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Utah Rock Art Research Association

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We thank the BLM for this opportunity to reply to the West Tavaputs Plateau Natural Gas Full Field Development Plan Draft Environmental Impact Statement (DEIS).

The Utah Rock Art Research Association (URARA) is the largest organization dedicated to Utah rock art. Our mission is:

- To lead in the preservation and understanding of the value of rock art.
- To encourage the appreciation and enjoyment of rock art sites.
- To assist in the study, presentation, and publication of rock art research.

Our 300 members have professional, academic, and avocational interest in Utah rock art. Combined, our membership represents the largest body of knowledge regarding Utah rock art. In October 2005, our membership held their annual symposium featuring over 20 speakers 150 attendees in Price. Our membership has a strong interest in the cultural resources in the Nine Mile Canyon area and in the cultural preservation of the region. As an organization and as individual members we have been strong advocates and representatives for the preservation of Nine Mile Canyon rock art. We have:

- Conducted frequent educational field trips in the canyon
- Explored the canyon and tributaries for archeological sites
- Documented rock art and archeological sites
- Researched the meaning, function, and purpose of rock art in the area
- Funded and participated in the creation of the new National Register of Historic Places (NRHP) nomination
- Assisted the National Trust with work in the canyon
- Responded to critical Environmental Assessments and Resource Management Plans in this area of the past few years
- Featured presentations of Nine Mile Canyon research and public discussions of rock art preservation in our last four symposia
- Created the Nine Mile Gallery, a large photographic exhibit, which has been featured in galleries and museums throughout the state and several publications including Preservation Magazine and Native Peoples Magazine
- Created a complete database of formally recorded archeological sites within the canyon

URARA recognizes that oil and gas development on public lands is a component of the BLM mandate and is also a matter of public interest for the citizens of this country. We are not opposed to oil and gas development on the West Tavaputs Plateau if the development recognizes and values the significant non-petroleum resources of the area. Our interests are particularly focused on the preservation of rock art and archeology.

In all of our following comments we will ignore Alternative B – No Action Alternative. Since there are over 100 wells currently operational on the plateau it is obvious that this alternative is irrelevant.

As we review this DEIS we believe there are three fundamental questions to evaluate with regards to the drilling program:

1. Should drilling be done in wilderness areas?

Alternatives A, C, and E all propose the same number of wells. There is minor differentiation on the number of well pads associated with directional drilling. Alternative D proposes a 30% reduction in wells due to the elimination of drilling within wilderness areas. We support the elimination of drilling in wilderness areas. We cannot reconcile the concept of wilderness with the development requirements associated with drilling.

2. How much drilling should be done in the winter?

Drilling will impact wildlife. During winter months wildlife is more impacted since snow affects food, mobility, and cover. Alternative A proposes 9 rigs operating in the winter, Alternative C allows 2 rigs in the winter, Alternative D does not allow winter drilling, Alternative E allows 7 rigs during the winter. Price BLM biologists argued in earlier environmental assessments that winter drilling would be disruptive to health of elk and other species. We concur.

3. How are people and equipment going to access the West Tavaputs?

The BLM has failed to provide acceptable alternatives for this issue. Alternative C creates two new airports on the plateau and requires transportation of workforce and supplies via these airports. “Aerial transportation of the workforce or supplies would reduce light truck traffic between the DEIS Project Area and Vernal by approximately eight round trips per day per drill rig. Assuming that between two and six drill rigs would be operating at all times in the DEIS Project Area, light truck traffic would be reduced by 16 to 64 round trips per day.” (DEIS 2-72)

Table 1: Project traffic

	Alt A Proposed Action	Alt C Transportation Reduction	Alt D Conservation	Alt E Agency Preferred
Development traffic	1,007,876	895,972	699,996	1,013,948
Production traffic	1,845,494	662,748	1,336,584	662,748
Total project traffic	2,853,370	1,558,720	2,036,580	1,676,696
% of Alt C	183%	100%	131%	108%
Table Reference	2.2-2	2.4-2	2.5-2	2.6-2

All the alternatives assume the use of Nine Mile Canyon as the primary transportation corridor. Increased traffic of between 1.5 million and 2.8 million trips is unacceptable in Nine Mile Canyon. This is the primary flaw of this DEIS. The DEIS fails to consider an alternative route that bypasses the rich cultural resources of Nine Mile Canyon. Neither of the two Bill Barrett contracted road engineering reports attempts to find an alternative to Nine Mile Canyon. The BLM’s own minimal two-day study is only designed to determine the impact of bringing existing roads into compliance with BLM standards. The BLM has

completely missed the “elephant in the room.” The failure to consider this fundamental issue invalidates this draft EIS and requires the development of a new EIS with an alternative which addresses this very important issue.

The BLM had adequate notice of this concern:

During the scoping process it was suggested that the BLM should identify an alternative access route that would reduce traffic in Nine Mile Canyon, which has been designated as a BLM Backcountry Byway and by the State of Utah as a State Scenic Byway. The following alternative routes were considered by the BLM.

- New routes that transect Nine Mile Canyon from the Uinta Basin
- Bruin Point route
- A route around the mouth of Nine Mile Canyon

After consideration, these routes were dismissed from further analysis. (DEIS 2-149/150)

BLM’s weak assessment of access alternatives are outlined with our response as follows:

Table 2: Commentary on Alternative Access Routes

BLM Assessment	URARA Commentary
Developing new routes that transect Nine Mile Canyon is difficult because the WTP Project Area covers three different mesas (i.e., Prickly Pear, Flat Iron, and Peter’s Point). Thus, to avoid use of Nine Mile Canyon there would have to be separate new transecting roads. For example, a new road in Trail Canyon could potentially take traffic to the bottom of Harmon Canyon; however, this route would only provide access to Prickly Pear Mesa. In addition, new roads proposed in side canyons would likely impact cultural resources. (DEIS 2-150)	It is not correct that a Trail Canyon access route would only provide transportation to Prickly Pear Mesa. Once on the mesa there are access routes from mesa to mesa. The eastern portions of the project are tied into each other via class I and class II roads. Only the Prickly Pear area in the west has no direct road access to the other mesas as shown on Figure F-1. However, we note that there are unused road segments extending beyond the boundaries of the project area that would provide transportation routes to the other mesas from Prickly Pear. Thus it is feasible to have a single road cutting across Nine Mile Canyon that provides access to the full DEIS development area.
The Bruin Point Route is problematic for numerous reasons. First, traffic originating in the Uinta Basin would be required to travel Highway 40/191 to Duchesne, Highway 191 through Indian Canyon, Highway 6 through Helper, Price, and Wellington, and Highway 123 through Sunnyside. Displacing heavy traffic onto these highways could impact safety, increase road deterioration, and add several hours of driving time to each vehicle round trip. Second, the elevation of Bruin Point is over 10,000 feet. Because of elevation, the road would be difficult to safely	The concern of the BLM for our nation’s highway system is touching though somewhat confusing. Aren’t these highways actually constructed to move heavy vehicles? If the BLM is truly concerned about safety and road deterioration what could be worse than having heavy truck traffic on roads described as follows: Portions of the road that do not have adequate surface materials have been eroded into native material, which results in dust or mud when very dry or very wet. Vehicles traversing the area frequently have trouble maintaining control, traction, and vision because of problems associated with the road surface. The travel corridor within Nine Mile Canyon is very narrow (approximately 14 to 18 feet wide) in sections, and there are numerous blind curves. The width of the road is generally constrained by the incised channel of Nine Mile Creek, cliffs, boundary

BLM Assessment

URARA Commentary

maintain during the winter-time. Third, the existing road to Bruin Point does not meet standards and would require extensive engineering. Finally, opening the road year-round could potentially impact sage grouse and big game species. (DEIS 2-150)

fences on private land, irrigation ditches, and cultural sites.

Finally, Nine Mile Canyon is the primary drainage in the WTP Project Area, meaning that numerous side canyon drainages intersect the road. Flash floods and debris flows across the road from side canyons may occur during inclement weather. Since the road runs along the base of steep slopes and/or cliffs, occasional rock falls have also been known to occur in the area. (DEIS F-15)

In general, the issues in Gate Canyon are similar to those just discussed for Nine Mile Canyon. Gate Canyon is one of the major tributaries intersecting Nine Mile Canyon. The road through the canyon parallels and frequently crosses the stream channel. Runoff from flash floods frequently damages the road at channel crossings. In addition, segments of the road in Gate Canyon have steep gradients. (DEIS F-16)

It is not the job of the BLM to determine the economically viable location of oil well service companies, rather it is to choose an alternative that best meets the multiple use needs of the public. If service companies find the longer drive described by the BLM objectionable they have every right to relocate to Price, Wellington, Sunnyside or other locale of their choice to avoid the financial burden.

Winter maintenance of the Bruin Point road is a moot point. The 9000 foot elevation of the plateau requires all roads be maintained during winter months.

All access routes onto the mesa tops require engineering. The determination that this route would require "extensive" engineering is without any backup in the EIS. We can find no study of the viability of this route by either Bill Barrett contract study nor the BLM's own study.

Finally, the concern that this route would impact big game and sage grouse is a red herring. The BLM should consult their own maps especially 3.9-2; 3.9-4; 3.9-6; 3.10-2 and realize that these alternatives already provide huge impact and access to sage grouse and big game species and habitat.

A new route around the mouth of Nine Mile Canyon would provide

We note that access to the Green River corridor may be a moot point based on the EIS:

BLM Assessment	URARA Commentary
motorized access into what is currently an undeveloped and inaccessible area. The mouth of Nine Mile Creek is sensitive because of its cultural resources and proximity to the Green River. Development of a new route in the area could potentially impact areas of special designation, including the Desolation Canyon NHL, Desolation Canyon SRMA and the Lower Green River WSR corridor. (DEIS 2-150)	Existing motorized access into the Desolation Canyon NHL is via an unmaintained and particularly hazardous road along Horse Bench. Under the Proposed Action, upgrades to Horse Bench road would end outside of the NHL boundary, but would allow vehicles to gain easier access to overlooks into Desolation Canyon, and potentially travel the entire length of this unmaintained route through the NHL to its intersection with Nine Mile Canyon. (DEIS 4-363) The BLM's concern for access to cultural resources at the mouth of the Nine Mile Canyon is refreshing since it is not demonstrated at any other place in the EIS.

Lack of Cultural Resource Planning

No alternative considers the implications to archeological resources due to significant increase in vehicular use within Nine Mile Canyon and surrounding region associated with oil and gas development. There has been no complete inventory and assessment of archeological sites within the canyon, tributaries or area, their proximity to roads, the amount of dust accumulating on these sites, the impacts of dust as an airborne scouring agent on the sites, the impacts of dust on the visibility of the panels, the impact of dust and dust suppression chemicals and vehicle exhaust on the integrity of the rock art panels, the impact of dust suppression chemicals and vehicle exhaust on the ability to retrieve scientific information from rock art panels, or the impact of vehicle vibrations on the integrity of rock art panels. Since the DEIS provides no alternative to the currently observed and likely future damage of archeological resources, the expansion of energy development should be halted until alternatives are implemented which protect the world class cultural resources of the region.

It is our understanding that Section 106 of the NHPA (16 U.S.C. § 470f) obligates the BLM to consider the effects of management actions on cultural resources listed or eligible for listing to the National Register of Historic Places (NRHP). Section 110 of the NHPA requires the BLM to manage and maintain those resources in a way that gives "special consideration" to preserving archaeological and cultural values. Section 110 also requires the BLM to ensure that all historic properties under their jurisdiction or control are identified, evaluated, and nominated to the National Register of Historic Places. Id. § 470h-2(a)(2)(A). We are concerned that despite this statutory responsibility the DEIS seems to simply assume that NRHP sites will be destroyed by drilling activity:

Based on conceptual locations for surface facilities, activities associated with new surface disturbance would potentially conflict directly with 37 known cultural resources – 21 of which are eligible for the NRHP. Activities associated with existing road maintenance or upgrades would potentially conflict directly with 43 known cultural resources – 26 of which are eligible for the NRHP. (DEIS 2-141)

We are concerned that the BLM has failed to present an alternative which would protect known NRHP eligible sites.

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We have reviewed Table 4.12-1 and note that the following rock art sites are at the same location: 42Cb0053(66), 42Cb0069, 42Cb00132, 42Cb00133, and 42Cb2160. We would like to visit this area with the BLM and determine if there are alternatives that would allow for pipeline development without impact to the sites. We were unable to find information regarding site 42Cb1756 and would appreciate the opportunity to review it with the BLM as well.

The primary area of cultural research within the region has been Nine Mile Canyon. The side canyons and West Tavaputs have received less attention. We believe that it is highly probable that these side canyons served as transportation routes to summer forage on the plateau. It is likely that there is archeology associated with this movement and upland use. The DEIS requires a massive and invasive infrastructure including roads, pipelines, housing, and wellpad locations which are being planned with limited information with regards to cultural resources.

Previous natural gas exploration and production and associated projects have driven much of the archaeological inventories conducted on the West Tavaputs Plateau. This has resulted in a patchwork of areas that have been intensively surveyed, interspersed with other areas that have not been inventoried for cultural resources. For example, the Horse Bench area of the WTP Project Area has received almost no systematic archeological investigations. According to the Class I cultural resources overview (Whitfield et al. 2006), approximately 17 percent, or 553 acres of the area proposed for surface disturbance under the Proposed Action, has been previously surveyed for cultural resources. (DEIS 4-216)

We oppose this decision-making process which is not based on actual rock art and archeological site inventories. A class II intuitive survey should be conducted in areas of Nine Mile Canyon, side canyons, and the West Tavaputs Plateau that have not previously been surveyed and that the results of this survey should be combined with current archeological data in making appropriate planning decisions.

The implementing regulations of NHPA (36 CFR 800) require agencies to “make a reasonable and good faith effort to carry out appropriate identification efforts” (36 CFR 800.4(b)(1)). The DEIS ignores the fact that the drilling program will bring millions of person days of activity to what has been a previously isolated area. In addition, worker housing located on the plateau will serve as a base for free time exploration activities by workers, and the development and improvement of roads in the area will allow much greater public access. The DEIS proposal to only conduct cultural surveys (as defined in Appendix N) within 10 acres of each well pad, 5 to 10 acres around other facilities, and a 300-foot corridor along new roads and pipelines is insufficient based on the indirect impacts that can be reasonably expected from the drilling activities. We believe that a class II intuitive survey should be conducted in areas of Nine Mile Canyon, side canyons, and the West Tavaputs Plateau that have not previously been surveyed for the project to be in compliance with the NHPA.

New Airstrips

Table 1 summarizes the differences in overall project traffic between the various alternatives. We note that the primary vehicle reduction is not associated with the development of the new airstrips, which reduces development traffic, but with the use of water and condensate collection pipelines associated with production traffic. Alternative C only represents an 11% reduction in Alternatives A and E development traffic. It is unclear why these airstrips should be necessary under any of the alternatives other than Alternative C. These airstrips would be one mile in length and would include generators and lights. Problematically, the DEIS does

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not discuss their locations. Why does the West Tavaputs Plateau require more airports than Salt Lake City? We do not support the development of the two new airstrips.

Water and Condensate Collection Pipelines

Table 1 shows that collection pipelines can reduce production traffic by amounts ranging from 50% (Alternative D) to 64% (Alternative A). We support the reduction in traffic by implementing these collection pipelines.

Road Turn-Outs

“A final and unique component of the Agency Preferred Alternative would require BBC and other operators to construct turnouts and/or designated parking locations at appropriate intervals on Federal lands along the Nine Mile Canyon Backcountry Byway to reduce transportation-related safety concerns.”(DEIS Executive Summary p. 8) This option is an important safety related issue for visitors to the canyon given the proposed 1.5 million to 2.8 million additional vehicles that will use the canyon over the life of the project. However, since the county road passes mostly through private property, it is not clear to us how many turnouts can be developed. The DEIS does not specify the number of turnouts or where they will be located. As a result, we believe this gesture will not significantly impact visitor safety. A superior option is to simply bypass the canyon removing project traffic and reducing the need for turn-outs and the constant threat to visitor safety.

Workforce Housing Locations

We support the use of workforce housing locations within the project area in order to reduce vehicular traffic through Nine Mile Canyon. We support the location of this housing on the plateaus rather than in the archeologically sensitive Nine Mile Canyon. A stipulation of this project should be that workforce housing not be allowed anywhere in Nine Mile Canyon.

Surface Occupancy in Nine Mile Canyon

There is little commentary in the DEIS regarding potential wells within Nine Mile Canyon itself. However, we note that the various project maps include several well sites within the canyon. Wells within the canyon have a dramatic impact on the viewshed and visitor experience of the canyon. Land ownership associated with these wells is not clear to us. In addition, the maps indicate two pumping stations to be located within the canyon. These wells and pumping stations are being presented as part of an overall project to be considered by the BLM. The BLM needs to consider the impact of these wells and pumping stations and their cumulative impact on the entire project. We do not support the drilling of additional wells, the creation of pumping stations, or any other surface occupancy within Nine Mile Canyon.

Compressor Stations

New compressor stations must be located strategically on the plateaus. These locations will be outside of the viewshed and auditory range of the typical visitor within Nine Mile Canyon. We advocate the relocation of the Dry Canyon compressor station to the plateau. We do not support the expansion of this compressor station while it is located in the canyon bottom. These compressors, located in an archeologically rich section of the canyon, are a visual and auditory distraction to the recreational and cultural enjoyment of the canyon.

Desolation Canyon

The BLM's approach to the project and its relationship to the Green River corridor and the Desolation Canyon National Landmark is confusing. The BLM states:

A new route around the mouth of Nine Mile Canyon would provide motorized access into what is currently an undeveloped and inaccessible area. The mouth of Nine Mile Creek is sensitive because of its cultural resources and proximity to the Green River. Development of a new route in the area could potentially impact areas of special designation, including the Desolation Canyon NHL, Desolation Canyon SRMA and the Lower Green River WSR corridor. (DEIS 2-150)

In an effort to minimize impacts to sensitive resource areas, the Agency Preferred Alternative also contains several components from Alternative D. The following measures would reduce the impacts of development within WSAs, canyon bottoms, and the Desolation Canyon NHL:

- As feasible (where to do so would not preclude the development of valid and existing lease rights), NSO by new well pads or other facilities on Federal lands within Jack Canyon and Desolation Canyon WSAs;
- NSO on Federal lands within the Desolation Canyon National Historic Landmark (NHL) (DEIS Executive Summary p. 7)

If the intent of the BLM is to protect the Green River corridor and Desolation Canyon NHL why were they included in the project boundaries?

We oppose the Bill Barrett preferred alternative: “No surface disturbance would occur within 1 mile of the Green River; however, approximately three well pads are proposed within the viewshed and there is potential for auditory impacts. There is no consideration of the archeological resources in this wild and scenic area. The Price field office has invited URARA members to participate in exploration and photography of the rich archeology of this area. We refer the BLM to the photographs gathered on this joint expedition.

We recommend that the project boundaries be redrawn to remove the potential for development along the Green River corridor and Desolation Canyon National Historic Landmark.

Dust Study

The BLM indicates that: “Anticipated indirect impacts to cultural resources include the accumulation of dust and its impact on rock art, the impact of vibration and project-related erosion on cultural resources” Our observation, after many trips to the canyon, is that these impacts are direct. How can the impact from 1.5 million to 2.8 million vehicle trips be described in any other way? 36CFR800.5(a)(1) states “an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling or association.” We insist that a more comprehensive study of the impact of dust, dust suppression chemicals, vehicular exhaust, and vibration must be done in addition to a baseline archeological report along the proposed transportation route. We have submitted a request with other organizations for an extension of the DEIS to study the final results of the Silver study and complete a more comprehensive dust study.

The study conducted by Constance Silver in Appendix G is listed as “preliminary.” The report notes that “The final report will include all data and provide concrete recommendations for a course of action to protect the rock art of Nine Mile Canyon from impacts from dust.” (DEIS Appendix G p. 2) Why was this final study not included in the EIS?

Steve Manning, a member of URARA, with 35 years of experience as a chemist, has the following comments on the study found in appendix G.

Constance Silver is a qualified rock art conservator. However, she is not qualified to assess the effects of chemical agents (magnesium, diesel exhaust, etc.) on the various sandstone formations on which the rock art is located. This requires the expertise of a geochemist.

With regards to the discussion on DEIS Appendix G p 32-33 regarding the damage to a limestone frieze in New York and the statement that it cannot be proved that particulate magnesium chloride [MgCl₂] landing on a rock art panel in Nine Mile Canyon will produce the same damage, it should be noted that limestone consists principally of calcium carbonate. Sandstone consists principally of quartz grains cemented together with calcium carbonate -- limestone. If MgCl₂ damages limestone in a frieze, it will also damage sandstone in a rock art panel. It is hygroscopic no matter where it is.

The discussion on pages 6, 21, and elsewhere within Appendix G, of the disappearance of magnesium is evidence of Constance Silver's lack of understating of chemical principals and of the basics of ionization of salts in water. When MgCl₂ and/or magnesium oxide [MgO] is placed on roads, it is usually mixed with lots of water and sprayed on. This is necessary so that it can soak in and harden the road base to a maximum depth. A thin surface coating would have little effect and would soon be broken up. When MgCl₂ and/or MgO is mixed with sufficient water it is ionized and when it mixes with the dirt on the road the whole becomes a chemical soup. Flakes of pure MgCl₂ no longer exist that can be detected by scanning electron microscopy or xray defraction techniques. All that the analysis, in this respect, has done is to determine that solid MgCl₂ was apparently not applied to the road.

The dust that is adversely affecting the rock art in Nine Mile Canyon is not simply small particles of dirt. It includes aggregates of numerous chemicals from diesel exhaust from heavy trucking activity, road treatment chemicals and effluents from compressor stations. To understand the impact of the chemicals on rock art requires the expertise of a chemist. A literature review is not a replacement for a trained chemist or geochemist.

Page 18 of appendix G assumes that sections of the road were treated with MgCl₂ I think that information on exactly what sections of the road had been treated should have been obtained instead of just making an assumption. This information should have been acquired before the dust study was commenced. Why wasn't the County or Bill Barrett Corporation ever contacted to make this determination?

The discussion page 5 and 6: The presence of photographs showing the effects of dust on rock art sites should not be ignored just because they do not provide an analytical particulate baseline. An immediate photographic study and monitoring activity should be conducted as well, and it should include more than just five sites.

Another study needs to be done, or the present one expanded, to provide information on the impacts from vehicle exhaust and emissions from other facilities on the rock art, and recommendations for a course of action to protect the rock art of NMC. This report has little information on the effect the dust is having on pictograph panels. Much more research needs to be done.

We support the narrative of Jerry Spangler representing the Colorado Plateau Archaeological Alliance (CPAA) as follows:

Given the presence of magnesium chloride, magnesium and/or chloride in all samples tested, Silver's conclusions about the equivocal nature of the data should be rejected. Also suspect is her statement that "there is no proof at present that magnesium chloride used for dust abatement in Nine Mile Canyon has – or will – become a vector of deterioration for the canyon's resources" (Appendix G:33) in light of her statements that magnesium chloride is a "documented agent of deterioration of concrete and works of art" (Appendix G:1) and that agencies, organizations and scientists are raising concerns about magnesium chloride (Appendix G:32). CPAA concurs with Silver's recommendations that additional studies into dust abatement technologies are warranted, and that impacted sites need to be identified and evaluated (Appendix G:34).

CPAA also concurs with the DEIS (Section 4.12.1.2) that additional efforts are needed to identify, develop and implement acceptable dust-abatement treatments, that additional research needs to be initiated to develop treatments for removal of existing dust, that analytical systems should be

implemented to quantitatively examine the success of dust-abatement treatments, and that all impacted rock art panels should be evaluated to determine the extent of the dust accumulation problem and thereby devise dust-abatement strategies (4-219). However, the DEIS identifies few strategies whereby these laudable goals will be achieved, nor does it specify a timetable wherein the research would be conducted, reported and recommendations implemented. Also disconcerting is the absence of interim strategies to protect rock art panels while scientific studies are underway, a de facto acknowledgment by the BLM that current dust-abatement methods are sufficient until such time that future research demonstrates otherwise.

Ongoing site condition assessments in the Cottonwood Canyon confluence area (CPAA report in preparation) suggest the number of sites impacted by significant dust accumulation could be substantial, particularly in those areas where the road abuts the canyon wall. Preliminary data suggest that rock art sites within 30 meters horizontal and 30 meters vertical of an existing road have been severely impacted by dust accumulation, often to a point where images are no longer visible or are barely discernible. Dust accumulation was observed at many sites up to 50 meters from an existing road, but not all sites. Evidence of dust accumulation at sites located beyond 50 meters from a road is more equivocal. The problem is particularly evident at those site locations where the rock art is located below and within overhangs that block rising dust plumes and redirects the rising plumes downward, coating the panels a second time. Also particularly vulnerable are rock art sites on sloping surfaces of less than 90 degrees. This study, which compares original site photographs to current site condition, examines only issues surrounding visual clarity and does not address the merits of different approaches to dust abatement.

In light of these concerns, CPAA recommends:

- The EIS should more accurately reflect that dust accumulation is a direct impact to cultural resources, primarily rock art sites and historic signatures, and that these impacts will be thoroughly mitigated through Section 106 compliance.
- Dust abatement studies recommended by Silver, including the corrosive nature of magnesium chloride and related technologies, should be required and completed prior to implementing any dust abatement measures with materials other than purified water. Regardless of what alternative is chosen, the final EIS should clearly require dust abatement measures and operators will be accountable for compliance with these measures.
- Baseline site condition assessments should be conducted to identify and evaluate those sites impacted by dust accumulation, and to determine the spatial extent of the dust problem.
- The EIS should articulate a requirement that periodic and consistent audits of site conditions will be conducted at those localities where National Register-eligible cultural resources are vulnerable to dust accumulation to monitor site degradation over the life of the project.
- The EIS should be augmented to include a more thorough and thoughtful analysis by transportation engineers of potential options wherein dust impacts to cultural sites could be avoided entirely. This analysis should include an examination of potential re-routing of the existing road away from vulnerable and high-density cultural resources, an examination of new access routes through side canyons without a significant density of significant sites, and upgrades to existing routes that bypass Nine Mile Canyon.
- In light of (a) public concerns over dust in Nine Mile Canyon, both from cultural resource protection and public safety perspectives, (b) the BLM's stated preference to utilize the Nine Mile Canyon corridor, and (c) the likelihood that scientific studies on dust abatement issues will not generate consensus for many years, CPAA recommends that all portions of the Nine Mile Canyon Road and project roads in major tributary canyons be paved in those areas where rock art panels and historic inscriptions are located within 50 meters horizontal distance from of outer edge of the road right-of-way. (CPAA response to the DEIS p. 12-13)

Consulting Party Status

We have been disappointed that the Price Field Office failed to involve important and interested parties in planning decisions. In fact, the office rejected requests from The Nine Mile Canyon Coalition, The National Historic Trust and the Southern Utah Wilderness Society for such consultation. While URARA never made a direct request for consultation, we did so indirectly. In response to the Stone Cabin Environmental Assessment, Troy Scotter (a director of URARA) wrote:

As I reviewed the list of consulted organizations, I am surprised that organizations with a special interest in Nine Mile Canyon have not been involved. At a minimum, the Nine Mile Canyon Coalition should be consulted on actions that impact the Canyon. Other parties with wilderness and archaeological interests are obviously interested. For example, I am a Director of the Utah Rock Art Research Association (URARA). This organization is very concerned about developments in the region of Nine Mile Canyon and impact on archaeological/cultural resources. It seems to me to be a matter of good public policy to involve these types of groups at the front end, rather than the back end of future proposals.

We believe that upfront involvement of interested groups would decrease the overall time and cost of EIS development. We believe that this DEIS is insufficient with respect to critical issues associated with cultural resources and that a new EIS needs to be developed. Upfront consultation would likely have avoided this result.

Not only is up-front consultation a good idea but it is also a statutory responsibility. 36CFR800.2(5)(d)(1) states “The views of the public are essential to informed Federal decision making in the Section 106 process. The agency official shall seek and consider the views of the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties”

Piece-Meal Planning

We have been very concerned that the piece-meal approach that the BLM has taken to development proposals fails to give an informed picture of the impact of energy development on Nine Mile Canyon and tributaries. For example, this DEIS is treated separately from the Questar Gas Pipeline, PetroCanada development proposals, Jakes Oil proposal, and Oil Shale PEIS. There has been significant development in the region in the past few years and we expect there will be even more in the future, none of which is being planned nor presented to the public in a coordinated fashion that demonstrates cumulative adverse impacts on rock art and other cultural resources of the area. It is impossible to assess the alternatives within the DEIS without understanding the cumulative impacts of all of the development proposals within the region. Before any additional oil and gas development is allowed on the Tavaputs Plateau an EIS should be prepared that takes into account the cumulative impacts of all of these developments.

Paving Nine Mile Canyon

The issues regarding paving of the Nine Mile Canyon road are complex. On one hand paving the road will reduce dust and vibration that impact cultural resources. It will also make access to the canyon more viable for the recreational user. On the other hand paving is expensive, will likely impact cultural resources during the rebuilding of the road, will increase speed along a road that will still be narrow and twisty, and will provide increased access to cultural resources with no plan for their protection. The DEIS should have considered these difficult issues and provided information and an alternative that addresses them. Until the EIS addresses these issues it will be incomplete.

Endorsement

URARA hereby endorses, and incorporates by reference, the recommendations of Jerry Spangler of the Colorado Plateau Archeological Alliance (CPAA) with regards to the DEIS.

Request For Extension

Because the BLM has failed in its responsibility to assess alternative access routes that would bypass Nine Mile Canyon, URARA has contacted several engineering companies that can provide information on the feasibility of alternative transportation routes. These companies have noted that they will require on-site inspection in formulating their opinions. Due to the spring snowpack it is impossible to meet this need within the comment period associated with the DEIS. In addition, we are struggling to find an engineering company that does not have a conflict of interest and are willing to do the work. We have requested a 60 day extension to the comment period so that we may provide engineering studies which we believe will demonstrate a feasible alternative.

Conclusion

A lot has changed in the past decade. In 1995 the BLM prepared a Recreation and Cultural Area Management Plan (RCAMP) for Nine Mile Canyon. It stated "The principal management objective for the planning area is to protect and preserve cultural resources. Other objectives are to protect, preserve and enhance the natural character, inspirational value and scenic quality of the area while optimizing recreation and interpretive opportunities, including the provision of a safe recreational environment." (RCAMP p.i). The DEIS supplants these values with a mandate to develop petroleum resources at virtually any cost. Overall, the DEIS fails to provide any alternative that meets the multiple use mandate of the BLM, specifically the BLM responsibility to protect cultural resources.

The failure to plan for cultural resources mandates the development of a new EIS.

If a viable transportation route can be found that bypasses Nine Mile Canyon then we would design an alternative as follows:

- Cultural baseline surveys must be done throughout the region to reflect the massive influx of people associated with the project and the improved access to the public.
- Planning associated with the location of well pads, worker housing, pipelines, and facilities must reflect actual cultural resource data and should avoid NRHP eligible sites.
- Drilling should not be permitted within wilderness areas and the boundaries of the proposed project should exclude the Green River corridor and Desolation Canyon National Historic Landmark.
- There would be no expansion, or preferably the relocation, of the Dry Canyon compressor station.
- We do not support any worker housing within Nine Mile Canyon.
- There would be no surface occupancy within Nine Mile Canyon other than that which has already been developed.
- The development of two new airstrips on the Plateau would not proceed.

If a viable bypass route cannot be found then we believe an acceptable alternative would include all of the above characteristics and add the following:

- A comprehensive study analyzing the proximity of archeological sites to roads, the amount of dust accumulating on these sites, the impacts of dust as an airborne scouring agent on the sites, the impacts of dust on the visibility of the panels, the impact of dust and dust suppression chemicals and vehicle exhaust on the integrity of the rock art panels, the impact of dust suppression chemicals and vehicle exhaust on the ability to retrieve scientific information from rock art panels, or the impact of vehicle vibrations on the integrity of rock art panels. Appropriate mitigation plans will need to be

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implemented. This mitigation will be both difficult and expensive. Transportation implications would have to result based on the results of the studies.

- All of the transportation reduction options noted in Alternative C should be implemented (with the exception of the use of three airstrips).
- Road turnouts should be developed to provide for the safety of recreational visitors to the canyon.

Given the size of the current Bill Barrett development on the West Tavaputs and our expectations of future development on the Plateau, there are sufficient financial resources to develop a viable alternative access route which bypasses Nine Mile Canyon. We will not accept an EIS which does not explore this alternative.

This very incomplete DEIS must be withdrawn due to its' complete inadequacy in the protection of Nine Mile Canyon's amazing archeological resources.

Stephen Robinson
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