Written Comments

Blue Cards

WC 1	F---- this s---- cause white people will think they $.
WC 2	Please limit your analysis and be explicit that you are doing so, for the Klondike site, to its suitability for the Moab site's waste. I do not want it to turn into a waste site for other messes.
WC 3	Sounds like people are scared about things, they do not know about. Need more education. You can educate, not just listen! Afraid that somehow they might get hurt.
WC 4	I believe the programs are in place to protect us. The water development that will occur and jobs created make the WMM option the way to go, take care of the tailings once and for all.
WC 5	Capping is likely to be litigated by downstream users. Please factor those costs and the costs of delays into your analysis.
WC 6	In the quantitative aspect of risk cost benefit analysis, please give the long-term environmental and human health risks as much weight as possible.
WC 7	I'm for it (WMM-Blanding meeting). I support my family with this and its just a ways from where I live, so I am all for it.
WC 8	It would kill the old people and babies too.
WC 9	This could be good for us if environmental concerns are proved to be okay for us. Too many people are too emotional and afraid.
WC 10	Please analyze impacts to local human population from airborne particulates from uncapped pile for different time periods (1, 3, 5, 10, and 20 years). While its not directly applicable to final solution, it might be helpful in getting something done in a timely manner. (I don't want to be breathing this stuff every Spring while funding struggles through Congress for the next decade.) Thank you.
WC 11	White Mesa residents don't realize or over-reacting about the mill south of Blanding. Its been built since 1980. I've worked there since the first start up and have been there for 14+ years. It's well kept clean throughout the mill plus the tailings cells, one was brought up that the fencing around the cells need to be higher so the animals won't get into the ponds. I think he is right. Moab tailings need to go to Klondike Flats as was planned last summer and future jobs for us.

WC 12 Due to financial constraints, UDOT is not including loads from mill site in pavement design of the new 4-land road from SR-279 to SR-313.

WC 13 When ECDC was first proposed to be built in this area, there was tremendous opposition to it. At that time we were promised that hazardous waste will never be brought in here. I am very opposed to having the tailings brought to ECDC. I feel they should be moved to a site that would have minimal impact on vegetation, animal, and human life.

WC 14 I am not in favor of the tailings being brought to ECDC.

WC 15 The San Juan County Commission is strongly in favor of relocating the tailings to the WMM site. It is our sensing that the majority of the San Juan County residents support moving the waste to the WMM site. Moving it through a slurry line is certainly the preferred mode. A long-term benefit of using a slurry line would be the future use of the pipeline for bringing water from the Colorado River to the communities of Monticello, Blanding, and White Mesa Ute communities. We feel that the tailings must be relocated. We feel that storing it at any site other than White Mesa will have long-term residual problems of monitoring and future possibility of a follow on relocation. The cost of a slurry line move to White Mesa appears to be the least of all alternatives, in the long run.

WC 16

1)Leave pile in place

a) Nitrate in pond best left alone.
b) Natural occurring radiation from the pond will be a hazard to Moab.
c) No once has seen a dead fish caused by the pond.
d) Radon levels well go up in Moab once the seal on the pond. Winds most often goes from the pond to Moab.

2) Do a detailed study of occurring cancer cases before Atlas – during Atlas and after removal – in Moab and Spanish Valley. Do the cases increase or decrease?

3) What happens when radon is released into the air when the pile is removed?

4) Who have you interviewed about the contents of the pond? I helped on the evaporation system and being a foreman for 20 years, I know what went into the pond. No one has talked to me. How thorough has the study been?

WC 17 I have just recently moved to Blanding and White Mesa, Utah. I reside on the White Mesa Reservation, and I have grown quite fond of my residence. No matter what has been said about the chemicals, they are harmful and can be deadly. There may not be a quick reaction, but in the long run it will harm the community. I am for the people, in particular the children, the youth. UTE INDIANS will be extinct by allowing this pipe to run here. I am against the project. Thank you.

WC 18

STOP THE DESECRATION OF OUR SACRED SITES & STOP THE THREATS TO WHITE MESA'S HEALTH

from International Uranium Corporation White Mesa Uranium Mill

Stop Dumping on Our Sacred Land:

The uranium mill site was built on lands sacred to Ute and Navajo peoples, directly on top of ancient burial sites and near many archaeological sites.

> Radioactive & toxic pollution has a negative impact on traditional gathering & hunting. We are worried about effects on animals, medicinal herbs, plants & water.

The use of the sacred land of White Mesa to process the wastes of others is a continuing assault on Native traditions and spirituality and is an act of racism.

New Danger for White Mesa:

IUC wants to build a pipeline to bring the radioactive Moab uranium pile to White Mesa.

This means more radioactive material would be dumped at White Mesa, along with enormous amounts of contaminated water that IUC would "evaporate" into our air.

Threat to Community Health:

The IUC site is a dumping ground for radioactive wastes from around the country.

The mill refines uranium, uses toxic chemicals (including acids, ammonia, and organic solvents) & stores massive amounts of radioactive waste on site.

Even radioactive wastes from atomic bomb manufacture have been sent to the site.

Radioactive material is left in giant piles around the plant, blowing in the wind.

The non-uranium by-products of IUC's operations contain heavy metals, trace radioactivity, and other toxics, which are permanently dumped on site.

The tailings ponds contain highly toxic materials such as lead, uranium and sulfuric acid, so in reality they are hazardous waste dumps.

The plant was cited in 1999 for contaminating groundwater with chloroform - despite the company's insistence that groundwater contamination was impossible.

With thousands of tons of radioactive waste processed at the mill, the question is not whether the groundwater will be further contaminated with radioactivity, but when.

What You Can Do:

Speak out against the desecration of burial grounds and other sacred sites
Speak out against the threat to our health and environment
Oppose the uranium mill being a radioactive & toxic waste dump

E-mails

WC 19

Why would the State of Utah be so eager to truck six times the amount of debris hauled from the World Trade Center collapse across 90 miles of the most dangerous hi-way in Utah to the White Mesa Mill?

Simple, in retribution to the goushutes in Northern Utah who are cousins to the Piutes. I can hear Mike Leavitt now, "So you want nuclear waste? Here's your nuclear waste... Cackle."
The mormons have had a long history of treating the Indians poorly and contaminating the piute's water will just be another notch in the gun handle. If these people are really the "Chosen People" of the Book of Mormon then you are the Roman Empire come to enslave, exploit and then simply discard them.

WC 20

How many times is the White Mesa uranium "recycling" mill going volunteer to "recycle" any available waste? There was waste in New Jersey, it was shipped to White Mesa, until Nuclear Fuel Services Inc. were told NO.

Whatever happened to the EPA's concerns of alternate feed systems? Where are their concerns now?

What about the Incident at Oglala? It's not nice to go around polluting the Native American's ground water using Ruby Ridge/Waco tactics.

Need I say more? OK, how many miles is it to the ECDC landfill in Carbon County and how much better are the roads to that site?

If San Juan County is so eager to create economic stimulus why did they allow the former and late County Commissoner Calvin Black to virtually sell Lake Powell to Del Webb/Aramark Industries? Now we are stuck with a federal contractor that is in violation of anti-trust laws and possibly the worst employer we could have. Cal made his money on that deal. These people can't be trusted.

WC 21

To whom it may concern-

I have been studying water pollution in rivers and groundwater for a year and a half now at the university and wish to offer a couple of points to your discussion yet unsaid on the Atlas Tailing pile. I definately want to commend everyone for having passionate views about what the piles fate may be standing in the face of such a larger than life project. Unfortunately, passion alone does not move the pile, and only sound science based on the movement of water and pollutants through the pile and into the river will bring about the

necessary information to tip the scale towards relocation. I believe this information I am about to give you is going to tip your scale and give more weight to the eventual movement of the pile.

The dry wash that follows Highway 191 into Moab has been diverted around the pile once it reaches Moab. For those of you unfamiliar, a "wash" is the seasonal creek that only flows during rain events. You can see it as you drop into Moab on the side of the freeway along the fault. Once you reach the pile it was artificially diverted beneath the freeway and around the pile. So check it out the next time you drive by that area. One characteristic of a dry creek or wash is even though there is a lack of surface water flow, water still flows through the sand beneath the surface. Most land owners have dropped their wells near these areas to tap into the underground water moving with gravity to lower elevations. My main point is this: Even though the dry wash has been diverted on the surface around the pile, the groundwater is still acting the same way. I would speculate that the majority of water that is moving through the pile in sub-surface flow is coming from this dry wash. You may be asking yourself by now, so what?

This Atlas Tailings Pile has been sitting on the bank of the Colorado for roughly 50 years now. The depth of the pile is estimated to be 12 feet below the ground surface. You can bet that the chemicals in this pile have settled vertically or to deeper depths over those 50 years. Some calculations have already been done to estimate the load into the river based on water flow through the pile. I believe the majority of water flowing through this pile is coming from the historically diverted dry creek. Forgive me for not knowing the name of the dry creek, but maybe the editor could add the name for me.

So if this pile is capped, how does it change the water flow through the pile, and the subsequent pollutant load into the river? Are these not the fundamental questions to be answered? I forget the price tag for capping where it must be around 120 million dollars of so. I would guess that would be almost completely wasted money, and we would be better off leaving it alone for now. The reason is that capping the pile keeps water from flowing through the pile from the top and through to the base and into the river. It doesn't rain that much in Moab, maybe 10 inches a year on average. It is hardly worth blocking 10 inches of surface rain moving through the pile. Once again the real significant water flow is coming from the faultline and flowing through the pile from north of town and into the river. This is the area of interest that needs to be studied before anymore significant discussion can happen on what to do.

My next comment is this, get the barrels and most toxic elements out of the pile. I am sure they are probably centrally located. Focus on breaking this project into stages and it will eventually get done. The big picture is depressing and overwhelming, but imagine if the toxic barrels came out. It would be a good first step. If you have any questions, comments or concerns please e-mail me at clay_rosson@umail.ucsb.edu.

WC 22

Nielsons Skanska strongly believes that the former uranium mill site near Green River, Utah should be chosen as the preferred disposal alternative for the Moab tailings. As you know, the site just east of Green River was remediated under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) and is currently under long-term surveillance and maintenance by the Department of Energy (DOE).

Reasons for selecting the Green River location under the Environmental Impact Statement include the following:

1. Uranium mill tailings are currently stored in a secure disposal cell on the site. Constructing an expanded cell on the Green River site for the Moab materials would eliminate proliferation of tailings disposal facilities and reduce the number of sites that the federal government must oversee. We believe that controlling proliferation of these sites should be a high priority for DOE.

2. There is a large amount of environmental data about the site already available from the UMTRCA project. This will speed the planning and engineering process and reduce project costs. DOE information that we have seen indicates the existing Green River disposal cell has performed well since it was completed in late 1980's.
3. The Green River site has been disturbed by previous activities, including the operation of a uranium concentrator. By comparison to large-scale construction of an entirely new disposal facility in a pristine location such as the Klondike Flats alternative, reuse of the existing Green River location would substantially lessen environmental impacts from the Moab project.

4. Rail access and other infrastructure are already available at the Green River site. This also reduces costs and impacts of the Moab project.

5. A tailings disposal cell can be built on lands at the Green River site that would prevent future release of the Moab materials into the environment, including the Green River itself.

6. Construction of a larger tailings disposal cell at this location would provide jobs and other economic benefits for Green River and Grand County residents.

7. There is a major safety issue created by constructing an entirely new tailings repository at several of the locations that are under consideration by DOE. The transportation of workers and huge amounts of construction material to these remote locations creates heavy use of highways that can result in serious traffic accidents. The Green River site can be safely accessed off I-70, which is much better than use of the two-lane US 191. Also, since project workers will be living in Green River, their commute will be shorter and safer.

Thank you for considering our comments.

WC 23

Under any circumstances, this plan is unwise, unnecessary, and unwanted!

WC 24

Please consider this notice to the DOE as my official objection to any plans being considered to move 13 million tons of contaminated uranium tailings from Grand County, Utah to East Carbon, Carbon County, Utah.

My concerns are: 1) the impact to human health and safety due to water contamination and dust; 2) the socialeconomic impact on our county as it is difficult to attract new business currently and would be next to impossible if we are the radioactive capitol of southeastern Utah; 3) the impact on traffic and transportation systems on 2 lane roadways; and 4) impact on property values in a depressed region of the state which also affects the tax base of the county and the ability to provided needed services.

WC 25

I oppose the moving of the waste to East Carbon.
1. The only advantage is to the Potash waste, its moved from Moab. The long term effects are moved to Carbon County. What happens to the growth potential in East Carbon?
2. I recall the old coke ovens and the way the wind currents used to move the smoke to Green River, Would the dust from the waste move the say way?
3. The only jobs to be created would be for the truck drivers or for the railroad. At that it would be short term. No!
4. Who's next? We currently receive the waste from Provo, thats smelly enough.

I oppose, there has to be a better alternative.

WC 26-

These tailings need to stay in Grand County. They made them and they can keep them. I don't want them in East Carbon or Blanding.

WC 27-

We don't want any of that uranium in our town. Keep it out. We don't want it here. I know a lot of men who have died from it when I was a kid.
Thanks

WC 28 -

Keep out the uranium. We don't need that stuff at our ECDC. put it away from everyone.

WC 29

I have lived here since 1953 and in that year in Moab Charley Steen discoved uranium there. I knew a few that worked in the mines and all are dead now from the uranium down there. We don't want that here in our town of East Carbon, Utah.

WC 30 -

A few years back myself and a large amount of people in the town of East Carbon and Sunnyside tryed to stop ECDC from starting a dump in our town. We were asured that there would be no hazordice waste other than what they had permits for. They can't even control the plastic sacks properly. We definetyly don't want the Moab uranium tailings. The pervailing winds during to day blow from the landfill into our town, in the evenings they blow down the canyons. I have four children. Please don't allow them to take the Moab uranium tailings into our town. Let them take it further away from any amount of people.

WC 31 -

We don't want uranium mill tailing contaminated soils brought to ECDC. We think that it should be disposed at the site that is holding it right now instead of hauling it through two counties and over one hundred miles to our ECDC.

WC 32

I request to be placed on the EIS mailing list and document distribution list as set forth in the Federal Register/Vol.67, No. 245/Notices p. 77969, dated Friday, December 20, 2002.

The White Mesa Mill, which is being considered by the DOE as an off-site disposal alternative for the Moab superfund waste, is known to have antiquated liner construction methodology 1 for its tailing cells and the ground water has already been shown to be contaminated with chloroform 2 and lead.1 This leakage predisposes the existence and potential of other unknown ground water contamination. In addition, White Mesa Mill sits on top of a mesa that is known to have springs and seeps. This water runs into open washes and drainages and can potentially contaminate other ground water sources, which are used by many people within a five-mile radius and beyond. Combine that with the knowledge that the sandstone layer that White Mesa Mill sits on (a very permeable layer of Dakota/Burro Canyon Sandstone), can be likened to a very thick sponge layer. Obviously this is not and never was a good site to retain radioactive waste, or any type of dangerous wastes.

Not only has IUC proposed acceptance of the Moab Mill tailings, they have already been licensed to accept radioactive waste from at least 8 other facilities across the United States and one in Canada. That the NRC and DOE ever even considered allowing IUC to bring ANY of this radioactive ³soup² to White Mesa Mill, when the integrity of the Mill site itself is so questionable, is totally unacceptable and certainly very hard to believe. The idea of 9 different radioactive ³soups² laying adjacent to each other on top of the very permeable sponge layer of Dakota/Burro Canyon Sandstone, inside leaky and cracked tailing cells, should be enough to set off the alarms at ALL of the agencies involved, i.e. the DOE, the NRC, the State, and certainly IUC itself. But of course, this is America, home of Enron and a score of other greedy corporations where accountability is a dirty word and where even the NRC is allowed to ³hide² foul-ups like White Mesa Mill because they don¹t have any other suckers in sight to dump their toxic waste on. Also remember that ³hiding² foul-ups works especially well if those who are impacted are only the poor, the undereducated, or the Native Americans.

REQUEST:
IUC, DOE, the State of Utah, and the NRC MUST PROVE to the public that White Mesa Mill has not already contaminated the environment, including the ground water, AND, that it will not possibly contaminate the environment in the future. This proof must come BEFORE White Mesa Mill can be considered as an alternative site for the Moab Tailings. At the least, a COMPLETE ground water assessment of the White Mesa Mill site and all surrounding areas that may be negatively impacted by potential contamination, MUST be done during the Moab Tailings site EIS time-period AND BEFORE any additional license amendments are considered for White Mesa Mill. ALL of this information must also be made available to the public, as the ³sunshine law² promises.

End-Note:
BOTH of the transportation options that exist for White Mesa Mill (trucking and a slurry pipe) are extremely hazardous to people and the environment. Trucking this waste 85 miles along the highway from Moab is a perilous endeavor to be sure since it is a two-lane road with several curving and dipping passages, not to forget about Devils Canyon. This endangers every person who travels that road. Slurrying this waste along this same highway poses the same risks plus more. Information given on the DOE website states that these will be metal pipes. Do you have any idea what happens to metal pipes in this environment? In addition, ³just adding water² to the waste that already exists at the Moab Mill site has created many of the problems, including the ammonia. Are you not aware of that? Let¹s just add more water and then put it all in a pipe that will be subjected to arid and high temperature conditions. Do YOU want to build your house next to that? Then, when Moab¹s Tailings have been cleaned up, lets run enough Colorado River water through that same pipe to clean it out and bring ³fresh² water to Blanding. Yum! Or, are you really meaning to replace all that pipe? Haven¹t the people in San Juan County had enough of White Mesa Mill related cancers? Hasn¹t the government had enough of back paying all of those who are affected? Come on, WAKE UP!! There are much cheaper ways for Blanding to get truly fresh water.

In President Bush¹s State of the Union address on January 28, 2003 he said: ³We will answer every danger and every enemy that threatens the American people.² He also said:²Šwe will not pass on our problems to other generations.²

So be it. I am simply asking that the President¹s administration support his commitments and promises. I, and many others demand PROOF that the White Mesa Mill site isn¹t in fact already threatening the health of the people and our environment here in San Juan County, Utah. I, and many others also demand PROOF that ANYTHING that they are given license for, will NEVER pose a public threat, on any level.

WC 33

I sent an earlier version of this letter on the first of Feb. Since then I've received new information which I have used to revised this final letter. A copy of it is in the mail to you as well. Sorry for the confusion.

I request to be placed on the EIS mailing list and document distribution list as set forth in the Federal Register/Vol.67, No. 245/Notices p. 77969, dated Friday, December 20, 2002.

The White Mesa Mill, which is being considered by the DOE as an off-site disposal alternative for the Moab superfund waste, is known to have antiquated liner construction methodology 1 for its tailing cells and the ground water has already been shown to be contaminated with chloroform 2 and lead.1 This leakage predisposes the existence and potential of other unknown ground water contamination. In addition, White Mesa Mill sits on top of a mesa that is known to have springs and seeps. This water runs into open washes and drainages and can potentially contaminate other water sources, which are used by many people within a five-mile radius and beyond. Combine that with the knowledge that the sandstone layer that White Mesa Mill sits on (a very permeable layer of Dakota/Burro Canyon Sandstone), can be likened to a very thick sponge. Obviously this is not and never was a good site to retain radioactive waste, or any type of dangerous wastes.

Not only has IUC proposed acceptance of the Moab Mill tailings, they have already been licensed to accept radioactive waste from at least 7 other facilities across the United States and 1 in Canada. That the NRC and DOE ever even considered allowing IUC to bring ANY of this radioactive ³soup² to White Mesa Mill, when the integrity of the Mill site itself is so questionable, is totally unacceptable and certainly very hard to believe. The idea of 9 different radioactive ³soups² laying adjacent to each other on top of the very permeable sponge layer of Dakota/Burro Canyon Sandstone, inside leaky and cracked tailing cells, should be enough to set off the alarms at ALL of the agencies involved, i.e. the DOE, the NRC, the State, and certainly IUC itself. Recently the State of Utah has applied to become an NRC Agreement State for uranium mills and uranium tailings disposal facilities. Hopefully this move will allow the State to shine a very bright light on White Mesa Mill and finally give them enough power to force IUC to ³come clean². Hopefully this will also allow the State complete access for extensive groundwater analysis and an EIS which will include ALL of the materials that IUC is licensed to

process. (The lead sulfide sludge and thorium from the Molycorp Mill has never been included in any of the EA¹s that have been completed to date.) 2

REQUEST:
IUC, DOE, the State of Utah, and the NRC MUST PROVE to the public that White Mesa Mill has not already contaminated the ground water and surrounding soils, AND, that it will not possibly contaminate this environment in the future. This proof must come BEFORE White Mesa Mill can be considered as an alternative site for the Moab Tailings. A COMPLETE ground water assessment of the White Mesa Mill site and all surrounding areas that may be negatively impacted by potential contamination, should be done during the Moab Tailings site EIS time-period AND BEFORE any additional license amendments are considered for White Mesa Mill. ALL of this information must also be made available to the public, as the ³sunshine law² promises.

End-Note:
BOTH of the transportation options that exist for White Mesa Mill (trucking and a slurry pipe) are extremely hazardous to people and the environment. Trucking this waste 85 miles along the highway from Moab is a perilous endeavor to be sure since it is a two-lane road with several curving and dipping passages, not to forget Devils Canyon. This endangers every person who travels that road. This huge danger is created with all of other IUC licensed projects, as their trucks roll down these same roads. Slurrying the waste from Moab along this same highway poses the same risks plus more. Information given on the DOE website states that these will be metal pipes. PVC pipes have replaced metal pipes in this environment for a good reason. In addition, ³just adding water² to the waste that already exists at the Moab Mill site CREATES some of the problems, including the ammonia. Adding MORE water to slurry this stuff so that it then can be put into a pipe that will be subjected to arid and high temperature conditions is insane. Do YOU want to build your house next to that? Amazingly enough, this idea gets even more preposterous when you realize that when Moab¹s Tailings have been cleaned up, the plan is to use that same pipe again to pump Colorado River water for irrigation and culinary purposes to Blanding! Yum! Haven¹t the people in San Juan County had enough of White Mesa Mill related cancers? Hasn¹t the government had enough of back paying all of those who are affected? There really are much cheaper ways for Blanding to get truly fresh water.

In President Bush¹s State of the Union address on January 28, 2003 he said: ³We will answer every danger and every enemy that threatens the American people.² He also said:²Šwe will not pass on our problems to other generations.²

So be it. I am simply asking that the President¹s administration support his commitments and promises. I, and many others demand PROOF that the White Mesa Mill site isn¹t in fact already threatening the health of the people and our environment here in San Juan County, Utah. I, and many others also demand PROOF that ANYTHING that they are given license for, will NEVER pose a public threat, on any level.

1. State of Utah DEQ (1994) also ³Evaluation of Hydraulic Test Data at MWA White Mesa Uranium Mill Site² (2001) - chloroform
2. Shundahai Network (letter 2002); shundahai@shundahai.org

WC 33-

I do not support moving the tailings pile from its present location, with the technology we have I feel that the pile should be stabilized and covered so # 1 water cannot seep through the pile[if water cannot get to the material it cannot penetrate the pile] #2 drill numerous wells or build sumps between the pile and the river and install pumps to catch any material that may leach out of the pile then dispose or reclaimed the liquid.
The city of Green River adamantly opposes storing the material on the banks of the Green River or transporting it through our city to be stored at I C D C.
It is a hard decision for you to make.

WC 34 -

This letter came from the administrator of the Grand Water and Sewer Service Agency and the person responsible for developing a water budget for the Moab Valley. The county engineers (Sunrise Engineering) are already planning to put Moab's allocation of Colorado River water to use in a way that would essentially inject the water into the aquifer under the valley via Ken's Lake. This could potentially create a large pool of human receptors for the Moab Millsite contamination. It is highly pertinent to the Moab Millsite reclamation project and should be evaluated in the EIS.

WC 35 -

SUMMARY STATEMENT: 1) I am hereby requesting to be placed on the EIS mailing list and document distribution list as set forth in the **Federal Register**/Vol. 67, No. 245/Notices p. 77969 dated Friday, December 20, 2002.

2) As a practicing professional geologist, and former community water manager of Bluff, and member of the San Juan County Water Conservation Commission, I am completely and adamantly **opposed to the White Mesa Mill off-site disposal alternative,** however,

3) I am in favor of either the Klondike Flats location, or the on-site disposal alternative. My reasons, both as a resident and as a geologist are elaborated upon, below:

WHITE MESA MILL OFF-SITE DISPOSAL ALTERNATIVE

As understood, this proposal consists of a "looped" slurry line (i.e., two **"steel"** pipes of undetermined diameter) that is to follow the existing highway easements for U.S. Highway 191 from the Moab Project Site *eighty-five (85) miles* south to the White Mesa Mill site where the slurried material will be placed in lined settling ponds to evaporate/leach slurry-line liquids and then possibly be reprocessed at the mill to extract undisclosed trace amounts of recoverable metals. No details were included in the scoping process about concentration amounts, chemical reactions upon hydration or containment methodologies, percentage of reactive metals, or even what compounds these might be, however "radium, chloroform and ammonia" were mentioned in various news releases and DOE information packets preceding this comment period.

Following this scenario, at some undefined point in the future, containment would occur following selective "milling" of the precious metals, and all responsibilities would then be handed-off from the DOE to the Nuclear Regulatory Commission (NRC) as for final burial of the non-commercial wastes.

Then, upon completion of the Moab to White Mesa waste "transfer," when the slurry line use is finalized, the people of Blanding City, Utah wish to convert the contaminated slurry pipeline in to a water line to provide water for use as both culinary and irrigation purposes. Will they simply rinse it out, and convert the pipeline into a waterline? How simple! How ill-informed and dangerous! Where do the responsibilities of environmental health for both citizens and the local environment lie with respect to citizen's ignorance and the DOE?

I see this as an outlandish flim-flam of U.S. taxpayers' dollars. The hidden motive of many of these "slurry line" proponents is to find a method in which the federal government pays for the communities of Blanding and Monticello's access to the set-aside water rights entrusted to the San Juan County Water Conservancy District. Through the 1923 Colorado River Basin Compact (and numerous amendments) southeastern Utah was apportioned some 20,000+ acre feet of water in the San Juan River, but these two towns lie several thousand feet higher than the river, so accessing this volume of water has always been too expensive – until now where they see the ultimate mullet (i.e., the DOE) entering the region. I'm sure their eyes brightened at the prospect of parlaying and manipulating Superfund site dollars in to becoming a waterline at some future date. If they get their way, then the San Juan County Water Conservancy District can simply exchange their water rights from the San Juan River to the Colorado River since both rivers' water is impounded in Powell Reservoir.

The slurry line alternative is nothing more than a masquerade as a hazardous site clean-up solution! What the slurry line proponents really want is WATER! And the long term containment of hazardous material results in a future problem because the White Mesa Mill is geologically unsuitable for innumerable reasons, but most notably that it's situated on top of a permeable sandstone cuesta, between two major incisive drainages (Recapture Creek and Cottonwood Creek). This proposal is so ludicrous I can't believe that DOE is even giving this option any credence. Here are a few more items you might want to consider that were not included in your scoping information:

Concepts and Details Not Addressed in Scoping Handouts

Since no elevation data was supplied in your "scoping" process, I looked at the elevation contours on published USGS topographic maps and determined that; a) the Moab Project Site is roughly at an elevation of **4,101 ft (1250 m)** above sea level. This means that nearly 12 million tons of mill tailings needs to be pumped, or lifted, an unspecified number of times through pump stations (not disclosed) **2,930 ft** to an elevation of **7,031 ft (2143 m)** located one-half mile south of Monticello City before it all descends **1,453 ft** to the White Mesa Mill Site **(elevation of 5578 ft ;1700m)**, which would probably require several pressure reducing stations unless you want a geyser of contaminated slurry blowing several hundred feet in the air by the time it hits the mill site.

How many lift stations will be required? How do you propose to slow this stuff down? Will these be powered by electricity, or some other energy source? What are the plans for shut-off valves in case of a break? How many? Where are they to be located? Will the slurry line be above ground or buried? If located above ground, then what about winter month freezing? Will these be insulated lines similar to the Alaska pipeline?

"Steel" pipes were mentioned in the scoping hand-out. I'm interested in why steel was chosen, as anyone who lives in this country can attest that steel pipes corrode incredibly fast in these alkaline soils. Most, if not all, modern water lines or sewer lines are plastic. Of course, if plastic is used the friction from the slurried sand and mud will quickly wear holes in the pipe; so how frequently will the pipeline require replacement? How does DOE propose to "sanitize" the line when turned over to the San Juan Water County Conservancy District? – Just run a little

Clorox through it? At that point, who will be responsible for paying for lift stations, maintenance, etc; the "Water District", the Counties involved, or the DOE?

The mention of steel pipes brings on another question regarding the chemistry of the slurried "soup" to be moved from Moab to Blanding: ammonia (NH_3) was singled out as a contributing factor for the removal of the tailings in the first place. Nitrogen hydroxide (NH_3) is a common compound due to the predominance of N_2 and O_2 in our atmosphere. When this compound reacts with other metals, including iron oxides, several bi-products are formed: namely nitric acid or sulfuric acid – both of which are incredibly destructive to steel; in fact, the only metals not affected by NH_3 acids are gold and platinum!! So are we to assume that these "slurry lines" are to be lined with these precious elements? At what cost?

The measured emissions of chloroform from the White Mesa Mill site strongly suggest that these and similar reactions are already taking place. Shouldn't this be an alarm as to potential problems when all these metallic elements are hydrolyzed in settling ponds after being thoroughly mixed in slurry line compost?

If "existing highway easements" are to be used for this pipeline, does this mean running the slurry lines down the streets of Moab, Monticello, and Blanding? How will these lines affect the towns?

The Utah Department of Transportation (UDOT) is currently studying several alternatives of widening the dangerous stretch of U.S. Highway 191 that crosses Devil's Canyon north of Blanding. What is DOE's proposed method of crossing this canyon? These are important "real" concerns; these are not "emotional" responses! This is Canyonlands! Little to no soils occurs across much of this "easement." How does the DOE propose to conduct waste through a pipeline and protect the public?

THE WHITE MESA MILL DEBACLE

For arguments sake, let's just assume that the slurry line is the accepted means for removing the tailings from the Moab site. Once the slurried mill tailings are in possession of the Nuclear Regulatory Commission–sanctioned White Mesa Mill, what assurances does the public have that they (the NRC) will be forthcoming about the status of these materials? Will DOE stay involved, or will this agency "wash its hands" and let it be the responsibility of the NRC?

As outlined in the "Public Participation Plan" I feel that "certain core values" - such as "fairness, honesty, openness, scientific credibility and sincerity" are ALL in question when it comes to this DOE-NRC "deal" and here's the reason why:

When International Uranium Corp (IUC) was given federal NRC approval to begin accepting out-of-state "11e(2)" radioactive waste from eastern states, me and numerous others, including the State of Utah Department of Environmental Quality (DEQ), had protested this and were told in no uncertain terms that because the mill was NRC-sanctioned then IUC did not have to comply with any state water or radiological quality requirements. A geologist from the Utah-DEQ Division of Radiation Control cited concerns about faulty containment design at the mill site that had been brought up in earlier EPA reports. The flexible membrane liners [FMLs] were installed at the mill in 1980; they are old and leak. An infiltration modeling report conducted by *Titan Environmental* in 1994 indicates that the tailings disposal cells at the White Mesa Mill were seeping. IUC did not operate the mill during this period. They have always assumed that the tailings facilities were underlain by a properly installed FML "in intimate contact with a lower clay soil liner." However, engineering design descriptions provided elsewhere in the infiltration modeling report indicate that there is no intimate contact between the FML and the underlying

clay liner, but rather a six-inch layer of crushed rock and sand had been constructed between these two layers. *Leakage is most probably occurring, and has been for the past 23 years!*

The White Mesa Mill sits on a very thin soil zone immediately above a coarse-grained porous and permeable sandstone unit known as the Dakota Sandstone (or Burro Canyon Formation). The numerous water wells drilled into this interval attests to its' high degree of effective porosity; it's known as the "D" aquifer (see Avery, 1986). Several seeps and springs occur along the western downdip edge of White Mesa near the southern boundary of the White Mesa Mill and tailings ponds, and may be related to the conjectured FML leaks alluded to in the *Titan Environmental* study of 1994. IUC claims that there's no relationship, but denies public access to any sampling analyses (probably because they never have done any).

Furthermore, the previous mill owner inadvertently allowed water to be tested by the DEQ in 1994 from one of the "deep" water wells on site and showed heavy metals (particularly lead) in excess of many thousands of times that allowed by federal government standards for maximum contaminant levels (MCLs) for drinking water. This "deep" zone tested is known as the "N" aquifer (Avery, 1986) and constitutes the sole source of fresh potable water for much of the communities and individuals living immediately down gradient from White Mesa Mill; namely the White Mesa Ute Reservation and Bluff City.

Chemical analyses of the community water wells in Bluff show trace amounts of heavy metals well below MCL cut-off amounts. **These extreme measurements of heavy metals from wells in the White Mesa Mill site strongly suggests that upward hydraulic gradients have not been maintained at the mill, and that a strong probability exists that that Navajo (N) sandstone aquifer has been, or is still being contaminated. Unfortunately, the state DEQ was denied any follow up to these analyses, as the mill now claims "federal preemption."**

A technical glitch in classification of water users by the State of Utah Department of Environmental Quality (DEQ) still does not require the mill to regularly test for radionuclides in the well water, even though the processing of radioactive ores and by-products are the sole purpose of the mill's function. It is absolutely ludicrous that Bluff City must test its' water for radioactive elements because we are a public water system, and yet a mill/dump site that specializes in radioactive substances that is located up-gradient of several communities doesn't have to perform the same tests on water pumped from the same aquifer. And, if they do test the water, the results don't necessarily have to be made public.

It is apparent that the White Mesa Mill operation is hiding behind the regulatory brick wall constructed by the NRC with little regard to freedom of information or human health. As "down winders" many Utah citizens were the recipients of the Federal government's negligence and arrogance in the 1950s. As "down streamers" we here in Bluff City and vicinity are now the future recipients of this same attitude in the next decades. We find that it is utter folly that these very dangerous pollutants are not regulated by an agency dedicated to environmental and public safety, i.e., the DOE! We find that the NRC's role as a monitoring agency may be substantially compromised in dealing with potential ground water contamination of the region.

If the DOE continues to pursue this idiotic alternative site, I can only hope that a complete review of the mill site's geology and ground water resources are thoroughly investigated; like that done already for the Klondike Flats proposed area.

REASONS WHY I FAVOR THE KLONDIKE FLATS LOCATION AND/OR THE ON-SITE DISPOSAL ALTERNATIVE

Many of those attending the Blanding scoping meetings professed that the mill tailings aren't really that toxic; that "emotion" was swaying people's thinking and that an incredibly expensive slurry line was the best alternative. I think the "emotion" that they were experiencing was a combination of ignorance and greed. If it's not that dangerous, then leave it where it is. But, if you are to move it, then look at the obvious location.

I am an earth scientist, and in much of my scientific training I have come to see an old adage repeated numerous times, and that adage is **"the simplest solutions are many times the best!"** When I see how close and accessible the Potash railroad is to the Moab Project Site and that the rail passes adjacent to one of the proposed dump sites at Klondike Flats located only a few miles away, I am amazed that much more "scoping" is really all that necessary. The thick succession of Mancos Shale (an impermeable clay bed hundreds of feet thick), combined with virtually no external drainage, combined with available state and federal lands makes this site the only realistic site IF the stuff is to be moved at all. This is particularly true if any cost estimates are considered. The only negative that I see is that you, the DOE will be responsible for maintaining the pile of stuff rather than unload it onto another agency – the NRC, which can then hide behind the cloak of "national security" particularly following the events of September 11, 2001.

So I implore you to live up to that credo of "core values" and become accountable and fiscally responsible. Take responsibility and keep control; it is your job! Don't let somebody's "pipe" dream dictate your making an incredibly stupid and expensive mistake by considering the slurry line alternative any further.

WC 36

Of the four proposals presented, there is only one reasonable solution to moving the Atlas Tailings Pile away from the Colorado River: Move it north to the area between Moab and I-70, using the rail line already in place.

WC 37

In dealing with the Moab waste pile, I strongly urge capping the pile. The enormous amount of money that would be saved is more needed for education, defense and other essential services

My second choice would be a slurry pipeline moving the mass to the Blanding mill for reprocessing to recover dangerous and valuable minerals. The pipeline would be expensive, but physically moving the material is going to be very costly also. Recovered minerals may offset some of the cost of moving the pile.

The hazards of the pile have been greatly exaggerated. No one has documented injury from the pile in the past 50 years. In view of the enormous cost, and that no one has been injured by the waste, I think the money would be better spent on health care, education, defense etc.

WC 38

San Juan County Commisioner Bill Redd's son Kenny Redd has been employed by Energy Fuels (and whatever iteration of that company) since the'70's and currently lives in Kanab.

I'm not sure what the Redd's relationship is with the White Mesa Mill but I suspect there is a conflict of interest.

If the tailings in Moab are slated to be shipped to White Mesa, I for one will do everything I can to explore this possible conflict of interest and lobby to have this matter brought before a court of law.

WC 39

I am writing to express my deep concern over the proposal to slurry and/or truck toxic and radioactive wastes from the Atlas Mine dump in Moab to the White Mesa Mill, 86 miles to the south. My family and I are against any such action. We are against ANY increase in the amount of toxic and radioactive materials stored at White Mesa Mill. We live in Bluff, 20 miles down Cottonwood Canyon and downstream from the White Mesa Mill. Our aquafer is in danger of contaminants from the White Mesa Mill and is continuously monitored for contaminates from the mill site. The White Mesa Ute community is only 3 miles from the White Mesa Mill. What of their concerns?? Water supplies in White Mesa have already been impacted. On-line incident reports for White Mesa Mill belie the statement from one "company" man at the 1/23/03 meeting that the mill is safe. We don't believe it is safe.

I attended the 6:00 p.m. scoping meeting in Blanding on Thursday Jan. 23. I was appalled at the self-centered support uttered by employees of the Mill at that hearing. It is well known that the Mine pays employees to make statements, and such statements are not representative of the people of the whole of San Juan County.

The Federal Register says that there is 11.9 million tons of uranium mill tailings at the Moab mill site. This does not even include building materials and other solid contaminates. In the proposed action, all of this to be moved 86 miles south. A slurry in a pipeline running 86 miles through the desert in an existing pipeline corridor, moving at the consistency of toothpaste in Colorado River water… What an idea. Think of the energy, the water, (we are in a drought; and isn't the Colorado River water all allotted?), the cost, the risk. What will be done with the highly contaminated water used to slurry the gunk? A very astute little boy at the meeting asked a simple question, "What if the pipe breaks?" To which he received an answer, "That can't happen." "How do you know?" he replied. HOW DO YOU KNOW INDEED. Out of the mouths of babes. Spills can't occur, we were told, but IF THEY DO we will know it in a matter of seconds due to pressure gauges that will be monitored. Well, even if a spill can be monitored and shut off quickly, there will still be a toxic radioactive spill to contend with…who will clean it up? What will its effect be to people, animals and soil? Who will pay for the clean up? The answer is, we all will.

Even a child can easily see the ridiculousness of this action. Even if the pipeline carries millions of gallons of radioactive sludge across the desert to White Mesa, there will still need to be thousands of truck-loads of solid waste trucked down 86 miles of Highway 191, known to be a very dangerous road. What sort of disaster plans are in place for spills? I suspect there are no disaster plans.

o The problem of U234 (with it's half life of 250,000 years), and of U238 (with its half life of 4.5 billion years leaching into ground water;
o And the problem of ammonia being a serious hazard and a by-product of the process of decay of radioactive isotopes;
o And the problem of radium (with a half life of 1600 years) which decays to radon gas in the soil;
o AND the problem of maintenance and care for the materials into the future;

CANNOT be adequately solved with a proposed containment that is engineered to last from between 200 and 1000 years, as suggested in the proposed action. That is not long enough. We have a responsibility to the future citizens of San Juan County to leave them a land that is uncontaminated by our waste and short-sighted greed. GET REAL.

Moving 130 acres of toxics, 93 feet high, from one polluted location to increase the pollution of another location makes no earthly sense. Either make an adequate containment area next to the existing site in Moab, or move it to one of the sites closer to Moab to the north that is farther away from people.

This plan is ridiculous in its scope. It is astronomical in its cost. It is miniscule in its benefits to the people, and enormous in its environmental risk. I say no. It is unconscionable to continue to add to these dumps. The root of the problem should be addressed too – stop production of radioactive waste; there is no SAFE place on Earth to store it so stop engaging in industry and war products that create radioactive waste. It is time that we as humans take responsibility for our actions and stop polluting our world. Our government and its agencies have a responsibility to the public and to the public trust to provide a safe environment for children to grow up in. We all have a responsibility to our descendents to leave a safe world for them to live in. It is time to learn a better way to be. Lets get on with it and step away from the policies and practices that have not worked in the past. Think in new and better ways. Please. Starting now.

WC 40 -

I'm reading articles about the handling of Atlas tailings. I see that one site proposed is at Crescent Junction. Being one of the land owners at Crescent Junction, I am wondering why we have not been contacted regarding this proposal. All of the private property located at Crescent Junction is owned by my family and was Homesteaded in the early 1900s. Why would a populated (lightly) area be considered? Why would you move the pile from one populated area to another? Can you tell me exactly where the Crescent Junction site would be located? Kerry

WC 41-

I represent the San Juan water Conservancy District in San Juan County. and we are in favor of the slurry pipe line from Moab to the IUC mill near Blanding.
As we are in a five year drought in our county this pipeline would be a boon to the county if after the slurry was completed, we could use the pipe line to bring water from the Colo. River to our county for irrigation and drinking water in drought times.
The San Juan Water conservancy District has water rights on the San Juan River, we could transfer some of these rights to the Colo, River, also the IUC Co. could use our right to transfer the slurry to their mill.
We have into transferring these water rights, with the Utah Division of water Resources and they told us we could do this.
This would mean more jobs in our county, and a great deal of more irrigation water would be available, every year for our county.
These last five years have had a lasting effect on our resources

WC 42

I am in favor of the slurry pipe line from Moab to IUC mill site near Blanding, Utah. This would do great things for the San Juan County, as in jobs, and if the pipe line remained in place after the slurry was completed. The county could bring water to the area for irrigation, and drinking water, as we are in a five year drought. Thanks

WC 43-

I just finished reading a newspaper article in the 2/11/03 issue of the Sun Advocate, Price,Utah. The article, entitled "Tailings should not come to Carbon" was written by Jim Marrs, Guest Columnist. I am a resident of Price, Utah. I won't bore you with a lot of "stuff" that you have not already heard before. My comments concerning this matter are plain/straight forward, and are encapsulated as follows; "Cap" the tailings in place, and leave them where they are!!
The Government of The United States of America and the Moab City "fathers", along with a greedy industrial entity decided many years ago to create a nuclear dump in the "wastelands" of that "expendable" State of Utah. The decision was made then, so let it stand now!
Again, leave that nuclear waste where it is!

WC 44

This scoping comment concerns perceived problems with the estimates of effort and cost required to remediate groundwater contamination at the Atlas tailings site under different reclamation scenarios.
According to the information presented to the Atlas Uranium Mill Tailings Relocation Committee by DOE MacTech representative John Elmer, the DOE initial estimate for cleanup costs for ground water contamination is $60 million. The estimate assumes that only shallow intervals of the aquifer will be pumped to the surface, treated by distillation, and the residue disposed of in a DOE Title I disposal cell, e.g., Cheney, CO. There are two obvious problems with this estimate:

PROBLEM #1: The duration and cost of the groundwater cleanup is assumed to be exactly the same whether the tailings pile is left in place and capped or is moved to an alternative site. This assumption is absurd on its face, given the findings of the Oak Ridge Hydrological Laboratory:

In 1997, the Council on Environmental Quality arranged for the Oak Ridge National Laboratory Environmental Technology Section to perform "Limited Groundwater Investigation of the Atlas Moab Mill." (We note that the Oak Ridge National Laboratory performed all the hydrological work on all the DOE Title I tailings pile reclamations, making them the pre-eminent experts on this subject.) The report, released on January 9, 1998, described the size, character, and content of the leachate plume going from the bottom of the tailings pile. They calculated there are 426 million gallons of drainable water embodied in the tailings. In addition, the tailings are receiving 3.8 gpm recharge from precipitation. If the tailings were hermetically sealed on top to prevent any further recharge from precipitation, they would drain for 270 years into groundwater. The study concluded that the tailings would continue to discharge leachate and maintain a level of at least 2.8 mg/Liter of uranium (and levels above Clean Water Act standards for several heavy metals) downgradient of the tailings pile "indefinitely" because of continuing recharge of the tailings with water from precipitation.

The Nuclear Regulatory Commission separately commissioned the Oak Ridge National Laboratory to study the effect on tailings recharge from precipitation which the proposed cap would produce. "Tailings Pile Seepage Model: The Atlas Corporation Moab Mill, Moab, Utah" dated January 9, 1998, concluded that the rate of precipitation recharge through the cap would be the same as currently occurs through the tailings themselves. The "unsaturated hydraulic conductivity" of the fine tailings at the top of the pile are "sufficient to conduct the total volume of recharge through the pile." Thus, water infiltration through the cap would be sufficient to maintain the 3.7 gpm discharge rate of leachate for as long as the tailings pile exists.

Simply put, Oak Ridge National Laboratories predicts we get exactly the same amount of leachate coming out of the Atlas tailings, exceeding Clean Water Act concentration limits, for the next 400,000 years whether you put a cap on it or not. If the tailings are removed from the site then the leaching of new contaminants into the groundwater will cease, and the remediation effort only has to deal with contaminants which have already left the pile and are in the plume. Thus, the assumption that the groundwater remediation effort is the same whether or not the tailings are left in place and continue to discharge leachate is obviously false.

PROBLEM #2: The estimated length of time that pumping of leachate for treatment must go on, and thus the estimated cost of that pumping and treatment, depends on unstated assumptions about the volume of leachate already discharged from the tailings, and the rate of discharge of new contaminants which will occur during the life of the groundwater remediation effort.

Normally in tailings reclamation and remediation engineering estimations we have seen for the Atlas tailings and other sites, a Monte Carlo analysis of the range of assumptions which are considered possible at the site are presented. Cost estimates for the 5^{th} percentile, 50^{th} percentile, and 95^{th} percentile probabilities are given. If there is a large uncertainty about assumed values such as the actual rate of discharge of leachates from the tailings at the current time, five years from now, etc., then the range of cost estimates between the 5^{th} and 95^{th} percentiles will be very wide. If there is good certainty about these estimated values because one has data which constrains the range of possible

values, the range of cost estimates from the 5th to the 95th percentile will be relatively low.

The Oak Ridge Hydrological Laboratory study of 1997-1998 reported considerable uncertainty in their value estimates. The constant 3.7 gpm discharge rate 240-400,000 years in the future is, I understand, a 50th percentile estimate.

It would be very helpful in evaluating reclamation alternatives in the EIS if the range of values possible for groundwater remediation duration and cost to achieve a specified degree of remediation was stated in the form of a Monte Carlo range of probabilities. This analysis should take into account, when evaluating the duration and cost of groundwater remediation if the tailings are relocated, the fact that additional leachate will not be discharged from tailings that are not there any more.

Unless you can refute the Oak Ridge finding of a large range of uncertainty in estimates of leachate discharge volumes at various points in time (e.g., by doing additional research on site to obtain more accurate values), I suspect this Monte Carlo analysis will show that there is significant risk of the groundwater remediation effort lasting longer than 30 years and costing more than $60 million if the tailings are left in place. This information is very germane to the environmental benefit/remediation cost analysis at the heart of the EIS selection of a preferred alternative which is most likely to deliver the best and most certain environmental remediation for the money spent.

WC 45

We oppose the placement of Atlas tailings at ECDC for the following reasons:

1. It has the potential of contaminating ground water in the Icelander Creek, Price River, Green River, Colorado, and Lake Powell.
2. The milled tailings have the consistency of face powder. When breathed, they remain in the lungs with the radioactivity, thus causing lung cancer. The prevailing winds would carry the dust over a community less than three miles away. The potential impact on health would be worse than its present placement in Moab because of the movement of the material.
3. Native American burials have been found in the area.
4. It would cause a disproportionately high impact on minority and low income population. The area has a high minority population. In addition, the community is made up of many low-income families who live here because of the availability of housing. The free/reduced rate at Petersen Elementary is over 80%. Many residents are retired or disabled. Their property values would plummet if a hazardous waste site was located next to the community.
5. Future land use would be severely limited by dusting the area with radioactive waste. ECDC has a legal agreement with the Pilling family that no hazardous waste would ever be placed on the property. They also have an agreement that the Pilling family may graze cattle on the property after the ground has been used and reclaimed. Burying radioactive waste would make that impossible or, at least, unconscionable.
6. ECDC, represented by Jerry Gagner, Nick Sampinos and Harold Marston, promised approximately 1000 people in a meeting held at East Carbon High that no hazardous waste or medical waste would be accepted at ECDC. We can provide minutes proving those promises.
7. Impact to traffic and transportation systems could be severe. Why do we want to risk contamination of 100 miles of interstate highways and railroad lines to move these materials.

8. Grand County benefited from the production of the tailings. They are welcome to benefit from the clean-up and stabilization of said tailings. We are not sending them the ash from burning the old coal tailings in our local power plant. We are taking care of them here.

WC 46

As per our conversation of January 10, 2003, Umetco is requesting the Department of Energy consider using the existing DOE facility at Green River, Utah for disposal of the Moab Tailings.

The site has been studied extensively by DOE and its contractors, and was found suitable for mill tailings disposal. Utilizing an existing DOE facility follows the U. S. national policy on non-proliferation of nuclear sites. It is important to note that by using this facility, it would save the U. S. taxpayers large sums of money and would be more acceptable to funding by Congress. This facility should be first on the list as the prime candidate site.

WC 47

Federal Register Notice 67 FR 77969 dated Dec. 20, 2002 indicated that the Department of Energy plans to prepare an Environmental Impact Statement to assess the potential environmental impacts of remediating contaminated soils, tailings, and ground water at the Moab Uranium Mill Tailings Site, Grand County, Utah, and contaminated soils in adjacent public and private properties (vicinity properties) near the Moab Project Site. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

While we have no project specific comments to offer at this time, we do recommend that the topics listed below be considered during the NEPA process along with other necessary topics, and addressed if appropriate. Mitigation plans which are protective of the environment and public health should be described in the DEIS wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

I. Air uali
- dust control measures during project construction, and potential releases of air toxins potential process air emissions after project completion
- compliance with air quality standards

II.Water QualitylQuantity
special consideration to private and public potable water supply, including ground and surface water resources
compliance with water quality and waste water treatment standards
ground and surface water contamination (e.g. runoff and erosion control)
body contact recreation

III.Wetlands and Flood Plains
potential contamination of underlying aquifers construction within flood plains which may endanger human health contamination of the food chain

IV.Hazardous Materials/Wastes
identification and characterization of hazardous/contaminated sites
safety plans/procedures, including use of pesticides/herbicides; worker training
spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials
any unusual effects associated with solid waste disposal should be considered

VI. Noise

identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety
•compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use and Housing special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools consideration of beneficial and adverse long-term land use impacts, including the potential influx of people into the area as a result of a project and associated impacts potential impacts upon vector control should be considered

IX. Environmental Justice
- federal requirements emphasize the issue of environmental justice to ensure equitable environmental protection regardless of race, ethnicity, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project. (Executive Order 12898)

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern which may be applicable to this project. Any health related topic which may be associated with the proposed project should receive consideration when developing the draft and final EISs. Please furnish us with one copy of the draft document when it becomes available for review.

WC 48

The Grand Canyon Trust appreciates this opportunity to submit scoping comments for the EIS evaluating reclamation alternatives for the Moab uranium millsite and tailings impoundment.

General Concerns
The National Academies' Board on Radioactive Waste Management points out in its Report to DOE that "the tailings solids represent a hazard that essentially lasts forever." They go on to say,

> "DOE has a responsibility to select an alternative that meets the EPA standards, which demand the best reasonably achievable assurance of satisfactory performance for up to 1,000 years. DOE should also recognize that there is no physical basis for a line to be drawn at 1,000 years; indeed ...the hazards to humans and ecosystems from the mill tailings will last far longer than any period of regulatory compliance."

We believe that is an important part of the reason why, in the Title I program, DOE relocated almost every tailings pile located near a river. In the arid southwest, rivers are too unstable and too important to threaten forever with tailings impoundment failure. It is also because of the perpetual nature of the hazard that NRC regulations identify the preferred option for tailings disposal to be below grade burial at a hydro-geologically suitable site where the mill wastes can be thoroughly isolated from the human and natural environment for the long terns without the need for ongoing maintenance. The Moab site is the direct opposite of this ideal: the wastes are piled above ground on subsiding alluvium in the floodplain of the southwest's most important river; the groundwater and the river have been poisoned with a number of regulated contaminants at levels far above regulatory standards, and not only is this process ongoing, it is expected to continue for hundreds of years; the tailings impoundment obstructs Moab Wash, an ephemeral stream course that occasionally carries large volumes of water that could subject the pile to powerful erosive forces; the reach of the river adjacent to the tailings is designated critical habitat for four species of native fish (whose existence the US Fish and Wildlife Service has found to be jeopardized by previous NRC plans to allow the tailings to remain onsite), and directly

across the river is the regionally important habitat of the Matheson Wetland Preserve owned by The Nature Conservancy;

- Moab is a major jumping off point for river trips through Canyonlands National Park directly downstream from the millsite, and below that is the regionally important recreational economy of Lake Powell, with millions of annual visitors;
- geometric constraints of the site prevent compliance with regulations on sideslope design, yet the stability of the impoundment is critical because it will be subject to settling and periodic inundation by the Colorado River;
- the land on which the tailings sit is potentially valuable riverfront property that will invite unwary future generations to encroach on the site;
- Moab is a rapidly growing destination area and also located in a deep valley that provides a potentially serious trap for radon gas emanating from the tailings, especially during frequent winter inversions;
- two state highways intersect within yards of the tailings pile; and
- the entrance to Arches National Park, with its 800,000 annual visitors is within a mile of the site, soon to be moved half a mile closer still.

For all these reasons, the *Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001* contained in every draft version a provision instructing DOE to move the tailings to a safer location. In the final law, compromise resulted in insertion of additional language, so that the Act as passed reads,

> "(3) REMEDIATIONSubject to the availability of appropriations for this purpose, the Secretary shall conduct remediation at the Moab site in a safe and environmentally sound manner that takes into consideration the remedial action plan prepared pursuant to section 3405 (i) of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (10 USC 7420 note; Public Law 105-261), including(A) ground water restoration; and (B) the removal, to a site in the State of Utah, for permanent disposition and any necessary stabilization, of residual radioactive material and other contaminated material from the Moab site and the floodplain of the Colorado River."

We believe that the meaning of this provision and its legislative history require deeper analysis than DOE has yet given them. **Should DOE conclude** that the preferred alternative is on-site stabilizationa conclusion that can only be reached by elevating cost considerations to a position of preemptive importancethe Grand Canyon Trust or another environmental group may well ask a court to decide what the Congress meant when it enacted legislation saying that "the Secretary shall conduct remediation in a safe and environmentally sound manner ...including removal ...of radioactive material ...from the Moab site and the floodplain of the Colorado River."While Grand Canyon Trust believes that the tailings must be moved to a more suitable location, we have several concerns. First, the Klondike site has a great many favorable characteristics for waste impoundment, but we join the local community in opposing use of the Klondike area as a repository for wastes from any other source but Moab. We do not mean for protection of the Colorado River and the town of Moab to open the door to wastes from across the country. Any Klondike disposal facility must be licensed to accept only the Moab millsite wastes.

Second, we join the White Mesa Utes and many other groups in opposing any plan to slurry the wastes to the International Uranium Corporation mill at White Mesa. The financial costs of such a plan have not been divulged by IUC, but if slurry technology is safe and cost-effective, then it would almost surely be cheaper, safer and achieve a better result to slurry the Moab wastes 17 miles to Klondike than to send them through Moab, Monticello and Blanding and over several divides to White Mesa, 85 miles south. Tricking to White Mesa should be rejected outright just like conveyor-belt systems and other unreasonable options were.

Water Issues

The Colorado River is not only a critical ecological component of the Southwest; it is the household water supply for 26 million Americans. The Moab site must be cleaned up in a way that fully protects their water supply, with no delays, and with no alternate concentration limits or supplemental standards. The "Sensitivity Analysis of Groundwater Flow and Transport Models for the Moab Project Site" (DOE June 2002) concludes that natural flushing will fail to bring groundwater concentrations of uranium below the 0.044 mg/1 standard within 100 years. Other contaminants can also be expected to exceed standards over this long time period. High concentrations in the Colorado River are the result of groundwater contamination. Active remediation is thus an essential part of any groundwater treatment plan in order to bring contaminants within standards and alleviate harm to the listed fish species. Emergency actions to dilute backwater habitats with fresh water, while acceptable in the near term, are completely impracticable over periods of decades or centuries.

We agree with the National Academies in questioning the assumption that the cost and performance of a groundwater treatment program will be virtually unaffected by the choice of a reclamation alternative. The January 2003 DOE report "Tailings Seepage" shows that eventual rates of flux out of the pile vary over two orders of magnitude depending on assumptions of influx rates. Yet, if the 11.9 million tons of tailings and their 21.6 million cubic feet of pore water were removed, the water entering the groundwater system would be clean precipitation rather than poisoned pore water. The claim that this would have no effect on performance of the system is so counter-intuitive that it demands thorough analysis. Also, drainage of that large volume from a capped pile will cause consolidation that could reshape the tailings pile, with possible impacts on the integrity of the cap. We also note here the National Academies' assertion that tailings caps routinely become two orders of magnitude more permeable over time, so influx rates should be closer to the 5 X 10-7 cm/sec value that causes the highest levels of residual contamination. Moreover, the entire area between the tailings pile and the river is subject to periodic flooding. If groundwater treatment is confined to that area by continued presence of the pile, then all the treatment installations will likewise be liable to flooding. If the pile were removed, not only would a huge source of additional contamination be gone, but engineers would have access to a large area of heavily contaminated groundwater with far less danger of flooding. We understand that, if the tailings are removed, stricter groundwater standards apply than if they are reclaimed on site. While this may reflect the impracticability of thorough remediation in the continued presence of the tailings, it is not appropriate to give a cost advantage to an inferior clean up of the water supply for 26 million people.

Finally, the analysis of possible threats to human health should not assume that river water in this area is not used for human consumption. The Grand County Water and Sewer Service Agency has been drilling repeatedly in recent years for additional water wells in the Navajo aquifer, with rather poor results. Water moratoria are being introduced. The City of Moab can already see the complete use of underground water supplies, and may soon turn to its Colorado River water rights for an additional source. During the regulatory timeframes relevant to this EIS, it is a near certainty that municipal water will be drawn from the river in the Moab Valley.

Migration of the Colorado River

DOE's Letter Report on "Migration Potential of the Colorado River Channel Adjacent to the Moab Project Site" presents a picture of a stable river meandering slowly between the bedrock portals at either side of the valley. Subsidence from salt dissolution is supposed to be balanced by infill from Moab Wash and Mill and Pack Creeks, as well as the Colorado River. However, on page 5, the report notes the discovery of river gravels from the Colorado on a terrace 54 feet above the present river level and 1,200 feet north of the present river bed. They are estimated to have been deposited there 30,000-12,000 years ago, indicating either a glacial ice dam or down cutting at a rate of 1.8 to 4.5 feet per thousand years. Other more recent gravels are also recorded 26 feet above the present channel and 1,000 feet north, leading to the calculation that the river may be dropping at a rate of 13-33 feet per thousand years. The conclusion in the report is simply that the river is moving south, away from the pile. This is inconsistent with the picture of river stability mentioned above. If the river was flowing so strongly as to deposit river cobbles at these locations just a few thousand years ago, and if it has since dropped so dramatically, then the tailings pile could be subject to tremendous disruptive forces over

the next thousand years, to say nothing of the longer time frames mentioned by the National Academies.

With regard to the river, we also point out that it floods up to the base of the tailings pile fairly frequently, most recently in 1993, and before that in 1983 and 1984. Moab Wash also floods dramatically on occasion, posing another hazard to the integrity of the pile. The effect of saturating the base of the cover and wetting the vadose zone must be studied, with regard to pile stability, cap integrity, and as a source of new contamination in the water system.

It is truly difficult to understand how the goals of long term isolation and stability can possibly be met in the floodplain of the most important river in the Southwest. Imagine the scenario in which DOE decides that the tailings can safely be left in place, and then a flood year occurs during the capping process. The nationwide broadcast of television images showing the tailings standing in the river would be a public relations disaster from which the program would never recover (to say nothing of possible environmental consequences). Hundreds of years of periodic flooding on a rapidly subsiding site sounds like a prescription for nearly certain impoundment failure; and the river gravels and driftwood found in core samples prove that the river bed has repeatedly been where the tailings are now. Eventually the river will move into the tailings pile and carry it away.

We disagree with the finding in the NRC EIS that failure of all or part of the tailings pile would be relatively inconsequential. Ecologically, the tailings would be efficiently sorted by the moving water into scattered areas of high concentration, which would be potentially lethal to organisms using those habitats. The exposed tailings left in the Moab Valley would become a source of radon contamination or of windblown tailings, requiring expensive remediation, if anybody is left who remembers it must be done. Additionally, the chilling effect of such a disaster on the regionally important recreation economy based on visitation to Lake Powell and river trips through Canyonlands could greatly outweigh any cost savings from capping in place. Whether necessary or not, large numbers of downstream citizens would likely switch from municipal water supplies to bottled water, shifting costs of billions from the government agencies responsible for the cleanup to consumers. If the water agencies were forced by public outcry to install membrane filtration capable of removing uranium, the costs would be in the tens of billions. These indirect costs of a tailings failure should be analyzed in the EIS. The potential for failure at Klondike or Crescent Junction is much less, and the costs of failure also much less.

The Moab site is the source of more surface water contamination that all the other Title I sites combined. If it is thinkable to contain the Moab wastes in place, then surely it would have been possible to engineer containment of the much smaller and less polluting sites at Grand Junction, Rifle, Durango, Green River, Riverton, Slickrock, and Naturita. Yet, DOE decided to relocate all of those tailings piles to safer locations at a cost of some $1.8 billion. The EIS should revisit the reasoning applied to those other cases and compare the decisive factors with the Moab problem; if local support for relocation was important, recall that the people of Moab have been fighting to get this pile moved for more than a decade.

Costs

The NRC EIS concluded that relocating the pile would be preferable to capping in place in every respect except that it would cost more. Capping in place was therefore recommended. DOE is not subject to the same limitations NRC was. Cost should be one secondary factor among many others, including full life cycle costs of alternatives and indirect costs potentially imposed on other parts of society by impoundment failure.

Grand Canyon Trust has worked closely with DOE and the State of Utah in the Stakeholders Committee with the aim of planning the most cost efficient, safe method of moving the tailings. That group concluded that the tailings should be moved by rail or truck to the Klondike site (or Crescent Junction), and that the job could be done for $220-250 million. That is $150 million less than original estimates by DOE. These numbers should be further refined in the EIS.

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The Department of Energy (DOE) has been given the responsibility to remediate the Moab Uranium Mill Tailings anal Vicinity Properties Site (Moab Project Site) in Grand County, Utah, by provisions in the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law' 106-398). The DOE was authorized . by the, legislation to remediate the Moab Project Site as a Title I Uranium Mill Tailings Radiation Control Act of 1978 (UM:TRCA) site. The DOE Grand Junction Project Office is in charge of the remedial action.
On December 20, 2001, the :DOE published a notice in the Federal Register.
(67 Fed. Reg. 77969) announcing the "Intent to Prepare an Environmental Impact Statement and to Conduct Public Scoping Meetings, and Notice of Floodplain and Wetlands Involvement for Remediation of the Moab Uranium Mill Tailings Site in Grand - County, UT." Enclosure 1.

The Federal Register Notice (FRN) discusses off-site disposal alternatives, one of which is the disposal or remilling anal disposal of the Moab Mill Tailings at the *White* Mesa Mill, near Blanding, Utah. This mill is licensed by the Nuclear Regulatory Commission (NRC) under Title II of UMTRCA (License No. SUA-1358, Docket No. 408681). The mill is owned and operated by International Uranium (USA) Corporation ("International Uranium").

The FRN states that "the mill. has the potential to process materials from the Moab Project Site to extract valuable constituents and then dispose of the residues on-site or dispose of the materials without processing." The Draft Preliminary Plan for Remediation: Moab Site Project (October 2001), GJO-2001-269-TAR, offers the processing (remilling) of the Moab ***Project Site*** tailings as one of the off-site disposal alternatives.

Additionally, International Uranium and Washington Group International, Inc., authored the "Project Overview: Moab Uranium Mill Tailings Relocation to White Mesa Mill by **Slurry Line"** ***(January*** 7, 2002) and made it available *to* the DOE. Enclosure 2.This plan also proposes the remilli:ng of the Moab Project Site residual radioactive material at White Mesa.

Title I (as codified in 42 U.S.C. Chapter 88, Sections 7901-7925) contains a section that sets forth requirements related to the remilling of Title I tailings at a licensed Title II site. 42 U.S.C. Sec. 7918(b) states:

(b) Mineral concentration evaluation; terms and conditions for mineral recovery; payment of Federal and State share of net profits; recovery costs; licenses

Prior to undertaking any remedial action at a designated site pursuant to this subchapter, the Secretary shall request expressions of interest from private parties regarding the remilling of the residual radioactive materials and the site and, upon receipt of any expression of interest, the Secretary shall evaluate among, other things the mineral concentration of the residual radioactive materials at each designated processing site to determine whether, as a part of any remedial action ecovM of such minerals is practicable. The Secretary, with the concurrence of the Commission, may permit the recovery of such minerals, under such terms and conditions as he may prescribe to carry out the purposes of this subchapter. No such recovery shall be permitted unless such recovery is consistent with remedial action. Any person permitted by the Secretary to recover such mineral shall pay to the Secretary a share of the net profits derived from such recovery, as determined by the Secretary. Such share shall not exceed the total amount paid by the Secretary for carrying out remedial action at such designated site. After payment of such share to the United States under this subsection, such person shall pay to the State in which the residual radioactive materials are located a share of the net profits derived from such recovery, ,as- determined by the Secretary. The person recovering such minerals shall bear all costs of such recovery. Any person carrying out mineral recovery activities under this paragraph shall be required to obtain any necessary license under the Atomic Energy Act of 1954 [42 U.S.C. 2011 et

seq.] or under State law as permitted under section 274 of such Act [42 U.S.C. 2021]. [Emphasis added.]

As stated in the statute quoted above, the Secretary, with the concurrence of NRC, is authorized to permit the remilling of Title I tailings for the recovery of minerals and set terms and conditions for that recovery. That recovery must be "consistent with remedial action." The Secretary is required to determine the share of the net profits derived from the mineral recovery that shall be paid to the Secretary.

It is clear that the statute requires that, "upon receipt of any expression of interest, the Secretary shall evaluate, among other things, the mineral concentration of the residual radioactive materials at [the Moab Project Site] in order to determine whether, as a part of any remedial action program, recovery of such minerals is'practicable." '

It is clear that International Uranium has shown an "interest" in the remilling of the Moab Mill Project tailings at their White Mesa Mill. The DOE has been aware of that interest for over a year.

What is not clear is whether the Secretary, upon the "receipt of interest in remilling" from International Uranium, evaluated the mineral concentration of the residual radioactive materials at the Moab Project Site. It is also not clear whether the Secretary has determined whether, as part of the authorize remedial action program, recovery of minerals from the Moab Mill Tailings is "practicable." I am not aware of any such evaluation and determination by the Secretary.

The statute says that the Secretary should make findings "won receipt" of interest in remilling. The statute does not say that the Secretary should wait until a determination is made regarding other aspects of the various remediation alternatives (which are currently being considered by the EIS process) before making the required findings related to the remilling of the Moab Mill Tailings at the White Mesa Mill.

Plainly, Congress intended that the Secretary make the required evaluation and. determination at the earliest possible opportunity once interest in remilling has been expressed. It does not require a formal application or proposal by the Title II licensee. The issuance of findings by the Secretary is reasonable and advisable so that the DOE will not continue to consider a proposal that the DOE determines not to be "practicable." It would be a waste of taxpayer money for the DOE to continue to evaluate an off-site disposal alternative (that is, remilling at the White Mesa Mill) if the DOE has determined that this proposal is not "practicable."

Unfortunately, Congressional funding for the Moab Mill Project is currently limited. Any possible savings of federal funds would be helpful, so that the DOE can properly consider and implement a more "practicable" alternative.

Therefore, I request that:

- The Secretary, having already received "interest in remilling" from International Uranium, promptly make the required evaluation of the mineral concentration of the residual radioactive materials at the Moab Project Site, as required by statute;

- The Secretary promptly make any other appropriate evaluation in order to properly determine whether the recovery of minerals from the Moab Mill Project is "practicable." This should include an evaluation of how the DOE will assure that International Uranium "shall bear all costs" related to the remilling of any materials
from the Moab Project Site;.

The Secretary promptly deterinune, as required by the statute, whether recovery of the minerals from the Moab Mill'P'roject at the White Mesa Mill "is practicable;" and

The Secretary make these evaluations and determinations publicly available on the Grand Junction Office website <http://www.gjo.doe.gov/moab/moab.htnil> and issue a press release to local and major Utah newspapers so that the communities in Grand and San Juan Counties will be informed of the Secretary's findings.

I also request an acknowledgement of this letter, a written response, and a copy of the findings required of the Secretary by 42 U.S.C. Sec. 7918(b).

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2/6/03

Joel Berenick
U.S. Dept. of Energy
Grand Junction, Colo. 81502

Dear Sir:

Please — No more
Pollution in our area
We have more than
our share, I vote
No to bring the Mesa
tailings into our area.

Thank you.

Yours Very Truly
Elsie M. Parker
Box 877
East Carbon, Utah
84520-0877