~EFR to demonstrate that the White Mesa Mill Site has not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill."

At a meeting between ~~DUSA~~EFR and DRC representatives on August 29, 2011, to discuss the DIRECTORS's August 25, 2011, findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward, the parties agreed to the following:

a) After over two years of investigation it had been determined that there are site conditions that make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the potential various nitrate and chloride source(s)~~ at the White Mesa site~~;

b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;

c) The DIRECTOR and ~~DUSA~~EFR agreed that activities related to the White Mesa Nitrate CIR would~~ill~~ cease and that conclusions regarding the causation and attribution of nitrate and chloride ground water contamination source(s) would be left~~ill not be fully resolved and~~ undetermined.

d) The DIRECTOR has determined that a CAP is required at the ~~DUSA~~EFR White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);

e) ~~DUSA~~EFR agreed to develop and implement a CAP after receiving DIRECTOR approval.

On August 21, 2011, ~~DUSA~~EFR and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring ~~DUSA~~EFR to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

On September 30, 2011, the DIRECTOR and ~~DUSA~~EFR entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for ~~DUSA~~EFR to submit a Nitrate Contamination Corrective Action Plan (CAP) for DIRECTOR approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA, the Utah Code Annotated, and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

~~DUSA~~EFR submitted a November 30, 2011, Nitrate CAP for DIRECTOR review and approval in accordance with the SCA UGW09-03-A. The On January 19, 2012, the DIRECTOR submitted comments and additional required information regarding the

November 30, 2011 CAP to ~~DUSA~~EFR via URS Memorandum and cover letter. It was agreed by ~~DUSA~~EFR and the DIRECTOR that a revised CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before February 27, 2012

~~DUSA~~EFR submitted a February 27, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. The DIRECTOR submitted comments and additional required information regarding the February 27, 2012 Nitrate CAP to ~~DUSA~~EFR on March 19, 2012 via URS Memorandum and cover letter. It was agreed by ~~DUSA~~EFR and the DIRECTOR that a revised CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before May 7, 2012

~~DUSA~~EFR submitted a May 7, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

Summary of Stipulation and Consent Order UGW12-04

The Order is organized into 6 sections as summarized below:

A - STATUTORY AUTHORITY

This section cites laws (Utah Code Annotated) and rules (Utah Administrative Code) which provide the legal basis for issuing the order and legal definitions allowing the Director of the Utah Division of Radiation Control to issue orders which enforce the Water Quality Act and associated rules and permits.

B - APPLICABLE STATUTORY AND REGULATORY PROVISIONS

This section cites the applicable statutes and regulations under which the order is promulgated. Code Annotated 19-5-107(1)(a), Utah Admin. Code R317-6-6.15, and Stipulated Consent Agreement Docket Number UGW09-03A are cited in this section. The Stipulated Consent Agreement specifically required ~~DUSA~~EFR to submit a Nitrate CAP for DIRECTOR review and approval and outlined that the CAP approval process would be achieved through the issuance of a future consent order by the DIRECTOR.

C - FINDINGS OF FACT

This section provides the history of the nitrate contamination at the White Mesa Uranium Mill, contaminant investigation activities, previous agreements, tolling orders, timelines, etc. This is to provide an understanding of the history, agreements and regulatory and legal provisions leading up to the Order.

D - ORDER

The Order consists of three items for mandatory implementation by ~~DUSA~~EFR:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein. A summary of the CAP is included below; also, a copy of the CAP will be attached to the Order.

2. Five (5) years from the effective date of the Order ~~DUSA~~EFR must submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the DRC that will include:

   a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;

   b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

   c) Unless it has been determined to the satisfaction of the **DIRECTOR** that Phase II has returned or will return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5)years then ~~P~~preparation of a Phase III planning document including~~, if necessary,~~ a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

   In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must to be certified by a Utah Licensed Professional Engineer or Geologist, and exposed to public notice and comment before DIRECTOR approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for DIRECTOR review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E - STIPULATED PENALTIES

The Order provides future penalties (economic incentives) for ~~DUSA~~EFR to comply with the terms of the CAP, five (5) year performance evaluation, and, surety adjustment requirements.

The Order specifies daily stipulated penalties in the event that ~~DUSA~~EFR fails to provide data in compliance with quality objectives outlined in the CAP and/or facility Quality Assurance Plan; fails to provide reports or CAP objectives according to specified timelines; or fails to provide performance objectives as outlined in the CAP. These stipulated penalties are included as 12 numbered items in the Order and are based on Utah Admin. Code R317-1-8-8.3 daily penalty categories and, as deemed appropriate, based on the nature of the potential violation. The inclusion of stipulated penalties provides incentive for ~~DUSA~~EFR to comply with all elements of the CAP and Order within the specified timelines.

F - NOTICE

The Order clarifies that additional penalties will apply for submitting false information or for violations of the Water Quality Act or the Order according to statutory maximums of $10,000 per day or $25,000 per day (willfulness or gross negligence).

Summary of the May 7, 2012 CAP Content / Requirements

The May 7, 2012 CAP is structured to provide control and remediation of the Nitrate contamination in three phases as follows:

Phase I – Source Control for the Ammonium Sulfate Crystal Storage Tanks

Phase I includes a methodology to evaluate the physical extent of the soil contamination in the area of the ammonium sulfate crystal storage tanks and provide a concrete cover to prevent infiltration of surface water into the contaminated soils.

~~DUSA~~EFR will provide soil borings (to bedrock) in the area of the ammonium sulfate crystal tanks, according to agreed upon soil background screening levels (as determined during the contaminant investigation Phase 1A) and will provide estimates of the contaminated soil volumes. Contaminated soil volumes will be removed and disposed of prior to site closure. Surety estimates will include conservative estimates of all future soil volume and disposal costs.

The construction of the concrete cover will be subject to DIRECTOR review and approval and will be constructed with a minimum thickness of six (6) inches and appropriately sloped to provide drainage away from potential infiltration/migration into contaminated soil.

~~DUSA~~EFR will provide a plan for annual inspection, required repairs and annual documentation of the condition of the concrete cover in a revised version of the Discharge Minimization Technology Plan for the White Mesa Mill.

All soil sampling methodologies and Quality Assurance will be consistent with procedures implemented for the Phase 1A-C soils investigations employed for the nitrate contaminant investigation. The Nitrate Investigation Phase 1 work plan was dated May 13, 2011. Soil sampling will be conducted in rows successively~~bsequently~~ farther away from the ammonium sulfate tanks to ~~insure that all~~ delineate the approximate lateral extent of the areas above the approved soil screening levels for nitrate and ammonia (as N) ~~are delineated.~~

Phase II – Near Term Pumping of Contaminated Groundwater and Plume Assessment

Phase II of the CAP consists of near term ground water pumping within the high concentration areas of the nitrate plume, calculation and monitoring of hydraulic capture zones, and monitoring of nitrate concentrations within the plume inside and outside of the hydraulic capture zones as delineated by plume maps included with the CAP.

The nitrate pumping system will consist of four currently installed ground water monitoring wells: TW4-22, TW4-24, TW4-25, and TWN-2. These wells were selected based on their location within high nitrate concentrations of the plume, and also with consideration of current pumping wells and hydraulic capture zones for the chloroform remediation system. ~~DUSA~~EFR expects that pumping these wells will flatten the hydraulic gradients within the plume, reducing rates of any potential down gradient migration of pollutants and reducing the concentration within the hydraulic capture zone of the pumping system. The performance of the pumping system will be monitored by ~~DUSA~~EFR and reports will be submitted to the DIRECTOR to substantiate the expected performance objectives.

The productivities and pump rates of the nitrate system are expected to be similar to those of the chloroform pumping wells, based on comparisons of hydraulic parameters. Monitoring at wells down gradient of the capture zone will be assessed to insure that the plume is not expanding and to determine the rate of natural attenuation at monitoring wells outside of the hydraulic capture zone.

Quarterly reports will be submitted to the DIRECTOR which will include all elements of the current chloroform corrective action monitoring reports including:

1. Tabular compilations of groundwater level measured in non-pumped wells over time,
2. Water level data from pumped wells over time,
3. Running and cumulative groundwater volumes removed from each pumping well,
4. Calculation of quarterly nitrate mass removed by pumping,
5. Comparison of the current areal extent of the nitrate plume from the latest quarter with the previous reporting period, and
6. Discussion of any contingencies to be implemented.

The Order includes stipulated penalties for failing to provide the reports in compliance with the May 7, 2012 CAP and defines a due date of on or before 60 calendar days following the

end of the quarter consistent with requirements of the facility Ground Water Discharge Permit.

Phase III – Long Term Nitrate Assessment and Planning

As anticipated by the Stipulated Consent Agreement Docket UGW09-03-A, the May 7 2012 CAP does not specify the details of the Phase III comprehensive long term remediation plan for the nitrate contamination. The May 7, 2012 CAP Part 7.3 commits to an evaluation of the Phase II activities following the collection of five (5) years of performance data, written to include the following:

1. Estimate of the rate of nitrate plume remediation and a potential estimation of a project timeline for remediation through the continued implementation of Phase II (and surety adjustment), or
2. Identification of changes to Phase II to improve its effectiveness or accelerate the restoration timeline, or
3. Identify whether Phase III activities, including application for potential alternate corrective action concentration limits (ACACL) may be necessary in lieu of, or in combination with, Phase II activities.

In order to eliminate ambiguity in the May 7, 2012 CAP regarding the timing and content of the Phase III implementation and timelines, the DIRECTOR has included an Order requirement for a mandatory submission of a performance evaluation of the CAP including a Phase III planning document, five (5) years from the effective date of the Order. This requirement is also discussed in the Order Summary section above.

The DIRECTOR sees this requirement as necessary in order to fulfill the requirement in Utah Admin. Code R317-6-6.15(E) that the corrective action will produce a permanent effect.

DIRECTOR Findings Required by UAC R317-6-6.15(E)

After review of the May 7, 2012 ~~DUSA~~EFR Correction Action Plan, and with consideration of all required actions included in the proposed Order, the DIRECTOR has determined the requirements of UAC R317-6-6.15(E) are met as follows:

6. Completeness and Accuracy of the Corrective Action Plan [§ 6.15(E)(1)] – The DIRECTOR has determined that the available records of groundwater and other technical information used in the development of the May 7, 2012 CAP is sufficient to support source control and a pump and treat remediation strategy for the White Mesa nitrate contamination.

7. Action Protective of Public Health and the Environment [§ 6.15(E)(2)] – The DIRECTOR has determined that the pump and treat technology proposed in the May 7, 2012 CAP, will protect public health and the environment by maintaining the

nitrate plume on property owned by ~~DUSA~~EFR, and by ongoing evaluation of the plume remediation (performance standards) efficiency and future decisions related to continued nitrate plume remediation based on acquired performance data.

8. Concentration Limits [§ 6.15(E)(3)] – The groundwater cleanup concentration goals are based on the State Groundwater Quality Standards in UAC R317-6-2, Table 1. Therefore, the May 7, 2012 CAP, as proposed by ~~DUSA~~EFR, meets this rule requirement.

9. Action Produces a Permanent Effect [§ 6.15(E)(4)] – The DIRECTOR has determined that this requirements is met, in that the pump and treat technology proposed by ~~DUSA~~EFR will maintain the contamination on land owned by ~~DUSA~~EFR in the near term, and that ~~DUSA~~EFR will provide an evaluation of long term remediation, based on acquired performance data, five (5) years from the effective date of the Order.

10. Action May Use Other Additional Measures [§ 6.15(E)(5)] – The May 7, 2012 CAP includes adequate long-term monitoring, operation, and maintenance requirements to be protective of public health and the environment. Periodic review of the remediation activities for the nitrate plume will be to be provided by quarterly monitoring and reporting.

References

Denison Mines (USA) Corp., May 7, 2012 *Corrective Action Plan for Nitrate, White Mesa Uranium Mill Near Blanding, Utah*, prepared by Hydro Geo Chem, Inc.

Denison Mines (USA) Corp., May 25, 2012, *White Mesa Uranium Mill Groundwater Monitoring Quality Assurance Plan*

EPA 600/R-08/003, January 2008, *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems*

Hintze, L.F., 1988, *Geologic History of Utah*, Brigham Young University Geology Studies Special Publication 7, 202 pp.

State of Utah, Ground Water Discharge Permit, Permit No UGW370004, Denison Mines USA Corp. Uranium Milling and Tailings Disposal Facility, Blanding Utah

Titan Environmental Corporation, July 1994, *Hydrogeologic Evaluation of White Mesa Uranium Mill*

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF **Energy Fuels Resources~~Denison Mines~~** **225 Union Blvd.~~1050 17th Street~~, Suite 600~~950~~** **Lakewood~~Denver~~, CO 802~~2865~~**	**STIPULATION AND CONSENT ORDER** **DOCKET No. UGW12-04**

A. STATUTORY AUTHORITY

This **STIPULATION AND CONSENT ORDER (ORDER)** is issued to ~~Denison Mines (USA) Corporation~~ Energy Fuels Resources (USA) Inc. (**~~DUSA~~EFR**) facility, by the Director of the Utah Division of Radiation Control [4] (**DIRECTOR**) under the Utah Water Quality Act, Utah Code Ann. §§ 19-5-101 to 19-5-123 (**ACT**), including sections 19-5-104, -106, -111 and -115. This **ORDER** is also issued in accordance with the Utah Administrative Procedures Act, Utah Code Ann. §§ 63G4-101 to 63G-4-601 and Administrative Procedure Rules, Utah Admin. Code (UAC) R305-6.

[4] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Under the Water Quality Act, Utah Code Title 19, Chapter 5, "Director" for purposes of groundwater quality at a facility licensed by and under the jurisdiction of the Division of Radiation Control, means the Director of the Division of Radiation Control. Utah Code Ann. § 19-5-102(6).

The **DIRECTOR** may enforce rules made by the Water Quality Board through the issuance of orders in accordance with Utah Code Ann. § 19-5-106(2)(d)

B. APPLICABLE STATUTORY AND REGULATORY PROVISIONS

1. Utah Code Ann. § 19-5-107(1)(a) requires that "Except as provided in this chapter or rules made under it, it is unlawful for any person to discharge a pollutant into waters of the state or to cause pollution which constitutes a menace to public health and welfare, or is harmful to wildlife, fish or aquatic life or impairs domestic, agricultural, industrial, recreational, or other beneficial uses of water, or to place or cause to be placed any wastes in a location where there is probable cause to believe it will cause pollution."

2. Utah Admin. Code R317-6-6.15 Corrective Action – outlines the requirements for demonstration to the **DIRECTOR** that a corrective action plan meets completeness and accuracy requirements, is protective of the public health and environment, meets all corrective action concentration limits specified by Utah Ground Water Quality Standards or alternate Corrective Action Concentration Limits, and that the corrective action produces a permanent effect.

3. The **DIRECTOR** and ~~DUSA~~EFR entered into a Stipulated Consent Agreement (SCA), Docket Number UGW09-03-A which was duly executed on September 30, 2011. The Stipulated Consent Agreement included a requirement that ~~DUSA~~EFR submit a Nitrate Contamination Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and Utah Admin. Code cited therein (including R317-6-6.15) to remediate (return to compliance) ground water contaminated with nitrate at concentrations above Utah Ground Water Quality Standards at the White Mesa Uranium Mill. The Stipulated Consent Agreement additionally required updates to the White Mesa Mill Surety. Development of the Corrective Action Plan was required to be implemented in Phases as follows:

   a) Phase I – to include nitrate source control for potential ground water contamination from ammonia (as N) and nitrate contaminated soil in the vicinity of the Ammonium Sulfate Crystal Tanks at the White Mesa Uranium Mill,

   b) Phase II – to include near term active remediation of the ground water nitrate contamination by development, implementation, operation and monitoring requirements for a pumping well network designed to contain and hydraulically control the nitrate ground water plume to maintain concentrations at or below the Utah Groundwater Quality Standard of 10 mg/L.

   c) Phase III – if it has not been demonstrated to the satisfaction of the **DIRECTOR** that Phase II has returned or will ~~not already done so~~return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5) years, to

include a comprehensive long term solution for the ground water nitrate contamination based on an i) evaluation of the continuation of Phases I and II activities alone or in combination with monitored natural attenuation, and as necessary, ii) an evaluation of additional remediation and monitoring technologies and techniques, determination of any additional hydrogeologic characterization, groundwater contaminant travel times and directions, determination of ultimate points of exposure to the public and/or wildlife, appropriate risk analysis, cost benefit analysis; and possible development of a petition to the **DIRECTOR** for alternate corrective action concentration limits pursuant to Utah Admin. Code R317-6-615(G). The Stipulated Consent Agreement specified that Phase III of the CAP will not be determined at the outset, but may be proposed by EFR at a later date, after enough data had been collected to evaluate the effectiveness of Phase II.

C. FINDINGS OF FACT

1. ~~DUSA~~EFR receives and processes natural uranium-bearing ores including certain specified alternate feed materials, and possesses byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee's milling operations. This facility is located approximately 6 miles south of Blanding, Utah on White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Baseline and Meridian, San Juan County, Utah (White Mesa Uranium Mill).

2. On January 27, 2009, the **DIRECTOR** and ~~DUSA~~EFR entered into a 2009 Stipulated Consent Agreement (2009 SCA), Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water beneath and in the vicinity of the White Mesa Uranium Mill. Part of which set forth the following requirements:

   a) ~~DUSA~~EFR was required to submit a written Contaminant Investigation Report (CIR) for the **DIRECTOR** to review and approve. Among other things the CIR was to characterize the source(s), physical extent, transfer mechanisms and characteristics of Nitrate contamination of the shallow aquifer at the White Mesa Mill; and

   b) If determined by the **DIRECTOR** that a Corrective Action Plan (CAP) were required to address and resolve the Nitrate contamination, ~~DUSA~~EFR would then enter into a new SCA which would require submittal of a CAP, for **DIRECTOR** review and approval. Said CAP would be required to set forth required performance standards and an implementation schedule for groundwater corrective actions.

3. Pursuant to Item 6.A of the 2009 SCA, ~~DUSA~~EFR submitted a CIR to the **DIRECTOR.** The CIR, dated December 30, 2009, and entitled "Nitrate Contamination Investigation Report White Mesa Uranium Mill Site Blanding, Utah" (2009 CIR) had been prepared by their consultant INTERA, INC.

4. On October 5, 2010, the **DIRECTOR** issued a Notice of Additional Required Action (NARA) letter that notified ~~DUSA~~EFR of the **DIRECTOR'S** determination that the 2009 CIR was incomplete and that, as a result of this determination, under Item 7.C of the 2009 SCA, ~~DUSA~~EFR was to remedy the omissions in the 2009 CIR.

5. On December 20, 2010, ~~DUSA~~EFR and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA.

6. Pursuant to the Tolling Agreement (Rev. 0), ~~DUSA~~EFR submitted a Plan and Schedule on February 14, 2011 and a revised Plan and Schedule on February 18, 2011, and by agreement of both parties, the **DIRECTOR** provided his comments on the revised Plan and Schedule on March 21, 2011.

7. In an April 20, 2011 meeting, ~~DUSA~~EFR and the **DIRECTOR** agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study, including:

    a) Phase 1A through C – including geoprobe drilling, and soil sampling / analysis of soils to investigate:
    a) Possible natural nitrate salt reservoir in the vadose zone (Phase 1A);
    b) Potential nitrate sources in the mill site area (Phase 1B); and
    c) Other potential nitrate sources (Phase 1C).

    b) Phase 2 – including groundwater quality sampling and analysis of existing monitoring wells for non-isotopic analytes.

    c) Phase 3 – including deep bedrock core sampling / analysis of possible nitrate reservoir and nitrate source locations, with similar objectives as Phases 1A through C.

    d) Phase 4 – including stable isotopic sampling / analysis of groundwater in existing monitoring wells. Details of this investigation were to be determined at a later date, and approved by both parties.

    e) Phase 5 – including stable isotopic sampling / analysis of soil/core samples, if needed.

8. On April 28, 2011, ~~DUSA~~EFR and the **DIRECTOR** entered into a new Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting. Under the Tolling Agreement (Rev. 1), ~~DUSA~~EFR agreed to submit a Revised Phase 1 (A through C) Work Plan on or before May 6, 2011 and a Revised Phase 2 through 5 Work Plan and Schedule on or before June 3, 2011.

9. Pursuant to the Tolling Agreement (Rev. 1), on May 6, 2011, ~~DUSA~~EFR submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation prepared by INTERA, for **DIRECTOR** review.

10. On May 11, 2011, the Utah Division of Radiation Control (DRC) e-mailed comments to ~~DUSA~~EFR on the May 6, 2011 Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C, which included a May 11, 2011 URS memorandum, and requested that ~~DUSA~~EFR resolve all DRC comments before initiation of field activities.

11. All comments were resolved, and ~~DUSA~~EFR conducted field and laboratory work for the Phase 1A-C study in May and June, 2011.

12. Pursuant to the Tolling Agreement (Rev. 1), ~~DUSA~~EFR submitted a June 3, 2011 Revised Phase 2 through 5 Work Plan and Schedule (Phase 2 – 5 Work Plan), prepared by INTERA, for **DIRECTOR** review.

13. In a letter dated June 23, 2011 the DRC provided comments on the June 3, 2011 ~~DUSA~~EFR document in the form of a URS memorandum, dated June 23, 2011. The **DIRECTOR** advised ~~DUSA~~EFR that in order to revise the 2009 SCA to incorporate the deliverables and timelines set out in an Phase 2 through 5 Work Plan, it would be necessary to provide a level of detail in revisions of that Work Plan for Phases 2, 3, 4, and 5 comparable to the level of detail for Phase 1 contained in Attachment 1 of the Tolling Agreement (Rev. 1).

14. On June 30, 2011, ~~DUSA~~EFR and the **DIRECTOR** entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011, to allow time to revise the Phase 2 through 5 Work Plan to provide the level of detail required to construct a replacement SCA.

15. Pursuant to the Tolling Agreement (Rev.2), ~~DUSA~~EFR submitted a separate July 1, 2011 detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 investigation only (Phase 2 Plan, Revision 0). **DIRECTOR** comments on this document were provided in a July 7, 2011 DRC letter to ~~DUSA~~EFR.

16. Pursuant to the Tolling Agreement (Rev. 2), ~~DUSA~~EFR provided a revised July 12, 2011 Phase 2 QAP and Work Plan (Phase 2, Revision 1.0). DRC conditionally approved this document in a letter dated July 18, 2011.

17. On August 1 and 2, 2011 ~~DUSA~~EFR submitted preliminary laboratory results for the Phase 1A-C study to the **DIRECTOR** by email.

18. Pursuant to the Tolling Agreement (Rev. 2), on August 4, 2011, ~~DUSA~~EFR provided a revision to the Phase 2 – 5 Work Plan (Phase 2-5 Work Plan, Revision 1.0), prepared by INTERA, for **DIRECTOR** review.

19. On August 11, 2011, in a conference call and email which included an August 11, 2011 URS memorandum (August 11, 2011 URS Memo) the DRC commented on the Phase 2-5 Work Plan, Revision 1.0 and on the August 1, 2011 preliminary laboratory results for the Phase 1A-C study.

20. In accordance with the Tolling Agreement (Rev. 2) on August 18, 2011, ~~DUSA~~EFR submitted a revised Phase 2-5 Work Plan (Phase 2-5 Work Plan, Revision 2.0) for **DIRECTOR** review, in response to the DRC comments provided to ~~DUSA~~EFR on August 11, 2011.

21. In a DRC letter dated August 25, 2011, the **DIRECTOR** advised that:

a) after review of the Phase 2-5 Work Plan, Revision 2.0, the **DIRECTOR** determined that a finalized Plan and Schedule, that meets the satisfaction of the **DIRECTOR**, and which would allow the preparation of a replacement SCA, is not possible at this time;

b) based on the multiple deficiencies in the Phase 2-5 Work Plan, Revision 2.0, the development of a replacement SCA for continued contaminant investigation activities is not supported, and

c) based on the August 1, 2011 ~~DUSA~~EFR preliminary results of Phases 1A through 1C, it would be extremely difficult for ~~DUSA~~EFR to demonstrate that the White Mesa Mill Site had not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill.

22. On August 29, 2011, ~~DUSA~~EFR and DRC representatives met to discuss the **DIRECTOR's** August 25, 2011 findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward. At the meeting the parties agreed to the following:

a) After over two years of investigation it was determined that site conditions make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the various potential nitrate and chloride source(s);

b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;

c) The **DIRECTOR** and ~~DUSA~~EFR agreed that activities related to the White Mesa Nitrate CIR would cease and that conclusions regarding the causation and attribution of nitrate and chloride ground water contamination source(s) would be left undetermined.

d) The **DIRECTOR** determined that a CAP was required at the ~~DUSA~~EFR White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);

e) ~~DUSA~~EFR agreed to develop and implement a CAP after receiving **DIRECTOR** approval.

23. On August 21, 2011, ~~DUSA~~EFR and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring ~~DUSA~~EFR to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

24. On September 30, 2011, the **DIRECTOR** and ~~DUSA~~EFR entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for ~~DUSA~~EFR to submit a Nitrate Contamination Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

25. On November 30, 2011, ~~DUSA~~EFR submitted a Nitrate CAP for **DIRECTOR** review and approval in accordance with the SCA UGW09-03-A.

26. The **DIRECTOR** sent a January 19, 2012 URS Memorandum and cover letter to ~~DUSA~~**EFR** commenting and requiring additional information on the November 30, 2011 CAP. ~~DUSA~~**EFR** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before February 27, 2012.

27. ~~DUSA~~**EFR** submitted a Revised Nitrate CAP to the **DIRECTOR** for review and approval, dated February 27, 2012.

28. The **DIRECTOR** sent a March 19, 2012 URS Memorandum and cover letter to ~~DUSA~~**EFR** commenting and requiring additional information on the February 27, 2012 CAP. ~~DUSA~~**EFR** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before May 7, 2012.

29. On May 7, 2012 ~~DUSA~~**EFR** submitted a revised Nitrate CAP to the **DIRECTOR** for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

D. ORDER

In view of the foregoing **FINDINGS**, and pursuant to Utah Code Annotated §§ 19-5-106(2)(d) and 19-5-115 ~~DUSA~~**EFR** is hereby ordered to:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, Phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein.

2. Five (5) years from the effective date of this **ORDER**, ~~DUSA~~**EFR** shall submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the Utah Division of Radiation Control (DRC) that will include:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;

    b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

    c) Unless it has been determined to the satisfaction of the **DIRECTOR** that Phase II has returned or will return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5) years then~~,~~ ~~P~~preparation of a Phase III planning document including ~~, if necessary,~~ a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must be certified by a Utah licensed Professional Engineer or Geologist, and will be exposed to public notice and comment before **DIRECTOR** approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for **DIRECTOR** review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E. STIPULATED PENALTIES

In the event that ~~DUSA~~EFR fails to provide the required information in accordance with timelines outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, or Stipulated Consent Agreement Docket No. UGW09-03-A, then ~~DUSA~~EFR agrees to pay stipulated daily penalties upon written determination by the **DIRECTOR** as follows:

1. If ~~DUSA~~EFR fails to provide the **DIRECTOR** at least 14 calendar day notice prior to undertaking the following field activities; initial soil sampling, initial ground water pump installations, initial construction of the ammonium sulfate area cover, and initiation of well abandonment activities; related to Phase I and Phase II of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

2. If ~~DUSA~~EFR fails to comply with the May 7, 2012 White Mesa Uranium Mill CAP Quality Control requirements and/or the currently approved White Mesa Uranium Mill Ground Water Monitoring Quality Assurance Plan for collection and analysis of soil and water samples, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

3. If ~~DUSA~~EFR fails to provide quarterly reports as outlined in Part 10.2.6 of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP on or before 60 calendar days following the monitoring quarter, pursuant to monitoring reporting timelines included in the White Mesa Mill Ground Water Discharge Permit, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

4. If ~~DUSA~~EFR fails to meet any mandatory performance criteria outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

5. If ~~DUSA~~EFR fails to perform Phase I initial soil sampling within 30 days of the effective date of this **ORDER** or such other date as approved by the **DIRECTOR**, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

6. If ~~DUSA~~EFR fails to submit analytical data and a proposed Phase I cover design for the Ammonium Sulfate Crystal Tank source area for **DIRECTOR** review and approval within 60 days of ~~DUSA~~EFR receipt of all Phase I soil sampling data results, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

7. If ~~DUSA~~EFR fails to construct the Ammonium Crystal Tank source area cover within 60 days of design approval by the **DIRECTOR** or such other schedule as approved by the **DIRECTOR** then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

8. If ~~DUSA~~EFR fails to submit Discharge Minimization Technology Plan revisions with concrete pad maintenance and inspection requirements to the **DIRECTOR** on or before 45 days of the effective date of this **ORDER**, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

9. If ~~DUSA~~EFR fails to begin pumping wells TW4-22, TW4-24, TW4-25 and TWN-2 on or before 45 days after the effective date of this **ORDER**, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

10. If ~~DUSA~~EFR fails to submit a detailed Corrective Action Comprehensive Monitoring Evaluation (CACME) Report of the Phase II Nitrate CAP data and Phase III evaluation (5) years from the effective date of this **ORDER**; including but not limited to:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone including appropriate adjustments to the reclamation surety estimate;

    b) Identification of changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

    c) Preparation of a Phase III planning document,including, if required, a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3;

    then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

11. If ~~DUSA~~EFR fails to submit the revised surety cost estimate, in compliance with Part 11.E. of Stipulated Consent Agreement Docket UGW09-03-A and the May 7, 2012 White Mesa Uranium Mill Nitrate CAP Table 1, on or before 60 days from the effective date of this **ORDER**, then ~~DUSA~~EFR agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

12. If ~~DUSA~~EFR fails to submit evidence of adequate surety for Phase I and II of the White Mesa Mill Nitrate CAP within 30 days of **DIRECTOR** approval of the Phase I and II revised surety cost estimate, then ~~DUSA~~EFR will pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

~~DUSA~~EFR agrees to pay any required penalties in the form of a check, within 30 calendar days of written notice from the **DIRECTOR**, made payable to the State of Utah, and delivered or mailed to:

Division of Radiation Control,
Utah Department of Environmental Quality
P.O. Box 144850
168 North 1950 West
Salt Lake City Utah, 84114-4850

F. NOTICE

Compliance with the provisions of this **ORDER** is mandatory. Providing false information may subject ~~DUSA~~EFR to further civil penalties or criminal fines.

UCA § 19-5-115 provides that a violation of the ACT or a related order may be subject to a civil penalty of up to $10,000 per day of violation. Under certain circumstances of willfulness or gross negligence, violators may be fined up to $25,000 per day of violation.

Signed this _____ day of August, 2012

UTAH DIVISION OF RADIATION CONTROL

_____

Rusty Lundberg
Director

Attachment 4 -- May 7, 2012 Denison Mines (USA) Corp.
Nitrate Ground Water Corrective Action Plan
For the White Mesa Uranium Recovery Facility
Blanding, Utah

Attachment 5 – Final Stipulation and Consent Order, UGW12-04 – Blackline

Statement of Basis

Utah Division of Radiation Control
Draft Stipulation and Consent Order Docket No. UGW12-04
Nitrate Plume Corrective Action Plan for the Uranium Milling Facility
at White Mesa, South of Blanding, Utah

Energy Fuels Resources (USA) Inc.
225 Union Blvd., Suite 600
Lakewood, CO 80228

September 6, 2012

Purpose

The purpose of this Statement of Basis (SOB) is to describe the technical and regulatory basis for the proposed Stipulation and Consent Order (Order) Docket No. UGW12-04, and Energy Fuels Resources (USA) Inc. (EFR) May 7, 2012 Ground Water Corrective Action Plan for Nitrate (CAP) concerning the nitrate plume remediation at the White Mesa Uranium Mill facility located approximately six miles south of Blanding, Utah on the White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Base and Meridian, San Juan County, Utah.

Introduction and History

The White Mesa Uranium Mill was constructed in 1979-1980 and licensed under federal regulations by the Nuclear Regulatory Commission (Source Material License SUA-1358). Initially, the facility consisted of the Mill works and one tailings disposal cell, Cell 2, which was completed in May, 1980. In June 1981, construction of a wastewater storage pond, Cell 1, was completed. Construction of a second tailings cell, Cell 3, was completed in September, 1982. Tailings disposal Cell 4A was completed in January, 1990. On September 17, 2008, Tailings disposal Cell 4A was approved to receive tailings and wastewater. On January 27, 2011, Tailings disposal Cell 4B was completed and approved to receive tailings and wastewater.

Groundwater at White Mesa is primarily found in two aquifers: a shallow unconfined aquifer, and a deep underlying confined aquifer. The shallow aquifer is found almost entirely in the Cretaceous-age Burro Canyon Formation, where groundwater is perched on the top of the underlying Jurassic-age Brushy Basin Member of the Morrison Formation. The Brushy Basin Member is about 200-400 feet thick and consists of low permeability shale and mudstone in the Blanding area (Hintze, p. 200). At White Mesa, the Brushy Basin member is about 250 feet thick (7/94 Titan Environmental Report, Fig. 1.2) and the geologic contact between these two formations is found at a depth of about 78 to 149 feet below ground surface (bgs, see 9/6/02 IUC map submittal). The water table in the perched aquifer

is found at shallow depths, and discharges to seeps and springs along the margin of White Mesa. Upgradient to the mill site, the perched aquifer is used for drinking water, stock watering, and irrigation. Downgradient of the mill site, the perched aquifer supports stock watering and wildlife habitat.

The deep confined aquifer under White Mesa is found in the Entrada Sandstone and underlying Navajo Sandstones. IUC/EFR estimates the top of the Entrada Sandstone at the site is found at a depth of more than 1,150 ft bgs (7/94 Titan Environmental Report, Fig 2.3). This deep aquifer is hydraulically isolated from the shallow perched aquifer by at least two (2) shale members of the Morrison Formation, including the Brushy Basin (~295 feet thick) and the Recapture (~120 feet thick) Members (ibid., 1.2). Other formations are also found between the perched and deep confined aquifers, that also include many layers of thin inter bedded shale that contribute to the hydraulic isolation of the shallow and deep groundwater systems, including: the Morrison Formation Westwater Canyon (~120 feet thick) and Salt Wash (~120 feet thick) Members, and the Summerville Formation (~100 feet thick) [ibid]. Artesian groundwater conditions found in the deep Entrada/Navajo Sandstone aquifer display a pressurized system which reinforces the concept of hydraulic isolation from the shallow perched system. Regionally, the deep confined aquifer is the primary drinking water supply, and must be protected from pollution sources. A few miles south of the mill site, the Ute Mountain Ute Tribe community depends on this deep confined aquifer for drinking water.

Nitrate contamination of the shallow groundwater aquifer (Burro Canyon) was originally detected by Utah Division of Radiation Control (DRC) staff during preparation of a Permit Modification and review of the White Mesa Uranium Mill Quarterly Ground Water Reports. The initial DRC action was to issue EFR a written request for a "*Voluntary Plan and Schedule to Investigate and Remediate Nitrate Contamination*" by letter dated September 30, 2008. In response to the September 30, 2008 request, EFR submitted a "*Plan and Schedule for Nitrate Contamination Investigation Report and Groundwater Corrective Action Plan*" dated November 19, 2008.

Subsequent to the EFR November 19, 2008 Report, the follow actions took place,

Document/Meeting Date	Author / Event	Document/Meeting Summary
1/27/2009	DRC/EFR	The Director of the Utah Division of Radiation Control (DIRECTOR)[5] and EFR entered into a Stipulated Consent Agreement, Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water beneath and in the vicinity of the White Mesa Uranium Mill

[5] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Document/Meeting Date	Author / Event	Document/Meeting Summary
12/1/2009	DRC Letter	The DIRECTOR issued EFR a letter noting that elevated chloride concentrations exist, apparently coincident with elevated nitrate concentrations.
12/30/2009	EFR Report	EFR submitted to the DIRECTOR a Nitrate and Chloride Contaminant Investigation Report, prepared by their consultant INTERA, Inc.
10/5/2010	DRC Letter	The DIRECTOR issued a Notice of Additional Required Action (NARA) letter that notified EFR of the DIRECTOR'S determination that the 2009 CIR was incomplete.
12/20/2010	DRC/EFR Tolling Agreement	EFR and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA
2/18/2011	EFR Plan and Schedule	Pursuant to the Tolling Agreement (Rev. 0), EFR submitted a Plan and Schedule
3/21/2011	DRC Comments	The DIRECTOR provided comments to EFR regarding the Plan and Schedule
4/20/2011	DRC/EFR Meeting	EFR and the DIRECTOR agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study.
4/28/2011	DRC/EFR Tolling Agreement	EFR and the DIRECTOR entered into a Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting.
5/6/2011	EFR	Pursuant to the Tolling Agreement (Rev. 1), EFR submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation
5/11/2011	DRC Comments	The DIRECTOR provided comments to EFR regarding the May 6, 2011 Work Plan
May and June 2011	EFR Fieldwork	All comments were resolved, and EFR conducted field and laboratory work for the

Document/Meeting Date	Author / Event	Document/Meeting Summary
		Phase 1A-C study
6/3/2011	EFR Work Plan	Pursuant to the Tolling Agreement (Rev. 1), EFR submitted a Revised Phase 2 through 5 Work Plan and Schedule
6/23/2011	DRC Comments	The DIRECTOR provided comments to EFR regarding the June 3, 2011 Work Plan
6/30/2011	DRC/EFR Tolling Agreement	EFR and the DIRECTOR entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011.
7/1/2011	EFR Work Plan	EFR submitted a detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 of the investigation.
7/7/2011	DRC Comments	The DIRECTOR provided comments to EFR regarding the July 1, 2011 Work Plan
7/12/2011	EFR Revised Work Plan	EFR provided a revised July 12, 2011 Phase 2 QAP and Work Plan
7/18/2011	DRC	The DIRECTOR provided EFR a letter of conditional approval for the Jule 12, 2011 Phase 2 Work Plan
8/1/2011	EFR	EFR submitted preliminary laboratory results for Phase 1A through 1C of the study.
8/4/2011	EFR Work Plan	EFR provided a revision to the Phase 2 – 5 Work Plan
8/11/2011	DRC Comments	The DIRECTOR provided EFR comments regarding the August 1, 2011 laboratory results and August 4, 2011 Phase 2 – 5 Work Plan.
8/18/2011	EFR Work Plan	EFR submitted a revised Phase 2 – 5 Work Plan
8/25/2011	DRC Review Letter	The DIRECTOR advised EFR that based on deficiencies in the Phase 2-5 Work Plan and based on review of the preliminary laboratory results it "will be extremely difficult for EFR to demonstrate that the White Mesa Mill Site has not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill."

At a meeting between EFR and DRC representatives on August 29, 2011, to discuss the DIRECTORS's August 25, 2011, findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward, the parties agreed to the following:

a) After over two years of investigation it had been determined that there are site conditions that make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the potential various nitrate and chloride source(s);
b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;
c) The DIRECTOR and EFR agreed that activities related to the White Mesa Nitrate CIR would cease and that conclusions regarding the causation and attribution of nitrate and chloride ground water contamination source(s) would be left undetermined.
d) The DIRECTOR has determined that a CAP is required at the EFR White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);
e) EFR agreed to develop and implement a CAP after receiving DIRECTOR approval.

On August 21, 2011, EFR and the DIRECTOR entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring EFR to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

On September 30, 2011, the DIRECTOR and EFR entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for EFR to submit a Nitrate Contamination Corrective Action Plan (CAP) for DIRECTOR approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA, the Utah Code Annotated, and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

EFR submitted a November 30, 2011, Nitrate CAP for DIRECTOR review and approval in accordance with the SCA UGW09-03-A. The On January 19, 2012, the DIRECTOR submitted comments and additional required information regarding the November 30, 2011 CAP to EFR via URS Memorandum and cover letter. It was agreed by EFR and the DIRECTOR that a revised CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before February 27, 2012

EFR submitted a February 27, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. The DIRECTOR submitted comments and additional required information regarding the February 27, 2012 Nitrate CAP to EFR on March 19, 2012 via URS Memorandum and cover letter. It was agreed by EFR and the DIRECTOR that a revised CAP which addressed the additional information requirements would be submitted to the DIRECTOR on or before May 7, 2012

EFR submitted a May 7, 2012 Revised Nitrate CAP to the DIRECTOR for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

Summary of Stipulation and Consent Order UGW12-04

The Order is organized into 6 sections as summarized below:

A - STATUTORY AUTHORITY

This section cites laws (Utah Code Annotated) and rules (Utah Administrative Code) which provide the legal basis for issuing the order and legal definitions allowing the Director of the Utah Division of Radiation Control to issue orders which enforce the Water Quality Act and associated rules and permits.

B - APPLICABLE STATUTORY AND REGULATORY PROVISIONS

This section cites the applicable statutes and regulations under which the order is promulgated. Code Annotated 19-5-107(1)(a), Utah Admin. Code R317-6-6.15, and Stipulated Consent Agreement Docket Number UGW09-03A are cited in this section. The Stipulated Consent Agreement specifically required EFR to submit a Nitrate CAP for DIRECTOR review and approval and outlined that the CAP approval process would be achieved through the issuance of a future consent order by the DIRECTOR.

C - FINDINGS OF FACT

This section provides the history of the nitrate contamination at the White Mesa Uranium Mill, contaminant investigation activities, previous agreements, tolling orders, timelines, etc. This is to provide an understanding of the history, agreements and regulatory and legal provisions leading up to the Order.

D - ORDER

The Order consists of three items for mandatory implementation by EFR:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein. A summary of the CAP is included below; also, a copy of the CAP will be attached to the Order.

2. Five (5) years from the effective date of the Order EFR must submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the DRC that will include:

   a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;
   b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;
   c) Unless it has been determined to the satisfaction of the **DIRECTOR** that Phase II has returned or will return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5)years then preparation of a Phase III planning document including a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

   In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must to be certified by a Utah Licensed Professional Engineer or Geologist, and exposed to public notice and comment before DIRECTOR approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for DIRECTOR review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E - STIPULATED PENALTIES

The Order provides future penalties (economic incentives) for EFR to comply with the terms of the CAP, five (5) year performance evaluation, and, surety adjustment requirements.

The Order specifies daily stipulated penalties in the event that EFR fails to provide data in compliance with quality objectives outlined in the CAP and/or facility Quality Assurance Plan; fails to provide reports or CAP objectives according to specified timelines; or fails to provide performance objectives as outlined in the CAP. These stipulated penalties are included as 12 numbered items in the Order and are based on Utah Admin. Code R317-1-8-8.3 daily penalty categories and, as deemed appropriate, based on the nature of the potential violation. The inclusion of stipulated penalties provides incentive for EFR to comply with all elements of the CAP and Order within the specified timelines.

F - NOTICE

The Order clarifies that additional penalties will apply for submitting false information or for violations of the Water Quality Act or the Order according to statutory maximums of $10,000 per day or $25,000 per day (willfulness or gross negligence).

Summary of the May 7, 2012 CAP Content / Requirements

The May 7, 2012 CAP is structured to provide control and remediation of the Nitrate contamination in three phases as follows:

Phase I – Source Control for the Ammonium Sulfate Crystal Storage Tanks

Phase I includes a methodology to evaluate the physical extent of the soil contamination in the area of the ammonium sulfate crystal storage tanks and provide a concrete cover to prevent infiltration of surface water into the contaminated soils.

EFR will provide soil borings (to bedrock) in the area of the ammonium sulfate crystal tanks, according to agreed upon soil background screening levels (as determined during the contaminant investigation Phase 1A) and will provide estimates of the contaminated soil volumes. Contaminated soil volumes will be removed and disposed of prior to site closure. Surety estimates will include conservative estimates of all future soil volume and disposal costs.

The construction of the concrete cover will be subject to DIRECTOR review and approval and will be constructed with a minimum thickness of six (6) inches and appropriately sloped to provide drainage away from potential infiltration/migration into contaminated soil.

EFR will provide a plan for annual inspection, required repairs and annual documentation of the condition of the concrete cover in a revised version of the Discharge Minimization Technology Plan for the White Mesa Mill.

All soil sampling methodologies and Quality Assurance will be consistent with procedures implemented for the Phase 1A-C soils investigations employed for the nitrate contaminant investigation. The Nitrate Investigation Phase 1 work plan was dated May 13, 2011. Soil sampling will be conducted in rows successively farther away from the ammonium sulfate tanks to delineate the approximate lateral extent of the area above the approved soil screening levels for nitrate and ammonia (as N)

Phase II – Near Term Pumping of Contaminated Groundwater and Plume Assessment

Phase II of the CAP consists of near term ground water pumping within the high concentration areas of the nitrate plume, calculation and monitoring of hydraulic capture

zones, and monitoring of nitrate concentrations within the plume inside and outside of the hydraulic capture zones as delineated by plume maps included with the CAP.

The nitrate pumping system will consist of four currently installed ground water monitoring wells: TW4-22, TW4-24, TW4-25, and TWN-2. These wells were selected based on their location within high nitrate concentrations of the plume, and also with consideration of current pumping wells and hydraulic capture zones for the chloroform remediation system. EFR expects that pumping these wells will flatten the hydraulic gradients within the plume, reducing rates of any potential down gradient migration of pollutants and reducing the concentration within the hydraulic capture zone of the pumping system. The performance of the pumping system will be monitored by EFR and reports will be submitted to the DIRECTOR to substantiate the expected performance objectives.

The productivities and pump rates of the nitrate system are expected to be similar to those of the chloroform pumping wells, based on comparisons of hydraulic parameters. Monitoring at wells down gradient of the capture zone will be assessed to insure that the plume is not expanding and to determine the rate of natural attenuation at monitoring wells outside of the hydraulic capture zone.

Quarterly reports will be submitted to the DIRECTOR which will include all elements of the current chloroform corrective action monitoring reports including:

1. Tabular compilations of groundwater level measured in non-pumped wells over time,
2. Water level data from pumped wells over time,
3. Running and cumulative groundwater volumes removed from each pumping well,
4. Calculation of quarterly nitrate mass removed by pumping,
5. Comparison of the current areal extent of the nitrate plume from the latest quarter with the previous reporting period, and
6. Discussion of any contingencies to be implemented.

The Order includes stipulated penalties for failing to provide the reports in compliance with the May 7, 2012 CAP and defines a due date of on or before 60 calendar days following the end of the quarter consistent with requirements of the facility Ground Water Discharge Permit.

Phase III – Long Term Nitrate Assessment and Planning

As anticipated by the Stipulated Consent Agreement Docket UGW09-03-A, the May 7 2012 CAP does not specify the details of the Phase III comprehensive long term remediation plan for the nitrate contamination. The May 7, 2012 CAP Part 7.3 commits to an evaluation of the Phase II activities following the collection of five (5) years of performance data, written to include the following:

1. Estimate of the rate of nitrate plume remediation and a potential estimation of a project timeline for remediation through the continued implementation of Phase II (and surety adjustment), or
2. Identification of changes to Phase II to improve its effectiveness or accelerate the restoration timeline, or
3. Identify whether Phase III activities, including application for potential alternate corrective action concentration limits (ACACL) may be necessary in lieu of, or in combination with, Phase II activities.

In order to eliminate ambiguity in the May 7, 2012 CAP regarding the timing and content of the Phase III implementation and timelines, the DIRECTOR has included an Order requirement for a mandatory submission of a performance evaluation of the CAP including a Phase III planning document, five (5) years from the effective date of the Order. This requirement is also discussed in the Order Summary section above.

The DIRECTOR sees this requirement as necessary in order to fulfill the requirement in Utah Admin. Code R317-6-6.15(E) that the corrective action will produce a permanent effect.

DIRECTOR Findings Required by UAC R317-6-6.15(E)

After review of the May 7, 2012 EFR Correction Action Plan, and with consideration of all required actions included in the proposed Order, the DIRECTOR has determined the requirements of UAC R317-6-6.15(E) are met as follows:

11. Completeness and Accuracy of the Corrective Action Plan [§ 6.15(E)(1)] – The DIRECTOR has determined that the available records of groundwater and other technical information used in the development of the May 7, 2012 CAP is sufficient to support source control and a pump and treat remediation strategy for the White Mesa nitrate contamination.

12. Action Protective of Public Health and the Environment [§ 6.15(E)(2)] – The DIRECTOR has determined that the pump and treat technology proposed in the May 7, 2012 CAP, will protect public health and the environment by maintaining the nitrate plume on property owned by EFR, and by ongoing evaluation of the plume remediation (performance standards) efficiency and future decisions related to continued nitrate plume remediation based on acquired performance data.

13. Concentration Limits [§ 6.15(E)(3)] – The groundwater cleanup concentration goals are based on the State Groundwater Quality Standards in UAC R317-6-2, Table 1. Therefore, the May 7, 2012 CAP, as proposed by EFR, meets this rule requirement.

14. Action Produces a Permanent Effect [§ 6.15(E)(4)] – The DIRECTOR has determined that this requirements is met, in that the pump and treat technology proposed by EFR will maintain the contamination on land owned by EFR in the near

term, and that EFR will provide an evaluation of long term remediation, based on acquired performance data, five (5) years from the effective date of the Order.

15. Action May Use Other Additional Measures [§ 6.15(E)(5)] – The May 7, 2012 CAP includes adequate long-term monitoring, operation, and maintenance requirements to be protective of public health and the environment. Periodic review of the remediation activities for the nitrate plume will be to be provided by quarterly monitoring and reporting.

References

Denison Mines (USA) Corp., May 7, 2012 *Corrective Action Plan for Nitrate, White Mesa Uranium Mill Near Blanding, Utah*, prepared by Hydro Geo Chem, Inc.

Denison Mines (USA) Corp., May 25, 2012, *White Mesa Uranium Mill Groundwater Monitoring Quality Assurance Plan*

EPA 600/R-08/003, January 2008, *A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems*

Hintze, L.F., 1988, *Geologic History of Utah*, Brigham Young University Geology Studies Special Publication 7, 202 pp.

State of Utah, Ground Water Discharge Permit, Permit No UGW370004, Denison Mines USA Corp. Uranium Milling and Tailings Disposal Facility, Blanding Utah

Titan Environmental Corporation, July 1994, *Hydrogeologic Evaluation of White Mesa Uranium Mill*

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

IN THE MATTER OF Energy Fuels Resources (USA) Inc. 225 Union Blvd., Suite 600 Lakewood, CO 80228	STIPULATION AND CONSENT ORDER DOCKET No. UGW12-04

A. STATUTORY AUTHORITY

This **STIPULATION AND CONSENT ORDER (ORDER)** is issued to Energy Fuels Resources (USA) Inc. (**EFR**) facility, by the Director of the Utah Division of Radiation Control [6] (**DIRECTOR**) under the Utah Water Quality Act, Utah Code Ann. §§ 19-5-101 to 19-5-123 (**ACT**), including sections 19-5-104, -106, -111 and -115. This **ORDER** is also issued in accordance with the Utah Administrative Procedures Act, Utah Code Ann. §§ 63G4-101 to 63G-4-601 and Administrative Procedure Rules, Utah Admin. Code (UAC) R305-6.

Under the Water Quality Act, Utah Code Title 19, Chapter 5, "Director" for purposes of groundwater quality at a facility licensed by and under the jurisdiction of the Division of Radiation Control, means the Director of the Division of Radiation Control. Utah Code Ann. § 19-5-102(6).

The **DIRECTOR** may enforce rules made by the Water Quality Board through the issuance of orders in accordance with Utah Code Ann. § 19-5-106(2)(d)

B. APPLICABLE STATUTORY AND REGULATORY PROVISIONS

1. Utah Code Ann. § 19-5-107(1)(a) requires that "Except as provided in this chapter or rules made under it, it is unlawful for any person to discharge a pollutant into waters of the state or to cause pollution which constitutes a menace to public health and welfare, or is harmful to wildlife, fish or aquatic life or impairs domestic, agricultural, industrial, recreational, or other beneficial uses of water, or to place or cause to be placed any wastes in a location where there is probable cause to believe it will cause pollution."

2. Utah Admin. Code R317-6-6.15 Corrective Action – outlines the requirements for demonstration to the **DIRECTOR** that a corrective action plan meets completeness and accuracy requirements, is protective of the public health and environment, meets all corrective action concentration limits specified by Utah Ground Water Quality Standards or alternate Corrective Action Concentration Limits, and that the corrective action produces a permanent effect.

3. The **DIRECTOR** and **EFR** entered into a Stipulated Consent Agreement (SCA), Docket Number UGW09-03-A which was duly executed on September 30, 2011. The Stipulated Consent Agreement included a requirement that **EFR** submit a Nitrate Contamination Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and Utah Admin. Code cited therein (including R317-6-6.15) to remediate (return to compliance) ground water contaminated with nitrate at concentrations above Utah Ground Water Quality Standards at the White Mesa Uranium Mill. The Stipulated

[6] Effective May 8, 2012 and in accordance with Utah Code Ann. § 19-1-105 the title "Executive Secretary" was changed to "Division Director."

Consent Agreement additionally required updates to the White Mesa Mill Surety. Development of the Corrective Action Plan was required to be implemented in Phases as follows:

a) Phase I – to include nitrate source control for potential ground water contamination from ammonia (as N) and nitrate contaminated soil in the vicinity of the Ammonium Sulfate Crystal Tanks at the White Mesa Uranium Mill,

b) Phase II – to include near term active remediation of the ground water nitrate contamination by development, implementation, operation and monitoring requirements for a pumping well network designed to contain and hydraulically control the nitrate ground water plume to maintain concentrations at or below the Utah Groundwater Quality Standard of 10 mg/L.

c) Phase III – if it has not been demonstrated to the satisfaction of the **DIRECTOR** that Phase II has returned or will return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5) years, to include a comprehensive long term solution for the ground water nitrate contamination based on an i) evaluation of the continuation of Phases I and II activities alone or in combination with monitored natural attenuation, and as necessary, ii) an evaluation of additional remediation and monitoring technologies and techniques, determination of any additional hydrogeologic characterization, groundwater contaminant travel times and directions, determination of ultimate points of exposure to the public and/or wildlife, appropriate risk analysis, cost benefit analysis; and possible development of a petition to the **DIRECTOR** for alternate corrective action concentration limits pursuant to Utah Admin. Code R317-6-615(G). The Stipulated Consent Agreement specified that Phase III of the CAP will not be determined at the outset, but may be proposed by EFR at a later date, after enough data had been collected to evaluate the effectiveness of Phase II.

C. FINDINGS OF FACT

1. **EFR** receives and processes natural uranium-bearing ores including certain specified alternate feed materials, and possesses byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee's milling operations. This facility is located approximately 6 miles south of Blanding, Utah on White Mesa in Sections 28, 29, 32, and 33, Township 37 South, Range 22 East, Salt Lake Baseline and Meridian, San Juan County, Utah (White Mesa Uranium Mill).

2. On January 27, 2009, the **DIRECTOR** and **EFR** entered into a 2009 Stipulated Consent Agreement (2009 SCA), Docket No. UGW09-03 regarding Nitrate Contaminant Investigation activities for the ground water beneath and in the vicinity of the White Mesa Uranium Mill. Part of which set forth the following requirements:

   a) **EFR** was required to submit a written Contaminant Investigation Report (CIR) for the **DIRECTOR** to review and approve. Among other things the CIR was to characterize the source(s), physical extent, transfer mechanisms and characteristics of Nitrate contamination of the shallow aquifer at the White Mesa Mill; and

   b) If determined by the **DIRECTOR** that a Corrective Action Plan (CAP) were required to address and resolve the Nitrate contamination, **EFR** would then enter into a new SCA which would require submittal of a CAP, for **DIRECTOR** review and approval. Said CAP would

be required to set forth required performance standards and an implementation schedule for groundwater corrective actions.

3. Pursuant to Item 6.A of the 2009 SCA, **EFR** submitted a CIR to the **DIRECTOR.** The CIR, dated December 30, 2009, and entitled "Nitrate Contamination Investigation Report White Mesa Uranium Mill Site Blanding, Utah" (2009 CIR) had been prepared by their consultant INTERA, INC.

4. On October 5, 2010, the **DIRECTOR** issued a Notice of Additional Required Action (NARA) letter that notified **EFR** of the **DIRECTOR'S** determination that the 2009 CIR was incomplete and that, as a result of this determination, under Item 7.C of the 2009 SCA, **EFR** was to remedy the omissions in the 2009 CIR.

5. On December 20, 2010, **EFR** and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 0) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion of the additional items required by the NARA.

6. Pursuant to the Tolling Agreement (Rev. 0), **EFR** submitted a Plan and Schedule on February 14, 2011 and a revised Plan and Schedule on February 18, 2011, and by agreement of both parties, the **DIRECTOR** provided his comments on the revised Plan and Schedule on March 21, 2011.

7. In an April 20, 2011 meeting, **EFR** and the **DIRECTOR** agreed that the Plan and Schedule to conduct additional nitrate investigations would be composed of at least four (4) and possibly five (5) phases of study, including:

   a) Phase 1A through C – including geoprobe drilling, and soil sampling / analysis of soils to investigate:
      a) Possible natural nitrate salt reservoir in the vadose zone (Phase 1A);
      b) Potential nitrate sources in the mill site area (Phase 1B); and
      c) Other potential nitrate sources (Phase 1C).

   b) Phase 2 – including groundwater quality sampling and analysis of existing monitoring wells for non-isotopic analytes.

   c) Phase 3 – including deep bedrock core sampling / analysis of possible nitrate reservoir and nitrate source locations, with similar objectives as Phases 1A through C.

   d) Phase 4 – including stable isotopic sampling / analysis of groundwater in existing monitoring wells. Details of this investigation were to be determined at a later date, and approved by both parties.

   e) Phase 5 – including stable isotopic sampling / analysis of soil/core samples, if needed.

8. On April 28, 2011, **EFR** and the **DIRECTOR** entered into a new Revised Tolling Agreement (Tolling Agreement Rev. 1), to extend the Tolling Period through June 30, 2011 and adopt the agreements made in the April 20, 2011 meeting. Under the Tolling Agreement (Rev. 1), **EFR** agreed to submit a Revised Phase 1 (A through C) Work Plan on or before May 6, 2011 and a Revised Phase 2 through 5 Work Plan and Schedule on or before June 3, 2011.

9. Pursuant to the Tolling Agreement (Rev. 1), on May 6, 2011, **EFR** submitted a Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C investigation prepared by INTERA, for **DIRECTOR** review.

10. On May 11, 2011, the Utah Division of Radiation Control (DRC) e-mailed comments to **EFR** on the May 6, 2011 Revised Phase 1 (A through C) Work Plan and Schedule for the Phase 1 A – C, which included a May 11, 2011 URS memorandum, and requested that **EFR** resolve all DRC comments before initiation of field activities.

11. All comments were resolved, and **EFR** conducted field and laboratory work for the Phase 1A-C study in May and June, 2011.

12. Pursuant to the Tolling Agreement (Rev. 1), **EFR** submitted a June 3, 2011 Revised Phase 2 through 5 Work Plan and Schedule (Phase 2 – 5 Work Plan), prepared by INTERA, for **DIRECTOR** review.

13. In a letter dated June 23, 2011 the DRC provided comments on the June 3, 2011 **EFR** document in the form of a URS memorandum, dated June 23, 2011. The **DIRECTOR** advised **EFR** that in order to revise the 2009 SCA to incorporate the deliverables and timelines set out in an Phase 2 through 5 Work Plan, it would be necessary to provide a level of detail in revisions of that Work Plan for Phases 2, 3, 4, and 5 comparable to the level of detail for Phase 1 contained in Attachment 1 of the Tolling Agreement (Rev. 1).

14. On June 30, 2011, **EFR** and the **DIRECTOR** entered into a Revised Tolling Agreement [Tolling Agreement (Rev. 2)] to extend the Tolling Period to August 31, 2011, to allow time to revise the Phase 2 through 5 Work Plan to provide the level of detail required to construct a replacement SCA.

15. Pursuant to the Tolling Agreement (Rev.2), **EFR** submitted a separate July 1, 2011 detailed Work Plan and Quality Assurance Plan ("QAP") for the Phase 2 investigation only (Phase 2 Plan, Revision 0). **DIRECTOR** comments on this document were provided in a July 7, 2011 DRC letter to **EFR**.

16. Pursuant to the Tolling Agreement (Rev. 2), **EFR** provided a revised July 12, 2011 Phase 2 QAP and Work Plan (Phase 2, Revision 1.0). DRC conditionally approved this document in a letter dated July 18, 2011.

17. On August 1 and 2, 2011 **EFR** submitted preliminary laboratory results for the Phase 1A-C study to the **DIRECTOR** by email.

18. Pursuant to the Tolling Agreement (Rev. 2), on August 4, 2011, **EFR** provided a revision to the Phase 2 – 5 Work Plan (Phase 2-5 Work Plan, Revision 1.0), prepared by INTERA, for **DIRECTOR** review.

19. On August 11, 2011, in a conference call and email which included an August 11, 2011 URS memorandum (August 11, 2011 URS Memo) the DRC commented on the Phase 2-5 Work Plan, Revision 1.0 and on the August 1, 2011 preliminary laboratory results for the Phase 1A-C study.

20. In accordance with the Tolling Agreement (Rev. 2) on August 18, 2011, **EFR** submitted a revised Phase 2-5 Work Plan (Phase 2-5 Work Plan, Revision 2.0) for **DIRECTOR** review, in response to the DRC comments provided to **EFR** on August 11, 2011.

21. In a DRC letter dated August 25, 2011, the **DIRECTOR** advised that:

    a) after review of the Phase 2-5 Work Plan, Revision 2.0, the **DIRECTOR** determined that a finalized Plan and Schedule, that meets the satisfaction of the **DIRECTOR**, and which would allow the preparation of a replacement SCA, is not possible at this time;

    b) based on the multiple deficiencies in the Phase 2-5 Work Plan, Revision 2.0, the development of a replacement SCA for continued contaminant investigation activities is not supported, and

    c) based on the August 1, 2011 **EFR** preliminary results of Phases 1A through 1C, it would be extremely difficult for **EFR** to demonstrate that the White Mesa Mill Site had not caused at least part of the contamination found in the nitrate and chloride plume(s) beneath the mill.

22. On August 29, 2011, **EFR** and DRC representatives met to discuss the **DIRECTOR's** August 25, 2011 findings related to the Phase 2-5 Work Plan Rev. 2.0, and the approach forward. At the meeting the parties agreed to the following:

    a) After over two years of investigation it was determined that site conditions make it difficult to determine the total number, locations, magnitude of contribution, and proportion of the various potential nitrate and chloride source(s);
    b) As a result, resources will be better spent in developing a CAP in accordance with R317-6-6.15(D), rather than continuing with further investigations as to the source(s) of the contamination;
    c) The **DIRECTOR** and **EFR** agreed that activities related to the White Mesa Nitrate CIR would cease and that conclusions regarding the causation and attribution of nitrate and chloride ground water contamination source(s) would be left undetermined.
    d) The **DIRECTOR** determined that a CAP was required at the **EFR** White Mesa facility, pursuant to UAC R317-6-6.15(C)(1);
    e) **EFR** agreed to develop and implement a CAP after receiving **DIRECTOR** approval.

23. On August 21, 2011, **EFR** and the **DIRECTOR** entered into a Tolling Agreement (Tolling Agreement Rev. 3) to defer any monetary penalties that might accrue under the 2009 SCA, and provide a time period (Tolling Period) for completion and execution of a replacement Stipulated Consent Agreement (requiring **EFR** to prepare and submit a Corrective Action Plan) on or before September 30, 2011.

24. On September 30, 2011, the **DIRECTOR** and **EFR** entered into a Stipulated Consent Agreement, Docket Number UGW09-03-A. The SCA included a requirement for **EFR** to submit a Nitrate Contamination Corrective Action Plan (CAP) for **DIRECTOR** approval on or before November 30, 2011. The CAP was required to meet all conditions of the SCA and the Utah Administrative Code cited therein to address ground water contaminated with nitrate (at concentrations above Utah Ground Water Quality Standards) at the White Mesa Uranium Mill.

25. On November 30, 2011, **EFR** submitted a Nitrate CAP for **DIRECTOR** review and approval in accordance with the SCA UGW09-03-A.

26. The **DIRECTOR** sent a January 19, 2012 URS Memorandum and cover letter to **EFR** commenting and requiring additional information on the November 30, 2011 CAP. **EFR** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before February 27, 2012.

27. **EFR** submitted a Revised Nitrate CAP to the **DIRECTOR** for review and approval, dated February 27, 2012.

28. The **DIRECTOR** sent a March 19, 2012 URS Memorandum and cover letter to **EFR** commenting and requiring additional information on the February 27, 2012 CAP. **EFR** and the DRC agreed that a revised CAP which addressed the additional information requirements would be submitted to the **DIRECTOR** on or before May 7, 2012.

29. On May 7, 2012 **EFR** submitted a revised Nitrate CAP to the **DIRECTOR** for review and approval. Based on DRC and URS review of the revised CAP it was determined that it appeared to address the additional information required in the March 19, 2012 Memorandum and cover letter and that the May 7, 2012 Nitrate CAP meets the requirements of Stipulated Consent Agreement, Docket Number UGW09-03-A.

D. ORDER

In view of the foregoing **FINDINGS**, and pursuant to Utah Code Annotated §§ 19-5-106(2)(d) and 19-5-115 **EFR** is hereby ordered to:

1. Fully implement all elements of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP according to, but not limited to, Phases and activities, timelines, monitoring frequencies and protocols, reporting requirements, and objectives outlined therein.

2. Five (5) years from the effective date of this **ORDER**, **EFR** shall submit a Corrective Action Comprehensive Monitoring Evaluation (CACME) Report to the Utah Division of Radiation Control (DRC) that will include:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone, including appropriate adjustments to the reclamation surety estimate;

    b) Identification of any changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

    c) Unless it has been determined to the satisfaction of the **DIRECTOR** that Phase II has returned or will return groundwater nitrate concentrations to the Utah Groundwater Quality Standard within five (5) years then preparation of a Phase III planning document including a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3.

    In order to comply with the requirements of UAC R317-6-6.15(D)(3) and R317-6-6.15(E), the performance evaluation must be certified by a Utah licensed Professional Engineer or Geologist, and will be exposed to public notice and comment before **DIRECTOR** approval.

3. Submit a revised Reclamation Plan and financial surety cost estimate for **DIRECTOR** review and approval as required in Stipulated Consent Agreement Docket No. UGW09-03-A, Part 11.E.

E. STIPULATED PENALTIES

In the event that **EFR** fails to provide the required information in accordance with timelines outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, or Stipulated Consent Agreement Docket No. UGW09-03-A, then **EFR** agrees to pay stipulated daily penalties upon written determination by the **DIRECTOR** as follows:

1. If **EFR** fails to provide the **DIRECTOR** at least 14 calendar day notice prior to undertaking the following field activities; initial soil sampling, initial ground water pump installations, initial construction of the ammonium sulfate area cover, and initiation of well abandonment activities; related to Phase I and Phase II of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then **EFR** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

2. If **EFR** fails to comply with the May 7, 2012 White Mesa Uranium Mill CAP Quality Control requirements and/or the currently approved White Mesa Uranium Mill Ground Water Monitoring Quality Assurance Plan for collection and analysis of soil and water samples, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

3. If **EFR** fails to provide quarterly reports as outlined in Part 10.2.6 of the May 7, 2012 White Mesa Uranium Mill Nitrate CAP on or before 60 calendar days following the monitoring quarter, pursuant to monitoring reporting timelines included in the White Mesa Mill Ground Water Discharge Permit, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

4. If **EFR** fails to meet any mandatory performance criteria outlined in the May 7, 2012 White Mesa Uranium Mill Nitrate CAP, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

5. If **EFR** fails to perform Phase I initial soil sampling within 30 days of the effective date of this **ORDER** or such other date as approved by the **DIRECTOR**, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

6. If **EFR** fails to submit analytical data and a proposed Phase I cover design for the Ammonium Sulfate Crystal Tank source area for **DIRECTOR** review and approval within 60 days of **EFR** receipt of all Phase I soil sampling data results, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

7. If **EFR** fails to construct the Ammonium Crystal Tank source area cover within 60 days of design approval by the **DIRECTOR** or such other schedule as approved by the **DIRECTOR** then **EFR** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

8. If **EFR** fails to submit Discharge Minimization Technology Plan revisions with concrete pad maintenance and inspection requirements to the **DIRECTOR** on or before 45 days of the effective date of this **ORDER**, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

9. If **EFR** fails to begin pumping wells TW4-22, TW4-24, TW4-25 and TWN-2 on or before 45 days after the effective date of this **ORDER**, then **EFR** agrees to pay stipulated penalties in the amount of $500 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category D.

10. If **EFR** fails to submit a detailed Corrective Action Comprehensive Monitoring Evaluation (CACME) Report of the Phase II Nitrate CAP data and Phase III evaluation (5) years from the effective date of this **ORDER**; including but not limited to:

    a) An estimate of the rate of nitrate plume remediation (percent mass reduction and concentration reduction per year) and projected timeline to return ground water nitrate concentrations to the Ground Water Quality Standards using Phase II alone including appropriate adjustments to the reclamation surety estimate;

    b) Identification of changes to Phase II to improve effectiveness and accelerate the restoration timeline, and;

    c) Preparation of a Phase III planning document,including, if required, a transport assessment, a hazard assessment, and an exposure assessment along with a corrective action assessment including an evaluation of best available remedial technologies as described in the May 7, 2012 CAP Section 7.3;

    then **EFR** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

11. If **EFR** fails to submit the revised surety cost estimate, in compliance with Part 11.E. of Stipulated Consent Agreement Docket UGW09-03-A and the May 7, 2012 White Mesa Uranium Mill Nitrate CAP Table 1, on or before 60 days from the effective date of this **ORDER**, then **EFR** agrees to pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

12. If **EFR** fails to submit evidence of adequate surety for Phase I and II of the White Mesa Mill Nitrate CAP within 30 days of **DIRECTOR** approval of the Phase I and II revised surety cost estimate, then **EFR** will pay stipulated penalties in the amount of $2,000 per calendar day, pursuant to Utah Admin. Code R317-1-8-8.3, Category C.

EFR agrees to pay any required penalties in the form of a check, within 30 calendar days of written notice from the **DIRECTOR**, made payable to the State of Utah, and delivered or mailed to:

Division of Radiation Control,
Utah Department of Environmental Quality
P.O. Box 144850
168 North 1950 West
Salt Lake City Utah, 84114-4850

F. NOTICE

Compliance with the provisions of this **ORDER** is mandatory. Providing false information may subject **EFR** to further civil penalties or criminal fines.

UCA § 19-5-115 provides that a violation of the ACT or a related order may be subject to a civil penalty of up to $10,000 per day of violation. Under certain circumstances of willfulness or gross negligence, violators may be fined up to $25,000 per day of violation.

Signed this _____ day of August, 2012

UTAH DIVISION OF RADIATION CONTROL

_____

Rusty Lundberg
Director