FINDING OF NO SIGNIFICANT IMPACT
And
DECISION RECORD

For
80-ACRE INFILL OIL AND GAS DEVELOPMENT ON THE SOUTHERN UTE INDIAN RESERVATION

U.S. DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
SAN JUAN PUBLIC LANDS CENTER

And

BUREAU OF INDIAN AFFAIRS
SOUTHWEST REGIONAL OFFICE

In Cooperation with the

SOUTHERN UTE INDIAN TRIBE

Date: 8/7/09

Mark W. Stiles
Center Manager
Bureau of Land Management
San Juan Public Lands Center

Date: 8/10/09

John Waconda
Superintendent
Southern Ute Agency
Bureau of Indian Affairs
Southwest Regional Office

Concurrence:

Date: 8-10-09

Matthew J. Box
Chairman
Southern Ute Indian Tribe

FINDING OF NO SIGNIFICANT IMPACT

The proposed action is Bureau of Land Management (BLM) and the Bureau of Indian Affairs (BIA) approval of 80-acre infill oil and gas development on the Southern Ute Indian Reservation (Reservation). A programmatic environmental assessment (PEA), tiered to the Final Environmental Impact Statement (FEIS) Oil and Gas Development on the Southern Ute Indian Reservation (CO-SJFO-O 1-00 1 EIS), was prepared to analyze the impacts of the proposed action.

The approximately 685,000 acres or 1,070 square miles of the Reservation is a patchwork of Indian and non-Indian surface and mineral estates. The western and central portion of the Reservation is referred to as the study area and is the focus of the PEA. The study area consists of approximately 421,450 acres, of which approximately 316,000 acres is entirely held in trust for the SUIT or its individual members by the federal government.

The PEA addresses 80-acre spacing for coal bed methane (CBM) wells proposed on lands within the study area, where the Southern Ute Indian Tribe (SUIT or Tribe) owns the oil and gas minerals, including lands where the surface is owned in fee and the oil and gas mineral rights are owned by the Tribe. The decision documented herein applies only to lands where the BLM and BIA have trust responsibilities.

Alternative 2, the selected alternative, allows for 80-acre spacing of CBM wells on lands within the study area, where the Tribe owns the oil and gas minerals, including lands where the surface is owned in fee and the oil and gas mineral rights are owned by the Tribe contingent upon the imposition of terms and conditions required by the SUIT Tribal Council including:

1. Co-location of infill wells at existing drill pads to the maximum extent feasible.

2. Presumptive utilization of the best available air emissions control technology for new compressor installation and the presumptive upgrade of existing compressors to contemporary best available emissions control technology to the maximum extent feasible in a manner consistent with optimizing air quality on the Reservation.

The total number of wells drilled will depend largely on environmental, geologic, and economic factors. However, the additional anticipated increment of development could total up to 770 CBM wells. Approximately 700, or 95%, of these wells would be directionally drilled from existing well pad locations. The total disturbance under the proposed action would be approximately 966 acres of short-term disturbance and an estimated 450 acres of long-term disturbance.

The PEA analysis is programmatic. Programmatic environmental analyses are designed to predict impacts over a large scale before the exact location of specific development sites are known. As such, their focus is broader, they present a scale at which cumulative impacts are most apparent, and they provide the opportunity to establish an overarching management framework that guides future site-specific decisions.

The PEA disclosed the environmental consequences of the proposed action (Alternative 2, selected) and the no action (Alternative 1) alternatives. Based on the PEA and the

design criteria specified in the document, it is our determination that the proposed action will not have a significant impact on the natural and human environment beyond those analyzed in the 2002 FEIS to which the PEA analysis was tiered.

The following is the rationale for reaching a finding of no significant impact (FONSI) determination considering the 10 factors required for significance determinations under 40 CFR 1508.27:

1. *Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.*

Effects on study area resources were considered and a summary of estimated impacts is provided in the Table 1.

Table 1. Summary of affected resources, estimated impacts and the rational for significance.

Resource	Estimated Impacts	Reason This Is Not Significant
Air Quality	There would not be long-term significant impacts to air quality from carbon monoxide, ozone, nitrogen dioxide, particulate matter (PM), sulfur dioxide, visibility, and acid deposition in adjacent Class I Areas.	Carbon monoxide, nitrogen oxide, PM, and sulfur dioxide increases would all be below National Ambient Air Quality Standards (NAAQS). Hazardous Air Pollutant (HAP) concentrations would be below risk criteria established by the US Environmental Protection Agency. It was concluded that the proposed action does not result in any new predicted exceedances of the 0.075 ppm daily maximum 8 hour ozone standard and would not significantly contribute to any predicted concentrations above the standard. For Class I Area visibility, the proposed infill development would not result in predicted visibility impacts > 0.5 deciviews. Predicted changes in Class I Area deposition as a result of infill development would be less than Forest Service established thresholds.
Vegetation	There would be a short-term loss of 966 acres of vegetation and a long-term loss of 451 acres (following reclamation).	The percentage of long-term loss would be less than 1% for affected vegetation communities in the study area.
Wetlands	Direct impacts to wetlands during construction could include filling, excavating, clearing, and grading existing wetlands. Indirect impacts could include potential alterations to wetland drainage systems. Indirect impacts to wetlands during production could include lowering of the water table, particularly near the Fruitland outcrop.	Operators would comply with all conditions of the Clean Water Act. Operators would be required by the US Army Corps of Engineers to mitigate any long-term wetland loss by creating wetlands elsewhere.
Wildlife	Impacts to wildlife and sensitive species include habitat loss and fragmentation, human disturbance and noise, and injury and mortality including illegal harvest. Modifications to big game habitat types would	By co-locating the majority of wells, human related disturbances would be largely limited to existing well locations and access roads rather than previously undisturbed habitats. The percentage of long-term

Resource	Estimated Impacts	Reason This Is Not Significant
	include long-term impacts to an estimated 209 acres of elk calving and deer fawning habitat, 579 acres of elk and deer winter habitat, 101 acres of big game migration habitat, and 562 acres of big game year round habitat	habitat loss would be less than 1% for big game habitat types.
Threatened and Endangered Species	Water depletions as a result of CBM production will be incurred at a rate of approximately 18 acre-feet per year. These depletions from the San Juan River system may affect, and are likely to adversely affect, the Colorado pikeminnow and razorback sucker. With the implementation of design criteria, the proposed action may affect, but is not likely to adversely affect, southwestern willow flycatcher, Knowlton's cactus, Mancos milkvetch, and yellow-billed cuckoo. There would be no effect to black-footed ferret, Canada lynx, Mexican spotted owl, Mesa Verde cactus, and Pagosa skyrocket.	The water use and associated depletions from the San Juan River system for this project were previously addressed by the Programmatic Biological Opinion (PBO) for Water Depletions Associated with BLM's Fluid Mineral Program and Other Actions Authorized by BLM on Public Lands within the San Juan River Basin in Colorado (ES/GJ-6-CO-08-F-002). The depletion may affect, and is likely to adversely affect, the Colorado River Fishes and is addressed in the PBO. The Dolores Public Lands Office will include the depletions associated with the subject project in their annual report to the BLM State Office. The US Fish and Wildlife Service concurred with the project Biological Assessment findings. The consultation was programmatic; therefore site specific consultation will be conducted at the project development phase for any actions that may affect listed species.
Soils	Construction of well locations, pipelines, and roads would impact prime farmland and convert agricultural production areas to well pads, access roads, and pipeline ROWs resulting in a long-term and direct impact. An estimated 88 acres of prime farmland and 189 acres of highly erodible soils could be impacted.	The total long-term, direct disturbance of prime farmland and highly erodible soils is less 1% of the total acreage of these soil types in the study area. In addition, all disturbed areas would ultimately be reclaimed to the pre-disturbance land use once facilities are decommissioned and abandoned.
Groundwater	Potential impacts from groundwater contamination, shallow aquifer depletion, and methane contamination of shallow aquifers.	Proper well construction and monitoring should prevent any impacts due to cross-flow between geologic formations. Dewatering from the Fruitland Formation would continue to occur but would not affect the

Resource	Estimated Impacts	Reason This Is Not Significant
		availability or quality of water in overlying aquifers used for groundwater supply. Water levels could decrease in seeps or springs fed by the Fruitland Formation near the outcrop resulting in direct, but small to immeasurable, long-term impacts.
Surface Water	Depletions due to the proposed 80-acre infill development within the study area were estimated to peak in 2025 at 18 AF/y.	The hydrologic modeling of stream depletions conducted for cumulative CBM development including the proposed action and reasonably foreseeable development estimate that maximum basin-wide depletions are less than 0.02% of the total streamflow of affected rivers in the study area. The magnitude of the surface water depletion associated with this alternative is small when compared to the average annual streamflow of the major rivers in the study area.
Land Use	There would be long-term impacts to an estimated 574 acres in seven SUIT grazing units located within the study area. An estimated 44 acres of long-term disturbance to agricultural lands could occur. Approximately 770 acres of long-term impacts would be realized to forest resources.	The percentage of long-term loss would be less than 1% for affected grazing units, agricultural lands, and forest resources.
Traffic and Transportation	There would be an estimated additional 92 daily vehicle trips for well drilling and long-term operations. The associated compressor station construction and operation activities would require an additional one daily vehicle trip for construction and operation, over the life of the project (20 years).	This would not increase any of the average annual daily trips (AADT) for transportation routes by greater than 10%; therefore the impacts to traffic would be less than perceivable.
Cultural Resources	Without having exact site locations or actual well location information, it is impossible to accurately predict the probability of encountering a site during the planning of any single well project, but it is anticipated	Given the requirements for pre-construction surveys and SUIT and BIA review procedures, cultural sites that are encountered would be, in most cases, avoided. There also is the potential to recover and preserve scientific

Resource	Estimated Impacts	Reason This Is Not Significant
	to be very low.	information from the archaeological sites that might not be avoidable. If cultural resources cannot be avoided, specific design criteria would be implemented to mitigate impacts.
Visual Resources	Approximately 180 co-located wells and approximately 10 new well pads could be constructed in Level II and Level III visual resource value areas, where the level of change to visual characteristic should be low to moderate. The addition of co-located wells would result in incremental increases in impacts to visual resources while strong visual contrasts could occur at new well pads locations if they are constructed within foreground views of visually sensitive locations.	Implementation of appropriate design criteria should reduce the level of contrast between project activities and existing conditions. Criteria would be developed on a case-by-case basis.
Socioeconomics	The proposed action would have a beneficial impact to socioeconomics from SUIT revenues from royalties and severance tax revenues of $650 million. Additionally, the SUIT would realize a cumulative incremental benefit estimated at $195 million from net revenues from Tribal working interest, $350 million in direct spending that would enter the local economy, and add about 60 full-time jobs.	Socioeconomic impacts to the SUIT and the local economy would be beneficial.
Noise	Noise impacts to residents within the study area would be location-specific depending on the amount of oil and gas development activities and amount of background noise present in an area. For isolated rural locations, oil and gas construction and long-term pump jack and compressor operations could represent long-term nuisance impacts.	Noise impacts would vary depending on the location of the wells and the existing infrastructure and activity levels at a given location. Design features would be developed to reduce noise impacts on a case-by-case basis.

2. *The degree to which the proposed action affects public health and safety.*

Construction activities and drilling associated with the proposed action would cause an increase in health and safety risks and potential impacts at levels that are proportionally greater than those of the existing condition. The proposed action does not represent any change in public health and safety risk, other than a potential for increase in worker or public health safety from accidents or fires. The additional construction, well drilling and long-term operation activities are not anticipated to create conditions such that a serious public health risk would occur. Construction and operation best management practices would continue to be utilized. These approaches have been shown to effectively protect public health and safey.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

Although there are unique characteristics, such as cultural resources, wetlands and prime farmlands within the proposed action area, the proposed action would not cause a significant loss or destruction to these characteristics (Refer to Table 1). There would be no impacts to park lands, wild and scenic rivers, or ecologically critical areas.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

The effects of implementing the proposed action on the quality of the human environment are not likely to be highly controversial. Extensive modeling and analysis was conducted to evaluate the effects from the proposed action. Effects from the proposed action are not considered highly controversial among the scientific community. The proposed action area has been subject to oil and gas extraction activities since the 1950s and therefore, the types of effects from resource extraction are well known.

5. *The degree to which the effects on the human environment are highly uncertain or involve unique or unknown risks.*

The effects of the proposed action on the human environment are not highly uncertain, nor do they involve unique or unknown risks. Currently more than 30,000 natural gas and oil wells have been drilled within the SJB in New Mexico and Colorado. Oil and gas development has been occurring in the proposed action area since the 1950s and its effects on the human environment are well known.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about future consideration.*

The proposed action is not precedent setting. Oil and gas development has been occurring in the proposed action area since the 1950s and its effects are well understood. The proposed action is typical of past and reasonably foreseeable actions that are not known to have significant effects. This decision does not represent a decision in principle about a future consideration.

7. *Whether the action is related to other actions with individually insignificant, but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small components.*

The PEA discusses cumulative effects in Chapter 4. No detrimental or significant cumulative effects were identified. The proposed action will not have significant effect

on the quality of the human environment, either as an individual action or as part of the cumulative effects of other past, present, and planned actions with the study area.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

Without having exact site locations or actual well location information, it is impossible to accurately predict the probability of encountering a cultural site during the planning of any single well project, but it is anticipated to be very low. Given the requirements for pre-construction surveys and SUIT and BIA review procedures, cultural sites that are encountered would be, in most cases, avoided. There also is the potential to recover and preserve scientific information from the archaeological sites that might not be avoidable. If cultural resources cannot be avoided, specific design criteria would be implemented to mitigate impacts.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

The Biological Assessment for the proposed action is provided as Appendix I of the PEA. The US Fish and Wildlife Service concurred with the project Biological Assessment findings. The consultation was programmatic; therefore site specific consultation will be conducted at the project development phase for any actions that may affect listed species.

Water depletions as a result of CBM production will be incurred at a rate of approximately 18 acre-feet per year. These depletions from the San Juan River system may affect, and are likely to adversely affect, the Colorado pikeminnow and razorback sucker. The water use and associated depletions from the San Juan River system for this project were previously addressed by the Programmatic Biological Opinion (PBO) for Water Depletions Associated with BLM's Fluid Mineral Program and Other Actions Authorized by BLM on Public Lands within the San Juan River Basin in Colorado (ES/GJ-6-CO-08-F-002). The depletion may affect, and is likely to adversely affect, the Colorado River Fishes and is addressed in the PBO. The Dolores Public Lands Office will include the depletions associated with the subject project in their annual report to the BLM State Office. The US Fish and Wildlife Service concurred with the project Biological Assessment findings. The consultation was programmatic; therefore, site specific consultation will be conducted at the project development phase for any actions that may affect listed species.

With the implementation of design criteria, the proposed action may affect, but is not likely to adversely affect, southwestern willow flycatcher, Knowlton's cactus, Mancos milkvetch, and yellow-billed cuckoo. There would be no effect to black-footed ferret, Canada lynx, Mexican spotted owl, Mesa Verde cactus, and Pagosa skyrocket.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

The proposal complies with all other relevant federal, state, and local laws and requirements imposed for the protection of the environment. Actions proposed in this project that could affect the environment are not unique or unusual.

As with the 2002 FEIS, the PEA is not the final review upon which approval of all actions in the study area would be based. Site-specific environmental analyses and National Environmental Policy Act compliance would be required for all site-specific actions. (The scope of this additional approval process would be streamlined and facilitated by the programmatic evaluation of impacts contained in the 2002 FEIS and the PEA.) These actions would begin when a lessee or operator submits an Application for Permit to Drill (APD) to the BLM.

Date: 8/7/09

Mark W. Stiles
Center Manager
Bureau of Land Management
San Juan Public Lands Center

Date: 8/10/09

John Waconda
Superintendent
Southern Ute Agency
Bureau of Indian Affairs
Southwest Regional Office

Concurrence:

Date: 8-10-09

Matthew J. Box
Chairman
Southern Ute Indian Tribe

DECISION RECORD

This Decision Record presents the Bureau of Land Management (BLM) and the Bureau of Indian Affairs (BIA) decision to proceed with 80-acre infill oil and gas development of tribal minerals on the Southern Ute Indian Reservation (Reservation). The programmatic environmental assessment (PEA) of the proposed action is tiered to the Final Environmental Impact Statement (FEIS) Oil and Gas Development on the Southern Ute Indian Reservation (CO-SJFO-O 1-00 1 EIS). Our decision, which responds to the BLM and BIA's fiduciary responsibility to the Southern Ute Indian Tribe (SUIT or Tribe) and its individual members, applies to management of Tribal mineral and surface estate within the defined exterior boundaries of the Reservation. The approximately 685,000 acres or 1,070 square miles of the Reservation is a patchwork of Indian and non-Indian surface and mineral estates. The western and central portion of the Reservation is referred to as the study area (shown on Map 1-1; Attachment 1).

It is our decision (the BLM San Juan Public Lands Center Manager and the BIA Southern Ute Agency Superintendent) to approve Alternative 2 (Proposed Action) – 80-acre infill of coal bed methane (CBM) wells – as described in the PEA. This alternative is the BLM, BIA, and SUIT's preferred alternative. Our decision: 1) establishes 80-acre spacing for CBM wells on the Reservation and, 2) establishes the environmental protection measures that are required of oil and gas management on the Reservation. Attachment 2 presents the environmental protection measures established for Alternative 2. Attachment 3 presents and reaffirms existing environmental protection measures applicable to oil and gas management on the Reservation.

Alternative 2 specifically allows 80-acre spacing for CBM wells proposed on lands within the study area, where the Tribe owns the oil and gas minerals, including lands where the surface is owned in fee and the oil and gas mineral rights are owned by the Tribe. Our selection of Alternative 2 (Proposed Action) included the Continuation of Current Management, Alternative 1 (No Action). All requirements of law and regulation, standard conditions of approval and stipulations, mitigation and monitoring measures, as well as any mitigation developed at the project-specific stage, will be applied to all Alternative 2's implementation.

Our decision also takes into consideration that the Reservation has had natural oil and gas development since the early 1950s and that there are other important natural resources and values within the Reservation that require consideration and protection from unnecessary or undue degradation. Our decision balances the development of oil and gas resources to meet Tribal and public needs, with the irreversible or irretrievable commitment of Tribal natural resources and values, while providing for protection of the environment.

Our decision does not authorize ground-disturbing activities. We (BLM San Juan Center Manager and the BIA Southern Ute Agency Superintendent) will conduct site-specific environmental analyses in accordance with NEPA, tiered to the PEA and in compliance with the requirements outlined in Attachments 2 and 3. Conditions of approval for Application for Permit to Drill (APD) permits and stipulations for right-of-way (ROW) grants will be developed and made a requirement of permits, in response to findings of site-specific environmental analysis.

Our decision is consistent with all applicable federal, state, Tribal and county laws, regulations and stipulations (see Appendix B of the PEA). All pertinent and applicable statutory requirements were considered in our decision. Our decision applies only to Southern Ute Indian Tribal and allotted surface and/or mineral estate oil and gas development under BLM's and BIA's fiduciary responsibility to the Tribe and its individual members.

SUMMARY OF ALTERNATIVES

The PEA analyzed two alternatives in detail: Alternative 1 – No Action (Continuation of Present Management) and Alternative 2 (Proposed Action) – 80-Acre Spacing of CBM Wells.

Alternative 1 – No Action (Continuation of Present Management)

Alternative 1 represents the continuation of current management consistent with the 2002 FEIS and ROD. APDs would continue to be authorized within the scope of the 2002 FEIS. This no action alternative would potentially entail drilling 269 conventional wells and 367 CBM wells under the 160-acre spacing unit on Tribal mineral estate. Alternative 1 provides a baseline for comparison of the incremental impacts of Alternative 2, the proposed action.

Alternative 2 – Proposed Action (80-Acre Spacing of CBM Wells)

Alternative 2 is the preferred alternative. This alternative analyzes the impacts of 80-acre spacing for CBM wells within the study area, where the Tribe owns the oil and gas minerals, including lands where the surface is owned in fee and the oil and gas mineral rights are owned by the Tribe contingent upon the imposition of terms and conditions required by the SUIT Tribal Council including:

1. Co-location of infill wells at existing drill pads to the maximum extent feasible.

2. Presumptive utilization of the best available air emissions control technology for new compressor installation and the presumptive upgrade of existing compressors to contemporary best available emissions control technology to the maximum extent feasible in a manner consistent with optimizing air quality on the Reservation.

Alternatives Considered But Not Analyzed in Detail

No other alternatives were considered.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Identification of the environmentally preferred alternative involves difficult judgments from widely differing perspectives. Environmental effects must be considered along with the social, economic requirements of present and future generations. Strictly based on biological and physical effects, Alternative 1 - No Action (Continuation of Present Management) is the environmentally preferred alternative. In comparison to Alternative 2, Alternative 1 would result in the least impact to biological and physical resources. However, based on consideration of the biological, physical, and human environment, including social and economic factors, Alternative 2 – Proposed Action is also

considered an environmentally preferred alternative. Alternative 2 allows for gas development while mitigating environmental resource impacts to an acceptable level. This Alternative would result in more revenue to the Tribe, thus providing the Tribe with improved social and economic benefits. Additionally, Alternative 2 would enhance the local and regional economy through continued employment opportunities and revenues from rents and royalties.

MANAGEMENT CONSIDERATIONS

We selected Alternative 2 – 80-acre infill of CBM wells – because it provides for development of Tribal leases within the study area to meet oil and gas production objectives of the SUIT, while protecting the environment. Our decision recognizes that: 1) the area has undeveloped oil and gas resources to meet public needs, 2) the companies hold valid existing leases, 3) the SUIT intend to develop their mineral resources, and 4) there are other natural resources within the area which require consideration and protection from environmental degradation. In addition to the standard environmental protection measures of Alternative 2, we have adopted new environmental protection and monitoring measures to ensure that all practicable means to avoid or reduce environmental harm have been incorporated. Based on review of all components and impacts associated with Alternative 2, combined with adherence to regulations, stipulations, environmental protection measures and monitoring, Alternative 2 will not cause unnecessary or undue degradation of the environment.

Our decision to approve Alternative 2 is also based on careful consideration of a number of factors including the following: 1) SUIT self-determination, 2) agency statutory requirements, and 3) national policy.

Southern Ute Indian Tribe Self Determination

Delegated by Congress to the Secretary of the Interior, the trust responsibility for Indian mineral management and development requires the federal government to take such action as serves the best interests of the Indian people. The SUIT mineral estate is very important to the Southern Ute Indian people. Historically, mineral development has been and still is a major source of income for the SUIT. Through the provisions of the Indian Self Determination Act of 1968 and the Indian Mineral Development Act (IMDA) of 1982, the SUIT has taken an active role in the management and development of their mineral resources.

Tribes are viewed under federal law as quasi-sovereign nations, and federal agencies coordinate with the Tribes on a “government to government” basis. Given the SUIT's quasi-sovereign status, state and local jurisdiction over the SUIT and its lands is limited. However, federal agencies have a trust responsibility to Tribes, which must be considered when federal actions potentially affect Tribal resources. As a result of the trust responsibility, the BLM's decision-making process is significantly different on Indian land from its process on public land. On Indian land, the BLM has the added responsibility of assigning considerable weight to Indian goals and interests, whereas on public land, the BLM’s actions are guided by the Federal Land Policy and Management Act (FLPMA) and the public’s best interest. Additionally, with regard to Indian lands, land use conflicts and ambiguities in federal regulations and policies are generally resolved in favor of the Indian Tribe's best interests. This is consistent with the federal government’s responsibility to protect Indian land and take such action as best serves the interests of Indian Tribes and Tribal members.

Agencies Statutory Requirements

Our decision is consistent with all federal, state, Tribal and local authorizing actions required to implement Alternative 2. All pertinent statutory requirements applicable to this Alternative were considered. These include BLM oil and gas regulations under the Mineral Leasing Act of 1920, the Federal Oil and Gas Royalty Management Act (FOGRMA) of 1982, and the IMDA of 1982. Encompassing BIA regulations are the Indian Minerals Leasing Act of 1920 and the IMDA of 1982. In applying NEPA to Indian issues, federal agencies must conduct thorough analyses of the proposed action and alternatives. The decisions made based on the analyses must also take into consideration that federal agencies are required to reasonably and prudently further the best interests of tribes and to consult with tribes in ascertaining tribal interests.

Regulations applicable to SUIT oil and gas activities and enforced by other federal agencies, either directly or through delegation to the states, include: consultation with US Fish and Wildlife Service under the Endangered Species Act regarding threatened, endangered and candidate species; coordination with the US Environmental Protection Agency regarding air and water quality under the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act; consultation with the Army Corps of Engineers regarding waters of the U.S.; and consultation with the State of Colorado Historic Preservation Office regarding cultural resources (see Appendix B of the PEA).

National Policy

Exploration, development and operation of the Tribal oil and gas mineral estate are an integral part of the BLM and BIA trust responsibility. Four principal pieces of legislation give primary direction to the agencies for Indian mineral operations: the Allotted Lands Leasing Act of 1909, the Indian Minerals Leasing Act of 1938, the Mineral Leasing Act of 1920, and the IMDA of 1982. Furthermore, the United States continues to rely heavily on foreign energy sources. Development of Tribal energy sources assists with reducing U.S. dependence on foreign energy supplies. Production of Tribal natural gas resources is consistent with the National Energy Policy position that natural gas is the “energy of choice" because of its clean burning qualities.

MITIGATION and MONITORING

Our decision incorporates: 1) all terms, conditions and stipulations of Tribal oil and gas leases under applicable BLM and BIA regulations for oil and gas leasing, development and operations (43 CFR 3100 and 3160, and 25 CFR part 211,212 and 225). These include all Federal Onshore Oil and Gas Orders and Notices to Lessees, all development procedures, all standard on-lease conditions of approval and off-lease ROW stipulations (Attachment 3); and 2) all new environmental protection and monitoring measures contained in Attachment 2. Operators, lessees, and ROW grant holders on tribal lands are required to obtain all applicable federal, state, Tribal and local permits and to comply with applicable federal, state, Tribal and local laws.

PUBLIC INVOLVEMENT

The Draft PEA was posted for BLM and BIA on the following website: http://ocs.fortlewis.edu/BLMPEA/. Additionally, print copies of the Draft PEA, as well as the 2002 FEIS, were made available for viewing during the comment period at the San Juan Public Lands Office, the Durango Public Library and the Ignacio Community Library. The pre-decisional PEA was released on April 22, 2009, with a 30-day public

comment period. The availability of the Draft PEA was announced in the Durango Herald on April 19 and 22, 2009, and a news release was provided to approximately 140 contacts, including newspapers, radio and television stations; environmental groups; elected officials and aids; and individual interested parties. The comment period was subsequently extended an additional two weeks with a comment receipt deadline of June 5, 2009. The comment deadline extension was announced in the Durango Herald on May 21, 2009. A news release was also distributed to the list of contacts noted previously.

A total of six comments were received: five hard copy letters and one via the BLM/BIA website. The electronic message was printed and is included with the hard copy letters in the administrative record for this project. Appendix J of the PEA provides all comments received, as well as how they were addressed.

DECISIONS

It is the responsibility of the federal government to protect Indian lands and to take actions in the best interest of Indian tribes. The BLM and the BIA, as agents of the Secretary of the Interior, are responsible for administering Indian surface and mineral estates for leasing, development and operations, where the mineral estate and/or the surface estate is held in trust for Indian people. These roles and responsibilities are summarized below:

- Lease issuance and administration of surface development are the responsibility of the BIA, which acts as the surface-management agency.

- The BLM is responsible for permitting and administering operations. This includes approval of well density, underground activities, well operations, production verification, and compliance.

- The SUIT is integrally involved in the decision-making processes about leases and permits involving Tribal lands, which may be issued only with SUIT consent in compliance with the Indian Reorganization Act of 1934. Additionally, other federal, state and local governmental entities have roles in Tribal mineral development and operations (detailed in Appendix B of the PEA).

As with the 2002 FEIS, the PEA is not the final review upon which approval of all actions in the study area will be based. Site-specific environmental analyses and additional NEPA compliance (i.e., Determination of NEPA Adequacy [DNA], Environmental Assessment [EA] or EIS) will be required for all site-specific actions. The scope of this additional approval process will be streamlined and facilitated by the programmatic evaluation of impacts contained in the 2002 FEIS and the PEA. These actions begin when a lessee or operator submits an APD to the BLM. The APD and ROW application processes described in Appendix B of the PEA are unchanged from that described in the 2002 FEIS.

When applications are received, an on-site inspection is scheduled for agency and Tribal representatives. The private surface owner, if applicable, also would be notified. The lessee/operator would show the group where each facility would be constructed. Appropriate changes or modifications of the application are made as needed during the on-site inspection. Information would be gathered by the BLM and BIA to analyze the

site-specific environmental conditions of the proposed APD or ROW project area. Prior to the APD approval, the BIA would provide concurrence for cultural resources and for threatened and endangered species, per the National Historic Preservation Act Section 106 and Endangered Species Act section 7 requirements, respectively. Site-specific environmental protection, mitigation and monitoring measures derived from the analysis are attached to the permit as conditions of approval for APDs and Sundry Notices and stipulations for ROW grants. As a result, Tribal site-specific, mineral-related actions must comply with both the Decision Notice requirements as well as the explicit measures from the site-specific environmental analysis.

BLM Decision

It is my decision to adopt Alternative 2, including all mitigation measures as it applies to BLM responsibilities. BLM is responsible for permitting and administering operations that include subsurface drilling and plugging activities, well operations, production verification, and compliance with the applicable regulations related to such activities.

Appeals

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4. If an appeal is taken, your notice of appeal must be filed with the Regional Solicitor, Rocky Mountain Region, U.S. Department of the Interior, 755 Parfet Street, Suite 151, Lakewood, Colorado, 80215 within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993)) (request) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision, to the Interior Board of Land Appeals, and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Mark W. Stiles

Date: 8/7/09

Mark W. Stiles
Center Manager
Bureau of Land Management
San Juan Public Lands Center

BIA Decision

It is my decision to adopt Alternative 2, including all mitigation measures as it applies to the BIA responsibilities listed above.

Appeals

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4. If an appeal is taken, your notice of appeal must be filed with the Regional Solicitor, Rocky Mountain Region, U.S. Department of the Interior, 755 Parfet Street, Suite 151, Lakewood, Colorado, 80215 within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (pursuant to regulation 43 CFR 4.21 (58 FR 4939, January 19, 1993)) (request) for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision, to the Interior Board of Land Appeals, and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

J L Waconda Date: 8/10/09

John Waconda
Superintendent
Southern Ute Agency
Bureau of Indian Affairs
Southwest Regional Office

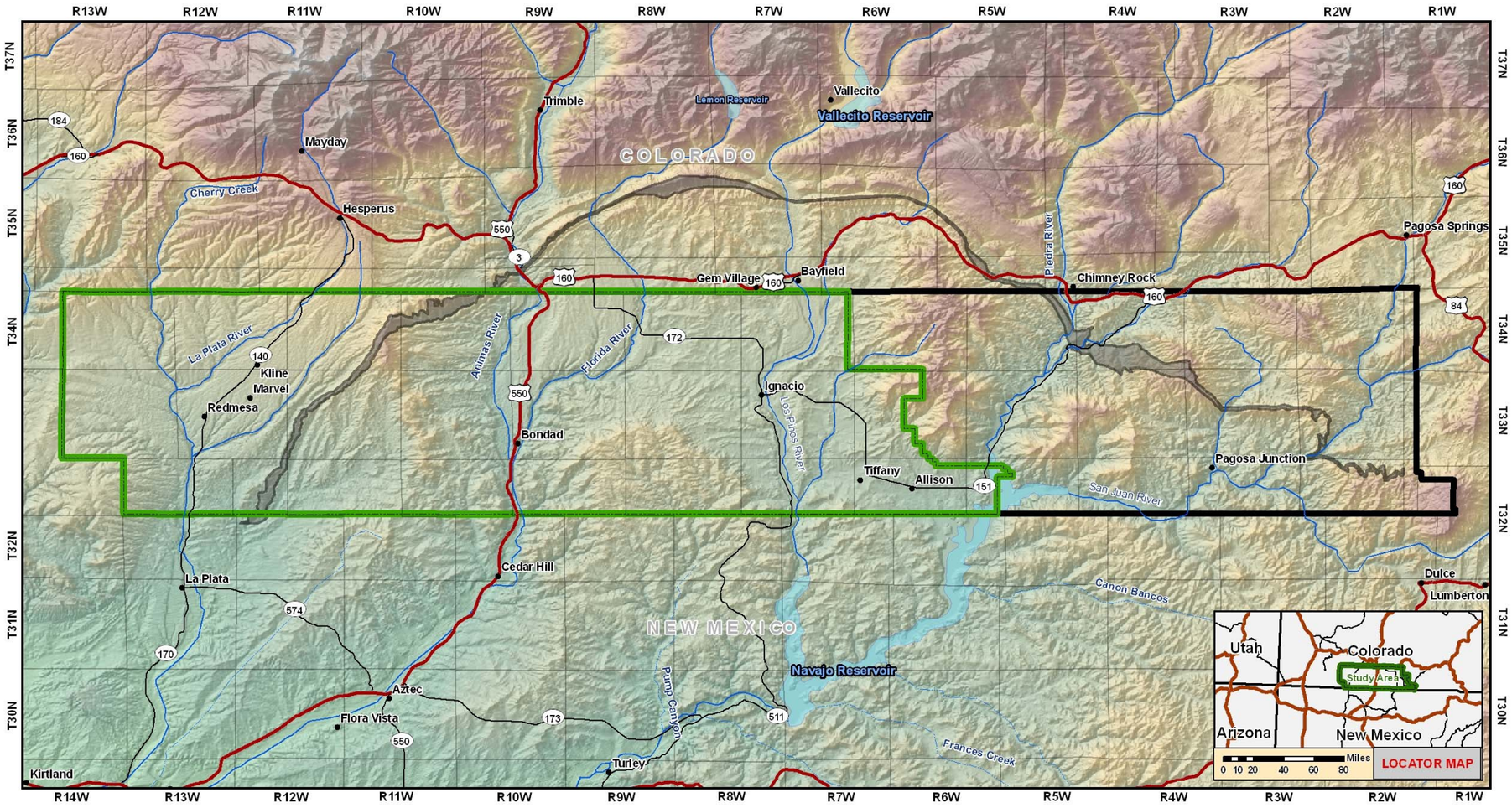
Concurrence:

Date: 8-18-09

Matthew J. Box
Chairman
Southern Ute Indian Tribe

ATTACHMENT 1

MAP OF STUDY AREA



ECOSPHERE ENVIRONMENTAL SERVICES

STUDY AREA MAP

PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

SOUTHERN UTE INDIAN TRIBE | PROJECTION: GCS WGS 1984

MONTEZUMA, LA PLATA, AND ARCHULETA COUNTIES, COLORADO | 12/1/2008

Miles
0 3 6 12

Tribal Boundary Acreage:
680,308 acres, 1063.5 square miles
Study Area Acreage:
421.450 acres, 658.5 square miles

MAP LAYER SOURCES:
SEE APPENDIX H

- Cities
- Highway
- Major Road
- Stream
- Stream Intermittent
- Study Area Boundary
- Tribal Boundary
- Lakes
- Fruitland Outcrop

MAP 1-1

N

1:381,572

ATTACHMENT 2

ENVIRONMENTAL PROTECTION MEASURES

The SUIT has developed management requirements for the implementation of Alternative 2 (Proposed Action). These requirements would include:

- Co-location of infill wells at existing drill pads to the maximum extent feasible.
- Presumptive utilization of the best available air emissions control technology for new compressor installation and the presumptive upgrade of existing compressors to contemporary best available emissions control technology to the maximum extent feasible in a manner consistent with optimizing air quality on the Reservation.

Design features which would be implemented under the proposed action would include the specific measures that are outlined below and in Chapter 4 of the 2002 FEIS, which were referred to as mitigation measures. Additionally, the SUIT, BIA and BLM have collaborated to develop new or to modify existing measures to minimize the impacts of the proposed action. The following section provides design features which were developed for the 2002 FEIS, as well as new or modified features developed for the proposed action evaluated in this document. Each of the features is identified with the following bullet demarcation:

- 2002 FEIS design features
- ➢ New or modified design features

AIR QUALITY

2002 FEIS DESIGN FEATURES

- Roads would be surfaced or dust inhibitors would be used (e.g., surfacing materials, non-saline dust suppressants, water, etc.) as appropriate, on roads and well locations constructed on soils susceptible to wind erosion, to reduce the amount of fugitive dust generated by traffic or other activities.

- Speed limits would be enforced to the extent practicable on roads in and adjacent to the project area, to further reduce fugitive dust.

- Reduce Compression Requirements: Reducing the need for life of project (LOP) compression by limiting the need for injection compressors.

- Non-selective Catalytic Reduction: This control technology is applicable to relatively new engines and requires the installation of catalysts in the engine exhaust. The catalyst removes between 80% and 90% of the uncontrolled nitrogen oxide (NOx) emissions, for an operating emission rate of 1.0 to 5.0 grams per horsepower hour (g/hp-hr). The cost effectiveness of this control technology applied to a 2,500 to 4,000 horsepower (hp) rich-burn engine ranges from $315 to $395 per ton of NOx removed.

- Lean Combustion: This technology involves the increase of the air-to-fuel ratio to lower the peak combustion temperature, thus reducing the formation of NOx (new engines and retrofit applications). The controls are between 80% and 90% efficient, for an operating emission rate of 1.5 to 4.0 g/hp-hr. The cost effectiveness of this control technology applied to a 2,500 to 4,000 hp rich-burn engine ranges from $480 to $500 per ton of NOx removed.

- Selective Catalytic Reduction: This is a post-combustion control technology that is applicable only to exhaust streams with significant oxygen content (a lean burn engine). The controls are between 80% and 90% efficient, for an operating emission rate of 1.0 to 2.5 g/hp-hr. The cost effectiveness of this control technology applied to a 2,500 to 4,000 hp rich-burn engine ranges from $700 to $890 per ton of NOx removed.

- Fuel Cell Technology: It is not feasible to connect enough fuel cells together to generate the necessary compression horsepower. About 75 fuel cells (at a capital cost of nearly $30 million) would be required to provide 20,000 hp of compression. In addition, current technology allows only two fuel cells to be connected in a series, and, as of January 1998, there were only 160 of these units operating worldwide. The cost effectiveness of this control technology ranges from $20,000 to $40,000 per ton of NOx removed.

- Natural Gas-Powered Drilling Rigs: The theoretical use of natural gas-fired engines to power drilling rigs, mud pumps, and associated equipment, rather than diesel-powered equipment, is technically feasible to reduce PM10 (particulate matter 10 microns in size) and sulfur dioxide (SO2) emissions. However, such equipment is not commercially available.

The following design features are outside the jurisdiction of the BIA's management authority:

- Withdraw or Prohibit Future Leasing: Previous NEPA document comments have suggested the BIA "withdraw or don't offer leases," apparently to eliminate natural gas development and the related air pollutant emissions. However, once the Department of the Interior Secretary has approved a valid mineral lease granted by a Tribe, the Department may impose operational condition, but may not unilaterally rescind such a lease. Similarly, under current federal mineral law, future leasing can be prohibited only in specific legal circumstances and would generally require the formal concurrence of the SUIT. The U.S. Congress could revise these laws, but the prospect of securing passage of such legislation and appropriation of funds for that specific purpose is extremely remote. In addition, elimination of natural gas leasing is inconsistent with Congressional direction [through the Clean Air Act (CAA)] for development and promotion of alternative clean fuels needed to improve air quality nationally.

- NO_x Emissions "Cap and Trade": Previous NEPA document comments have suggested the BIA consider NO_x emissions trading, therefore limiting NO_x emissions at current levels. Existing NO_x emission facilities could then either keep, trade or sell their emission allocations (essentially a property right to pollute) to other groups seeking to increase their NO_x emissions. When coupled with "banking" (holding, but not using credits) and "discounting" (reduced emission credit values with each

"trade"), overall NO_x emissions would decrease. Under the CAA, the U.S. Congress has already established an "allowance program" for certain SO_2-emitting facilities, and Congress could establish a similar NO_x trading program to be implemented by the applicable air quality regulatory agencies.

o Phased (Staged) Development: Previous NEPA document comments have suggested the BIA reduce the intensity of natural gas development, such as limiting the "...number of wells or...amount of emissions until reach[ing] 0.5 deciview..." The BIA does not have the authority to require that development of existing leases be limited when specified emissions levels are reached. However, an overall air pollutant emissions "level of concern" could be established at a point where reevaluation would occur, providing timely management review and ensuring compliance with the Federal land managers' mandate to protect Air Quality Related Values (AQRVs) through participation in the applicable air quality regulatory agencies pre-construction permitting. However, this action might also require the consent of the SUIT.

NEW OR MODIFIED DESIGN FEATURES

- Electric Compression (including solar power): Using electric-powered compressor motors in place of the typical natural gas-fired compressor engines could eliminate direct NO_x emissions from compressor station locations. Increased NO_x emissions are likely to occur at the point of electrical generation, as they often burn dirtier fuels and emit more air pollutants (such as from coal-fired power plants). Using current industrial electrical rates and assuming 100% control due to elimination of 2.0 g/hp-hr NO_x emissions at the compressor site, the cost effectiveness of electric compression is roughly $26,000 per ton of NO_x removed. Photovoltaic (solar) electrical systems cannot provide the needed power requirements for proposed injector well and pipeline compression engines (nearly 118,000 hp).

- All new and replacement internal combustion gas field engines must meet, at minimum, recently promulgated (January 18, 2008, 73FR3568) New Source Performance Standards (NSPS) (40 CFR 60, Subpart JJJJ). Additionally, all new and replacement internal combustion gas field engines greater than or equal to 500 design-rate horsepower (or site de-rated horsepower values, as long as manufacturer de-ration values and emission factors are supplied and current demonstration compliant with appropriate emission rate requirement) must not emit more than 1 gram of NO_x per horsepower-hour upon issuance of the Decision document, as opposed to being delayed under the NSPS.

- All older compression installations within the Ignacio Blanco field will be upgraded to contemporary best available emissions control technology within five years (2012). All new and replacement internal combustion gas field engines must meet, at minimum, recently promulgated (January 18, 2008, 73FR3568) NSPS (40 CFR 60, Subpart JJJJ). Additionally, all new and replacement internal combustion gas field engines greater than or equal to 500 design-rate horsepower must not emit more than 1 gram of NO_x per horsepower-hour upon issuance of the Decision document, as opposed to being delayed under the NSPS.

- All prime mover diesel drilling rig engines will meet Tier 2 (or better) emission standards.[1]

- Refer to Appendix G the Air Quality Technical Document for more clarification on meeting air quality mitigation measures.

Air Quality Monitoring

- SUIT EPD, BLM, and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance with air quality mitigation.

- Based on the results of the annual report, SUIT EPD may require additional control measures for operators with facilities within the SUIT boundary to minimize impacts to air quality.

VEGETATION

2002 FEIS DESIGN FEATURES

- Avoid areas containing sensitive vegetation types, such as wooded riparian vegetation or known sites with culturally important plants, to the fullest extent possible.

- Reclaim and revegetate all disturbed areas of soil with approved, certified weed free seed mixes, fertilizer, and/or mulch.

- Separate topsoil and set aside for reclamation purposes.

- Limit construction activities to dry conditions to reduce soil compaction and rutting, as appropriate.

- Use spark arresters on chainsaws and mufflers on vehicles to prevent wildland fires.

- Burning brush, trash, scrap materials, etc. is restricted by state agency or Reservation rules.

- Apply herbicide only under the supervision of a licensed pesticide applicator, and ensure that application, storage, and disposal procedures meet state and federal requirements.

- Clean up spills of petroleum products or produced water in an appropriate manner as soon as possible to minimize damage to plant materials.

- Control erosion and sedimentation with Best Management Practices (BMPs).

[1] Drilling rig engines for new wells, not work overs or recompletion rigs.

NEW OR MODIFIED DESIGN FEATURES

- All oil and gas operators will obtain a permit from the SUIT Forestry Division prior to the removal of wood materials greater than 4 inches in diameter from well pads or pipelines.

An annual report detailing reclamation of facilities must be submitted by all oil and gas operators with facilities on Tribal lands within the SUIT boundary no later than March 1 of each year to the SUIT DOE and the BLM. The report format is outlined in Appendix E.

WETLANDS

2002 FEIS Design Features

- Avoid construction in wetlands to the fullest extent possible.

- Identify unavoidable direct and indirect impacts on wetland areas during individual project planning. Develop a wetland mitigation/monitoring plan and obtain necessary permits, prior to initiation of construction activities.

- When it is necessary to cross streams and riparian areas, design facilities to cross at right angles, rather than parallel, in order to minimize the area of impact on these resources. Use BMPs at any temporary stream crossings, and rehabilitate wetlands as soon as possible.

- Protect water quality within, and downstream of, the study area from soil erosion and sedimentation by BMPs that include erosion control devices and management procedures, retention of a vegetation buffer strip (minimum of 100 feet) between water bodies and disturbed areas, and spill prevention procedures.

- Conduct equipment fueling, maintenance, and storage operations at least 100 yards from any wetland or stream system.

NEW OR MODIFIED DESIGN FEATURES

- Whenever reasonably possible, bore under jurisdictional waters of the U.S., including drainages and wetlands to avoid and/or minimize surface impacts.

CULTURAL SPECIES

2002 FEIS DESIGN FEATURES

- Avoid disturbing areas containing culturally significant plant species (e.g., cottonwood trees along the Los Piños River).

NEW OR MODIFIED DESIGN FEATURES

No new or modified design features have been identified for cultural species.

NOXIOUS WEEDS

2002 FEIS DESIGN FEATURES

- Monitor invasive species populations.
- Use BMPs to minimize the introduction of invasive species.
- Require operators to control noxious weeds in disturbed areas.
- For site reclamation, use certified weed-free seed and mulch.

NEW OR MODIFIED DESIGN FEATURES

No new or modified design features have been identified for noxious weeds.

WILDLIFE

2002 FEIS DESIGN FEATURES

- Minimize surface disturbance by accessing new wells via spur roads off existing roadways rather than through construction of new primary roads.
- Use existing ROWs to the extent possible for new roads and pipelines.
- Minimize or avoid development in areas of critically important wildlife habitat, such as elk or deer winter concentration areas and wooded riparian vegetation.
- Conduct on-site inspections of potential development locations to ensure avoidance of wooded riparian areas to the greatest extent possible.
- Survey areas to be developed (ROWs and wells) for nesting activity or winter roost sites (e.g., eagles) prior to construction.
- Restrict new well locations and ROWs to at least 0.25 mile from a raptor nest or winter roost.
- Prohibit construction or other intrusive activities within 0.5 mile of an active raptor nest during the nesting season.
- SUIT Division of Wildlife Resources Management (DWRM) biologists shall conduct yearly nesting surveys to document known nest sites and monitor nesting success. Annual winter roost surveys would also be conducted to identify and record additional winter roost sites. These data would be used to evaluate the effectiveness of mitigation measures for wooded riparian habitat and develop additional mitigation criteria as necessary.
- Limit construction activities in elk and deer wintering habitats to appropriate times (e.g., summer months) or to any applicable seasonal restrictions, in order to reduce disturbance-related impacts on these species.

- Site major developments (e.g., well pads, heavily used roads, and processing facilities) away from migration corridors. Lightly used roads and pipelines may be placed in such areas. Tribal wildlife biologists shall be consulted directly on all major developments to develop specific mitigation to protect migration corridors.

- Minimize the number of well monitoring trips by coordinating well visits to limit traffic or by installing automated monitoring systems.

NEW OR MODIFIED DESIGN FEATURES

- Where development in unique habitats cannot be avoided, mitigation, such as habitat enhancement and restoration, shall be considered. SUIT DWRM will coordinate with the operator in the development of appropriate wildlife habitat mitigations and enhancements, and the operator will be responsible for construction of these improvements as a COA to proceed with the development activity.

- Re-vegetate disturbed areas as soon as possible. Monitor the success of re-vegetation efforts, and re-seed as needed to develop established stands of vegetation. As per requirements under the design features for vegetation resources this re-vegetation shall be noted in the annual report.

- Maintain appropriate speed limits on access roads to minimize wildlife injuries or mortalities due to vehicle-wildlife collisions.

- Heater-treaters (separators) will be screened to prevent bird mortalities.

- A migratory bird survey prior to construction during the migratory bird breeding season (March through August) will be conducted.

- All fences and cattleguards will be removed from well pads once 70% of vegetation has been established on site for all wells unless requested by landowners. Oil and gas operators will install pipe barriers or panels around wellheads, meters, valves, and other equipment to minimize impacts to wildlife and livestock.

- Bird netting will be suspended and maintained over all reserve pits, open tanks, and catchments if hydrocarbons or toxic chemicals are present in the fluids until reclamation is complete.

- All power lines will conform to the USFWS draft “Guidelines for Raptor Conservation in the Western United States”, the "Suggested Practices for Avian Protection on Power Lines, the State of the Art in 2006" (APLIC 2006), and the "Avian Protection Plan Guidelines" (APLIC 2005).

- *Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors* (Craig 2002) will be implemented, with the exception of bald eagle. Buffer zones and seasonal restrictions for bald eagle shall be determined by the SUIT DNR and are described below under State Listed Threatened and Endangered Species.

- Recommend that power lines be placed below ground, where possible.

- Pre-construction surveys will be conducted of proposed well pad and access route locations for Gunnison prairie dogs (*Cynomys gunnisoni*). Direct impacts to prairie dog colonies will be avoided where possible, and in the light of other resource tradeoffs resulting from access road and well pad relocation.

FISHERIES

2002 FEIS DESIGN FEATURES

- Protect surface waters from oil- and gas-related sedimentation and contaminant releases.

- Minimize the number of stream crossings by roadways and pipelines. Where feasible, cross streams and riparian corridors at right angles to protect additional habitat and minimize erosion.

- Maintain riparian vegetation during construction projects, along stream channels to the fullest extent possible.

NEW OR MODIFIED DESIGN FEATURES

- Whenever reasonably possible, bore under jurisdictional waters of the U.S. including drainages and wetlands to avoid and/or minimize impacts to fisheries.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

Colorado Pikeminnow and Razorback Sucker

2002 FEIS DESIGN FEATURES

- Use BMPs to avoid contamination of local streams and rivers to protect the razorback sucker (*Xyrauchen texanus)*)and Colorado pikeminnow (*Ptychocheilus lucius*).

Knowlton's Cactus

2002 FEIS DESIGN FEATURES

- Conduct field surveys for Knowlton's cactus (*Pediocactus knowltonii*) prior to all construction activities.

- Avoid individuals or populations of Knowlton's cactus which may be impacted by activities.

- Use existing ROWs when possible.

Mancos Milkvetch

2002 FEIS DESIGN FEATURES

- Mancos milkvetch (*Astragalus humillimus*) may be affected by surface disturbing activities that could affect individual plants through their removal or habitat destruction.

- Conduct surveys for Mancos milkvetch prior to well pad and ROW construction activities, unless previously surveyed by the USFWS.

- Avoid individuals or populations of Mancos milkvetch located during surveys.

Mexican Spotted Owl

2002 FEIS DESIGN FEATURES

- Mexican spotted owls (*Strix occidentalis lucida*) have not been identified within the study area. If present, however, the Mexican spotted owl could be affected by removal of mature stands of conifers and by noise and human-related disturbances from project activities.

Southwestern Willow Flycatcher

2002 FEIS DESIGN FEATURES

- Conduct southwestern willow flycatcher (*Empidonax traillii extimus*) surveys within suitable habitat prior to any construction activities to determine presence or absence.

- If southwestern willow flycatchers are located during survey efforts, no surface disturbing activities will be conducted from May 1 through August 15.

- Minimize construction activities in wooded riparian habitat, or any other potential southwestern willow flycatcher nesting habitat.

NEW OR MODIFIED DESIGN FEATURES

- No disturbance will be allowed within 200 meters of known or discovered occupied southwestern willow flycatcher breeding habitat.
- No disturbance will be allowed within 20 meters of federally listed plant occupied habitat, and any disturbance proposed within 200 meters of listed plants occupied habitat would be analyzed in a separate site specific consultation.

STATE LISTED THREATENED AND ENDANGERED SPECIES

State endangered species law has no applicability to the SUIT or the SUIT's lands within the Reservation. However, there are instances when a federally listed species is de-listed but remains, or is included, as a State listed threatened or endangered species. On July 9, 2007, the USFWS issued their 'Final Rule' removing the bald eagle (*Haliaeetus leucocephalus*) in the lower 48 states from the list of endangered and threatened wildlife (USFWS 2007). Section 4(g)(1) of the ESA requires management

agencies, in cooperation with the states, to implement a monitoring program for not less than five years for all species that have been recovered and de-listed. The purpose of this requirement is to develop a program that detects the failure of any de-listed species to sustain itself without the protective measures provided by the ESA. Although the bald eagle is no longer protected by the ESA, the provisions of the Bald and Golden Eagle Protection Act (BGEPA) will remain in place. The federal de-listing of the bald eagle will not affect the bald eagle's Colorado state status as "threatened".

2002 FEIS DESIGN FEATURES

- Den sites and resting areas could be impacted by removal and disturbance of wooded riparian habitats. Aquatic habitats and food sources could be affected by in-stream depletions and degradation of water quality through accidental spills of petroleum products and produced (saline) water as well as sedimentation from erosion of disturbed surfaces.

- Construction activities requiring stream crossings and/or work within riparian corridors would be minimized or avoided where suitable river otter habitat is present and where known dens (e.g., bank dens) are present. Disturbance-free buffer zones based on the quality and quantity of suitable habitat would be established and BIA and SUIT experts should be consulted wherever habitat impacts are suspected to occur. Also, USFWS, BIA, and BLM construction standards regarding well placement would be followed, and wastewater pits would be lined accordingly to avoid hydrocarbon contamination of streams.

NEW OR MODIFIED DESIGN FEATURES

- Pre-construction surveys for Gunnison prairie dogs will be conducted on proposed well pad and access route locations. Direct impacts to prairie dog colonies will be avoided where possible, and in the light of other resource tradeoffs resulting from access road and well pad relocation.

- A migratory bird survey will be completed by a qualified biologist prior to construction during the migratory bird breeding season (March through August) would be conducted.

- Bird netting will be suspended and maintained over all reserve pits, open tanks, and catchments if hydrocarbons or toxic chemicals are present in the fluids until reclamation is complete.

- All fences and cattle guards will be removed from well pads once 70% of vegetation has been established on site unless requested by landowners. Oil and gas operators will install pipe barriers or panels around wellheads, meters, valves and other equipment to minimize impacts to wildlife and livestock.

<u>Bald Eagle Winter Roosting (November 15 to March 15)</u>

- For a construction project planned during the bald eagle winter roosting period and within 0.25 mile of a riparian zone with a mature cottonwood component, a pre-construction survey shall be initiated within 10 days prior to the start of construction to verify the presence or absence of bald eagle roosting activity. The surveys must

be conducted by qualified biologist(s) according to protocol as set forth by the USFWS. Generally, the survey should be performed during dawn and dusk periods on two or more days immediately prior to the construction start date. The survey should be documented and results sent to the Division Head of the SUIT DWRM.

- If one or no bald eagles are found to be roosting within 0.25 mile of the study area during the pre-construction survey, work may proceed with no time of day restrictions.

- If two or more bald eagles are found to be roosting within 0.25 mile of the proposed construction site study area during the pre-construction survey, the operator will be restricted to working between 10:00AM and 2:00PM on a daily basis.

- If bald eagles continue to occupy or enter the area within 0.25 mile of the construction site between the 10:00AM and 2:00PM time window, work will stop until the bald eagles leave the area. Under no circumstances shall bald eagles be harassed in order to disperse them from the area.

Bald Eagle Spring/Summer Nesting (March 16 to July 1)

- For a construction project planned during the bald eagle nesting period and within 0.5 mile of suitable bald eagle nesting habitat (i.e., a riparian area with a mature cottonwood component), a pre-construction survey will be initiated within 10 days prior to the start of construction to verify the presence or absence of bald eagle nesting activity. The survey will be conducted by qualified biologist(s) according to protocol as set forth by the USFWS. Generally, the surveys should be performed during dawn and dusk periods on two or more days immediately prior to the construction start date. The survey will be documented and results sent to the Division Head of the SUIT DWRM.

- If no bald eagles are found to be nesting within 0.5 mile of the proposed construction site during the pre-construction survey, work may proceed with no restriction. If bald eagles are found to be nesting within 0.5 mile of the construction area, the construction must stop until all signs of nest use have stopped for the year.

- If an active bald eagle nest is known to exist within 0.5 mile of a proposed construction project, the construction project may not proceed until all signs of nest use have stopped for the year.

BIOLOGICAL RESOURCES MONITORING

- SUIT DNR, SUIT DOE, BLM, and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance with biological resources mitigation and may take additional, legally authorized enforcement actions to assure compliance.

GEOLOGY, MINERALS, AND SOILS

2002 FEIS DESIGN FEATURES

- Monitor soil vapor concentrations at more than 150 locations along the Fruitland outcrop.
- Monitor vegetative stress using infrared aerial photography.
- Collect pressure data from 22 monitoring locations across the Fruitland outcrop.
- Measure gas flow rates from "slant" wells drilled into the Fruitland outcrop at Valencia Canyon Gap.
- Conduct additional reservoir modeling on areas near the Fruitland outcrop to predict potential for future gas seepage.
- Include COAs in APDs designed to aid the outcrop monitoring or mitigation efforts for new wells to be located near the Fruitland outcrop.

NEW OR MODIFIED DESIGN FEATURES

- An annual report detailing reclamation of facilities will be submitted by all oil and gas operators with facilities within the SUIT boundary no later than March 1 of each year to the SUIT DOE and the BLM. The report format is outlined in Appendix E.
- Topsoil can be imported onto Tribal lands when approved by the SUIT.
- Pits will be stepped down in areas where the reserve pit would be located in the fill portion of the well pad.

GEOLOGY MINERALS AND SOILS MONITORING

- SUIT DNR, SUIT DOE, BLM, and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance with reclamation mitigation.
- Based on the results of the annual report, the SUIT DNR may require additional design features for operators with facilities within the exterior boundary of the SUIT boundary to minimize impacts to vegetation and soils.

WATER RESOURCES

GROUNDWATER

2002 FEIS DESIGN FEATURES

- Monitor bradenhead pressures to identify wells that may be acting as vertical conduits.

- Monitor (frequency dependent on area) methane contamination in water wells and compare to baseline conditions to evaluate concentration trends and correlate with bradenhead testing.

- Monitor seeps and water levels near the Fruitland outcrop and develop appropriate mitigation measures.

- Cement all production casing strings from the casing shoe or total depth, whichever is shallower, to the surface by circulation methods for all wells heretofore and hereafter drilled and completed in the Fruitland coal seams of the Ignacio Blanco Field.

- Monitor additional wells (about 12) in the near Fruitland outcrop zone installed by the SUIT DOE in the year 2000.

- Within any areas of concern, the SUIT DOE and BLM may require water well monitoring as part of APD approval.

- In the event that domestic groundwater well degradation is caused by a gas well, the gas well must be remediated or other action taken as determined by the appropriate agency.

- Soil monitoring for methane and other component gases will be conducted near the Fruitland outcrop or in proximity to existing wells as specified by the SUIT and BLM in accordance with APD requirements.

- Injection well operations will continue to be monitored monthly at each injection well for cumulative injection volumes and pressures in tubing and tubing/casing annulus.

NEW OR MODIFIED DESIGN FEATURES

- Closed-loop systems will be required in areas of shallow groundwater and riparian areas, or other areas identified. The need for a closed-loop system will be determined on a case-by-case basis during the on-site evaluation. A closed-loop system uses a series of storage tanks that separate liquids and solids during the drilling process. The waste is trucked offsite for disposal.

- SUIT EP will test all domestic wells on the Reservation on a quarterly basis for analytes.

SURFACE WATER

2002 FEIS DESIGN FEATURES

- Meet all applicable water quality standards.

- Avoid construction activities near or through streams during high flows or wet periods.

- Minimize the time and area of disturbance for road and pipeline surface water crossings and design crossings at right angles to streams to minimize the area of disturbance.

- Require operators to map and delineate waters of the U.S., as defined at 33 CFR Part 328.3, prior to the planning of any activity at or in the vicinity of such waters.

- Require operators to avoid impacting waters of the U.S. whenever practicable.

- Require operators to obtain 404 permits from the U.S. Army Corps of Engineers (USACE), including 401 certification from the USEPA for land within the boundary of the Reservation.

- Require operators to minimize unavoidable discharges of fill material to waters of the U.S.

- Require operators to mitigate waters of the U.S. that are adversely impacted by their activities.

- Require operators to obtain appropriate permits, including those associated with Section 404 of the Clean Water Act (CWA), when crossing surface waters or waters of the U.S., as defined at 33 CFR Part 328.3.

- Implement BMPs to slow or reduce the flow of surface-water runoff across disturbed areas, including diversion of surface runoff around facilities.

- Route surface runoff from drill locations into reserve pits, if appropriate.

- Install road-grade culverts following BMPs.

- Reduce erosion impacts from roads through measures described in the standard environmental protection criteria.

- Prepare storm water management plans when a construction site involves over 5 acres of disturbance and a storm water master plan, if appropriate.

- Implement structural erosion and sediment controls such as interim or permanent water bars, detention ponds, straw bales, silt fences, earth dikes, and inlet and outlet protection.

- Implement non-structural control practices such as interim and permanent stabilization, permanent and temporary seeding and revegetation, and geotextiles.

- Install culverts as erosion prevention measures in areas of high runoff.

- Protect water bodies and drainage pathways near drill sites or roads, which are the most susceptible to erosion by developing buffers or adding erosion control measures.

- Minimize erosion at sites located in steep terrain during the construction phase by measures such as contouring, water bars, temporary ditches, and detention basins, along with minimizing the period of disturbance.

- Timely plug and abandon non-productive wells and associated flowlines and equipment.

- Develop a comprehensive surface water quality monitoring program for the three principal rivers and major tributaries that drain the study area to establish the significance of any concerns regarding surface water contamination from gas migration, or from non-point source runoff. Monitoring should focus on a limited number of conservative chemical and physical parameters that can be used to evaluate the presence or absence of impacts associated with oil and gas development in the study area.

NEW OR MODIFIED DESIGN FEATURES

- The *Stormwater Recommendations for Oil and Gas Operations on Tribal Lands within the Southern Ute Indian Reservation* will be implemented (Appendix F).

- Operators will be required to obtain a crossing permit when pipelines cross the Los Piños River Indian Irrigation Project canal, except in instances in which such crossing is already authorized by leases or easements.

- Operators will implement the USEPA Reasonable and Prudent Practices for Stabilization (RAPPS) BMPs to eliminate or minimize adverse impacts to the environmental health of the SUIT natural resources (USEPA 2004).

WATER RESOURCES MONITORING

- SUIT DNR, SUIT DOE, SUIT EPD, BLM and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance with storm water regulations.

LAND USE AND OWNERSHIP

2002 FEIS DESIGN FEATURES

- Situate project facilities, including roads, away from or at the edges of irrigated and non-irrigated agricultural land to the maximum extent practical to reduce direct and indirect effects on agricultural resources and operations.

- Minimize crossings or other direct effects on watershed restoration facilities; agricultural irrigation facilities, including water canals, ditches, and pipelines; and other water conveyance systems to the maximum extent practical or provide for their protection to allow them to operate as designed.

- If facilities (e.g., fences, gates, cattleguards) are damaged or displaced by oil and gas activities, they would be repaired or replaced by the operator, to a condition as good as or better than original.

- Restrict project-related construction equipment and vehicle movement to specific, designated access roads to minimize disturbance to potentially sensitive areas.

- Continue to require responsibility for fence, gate, and cattle guard maintenance and for noxious weed control as COAs and stipulations for APDs and ROW grants.

- Develop reclamation plans for all areas that have been disturbed during production, and specify techniques for reclamation of well pads, pipeline ROW, and roads.

- Site facilities to avoid or minimize impacts on livestock or wildlife water. If such water is impacted, measures should be taken to replace the water source in respect to both quantity and quality.

- Site roads, pipelines, and well pads away from residences and out of view from residences as much as possible.

- Work with surface owner, when possible, to pick sites for roads, pipelines, and well pads.

- Continue to paint facilities so as to minimize visual impacts.

NEW OR MODIFIED DESIGN FEATURES

No new or modified design features have been identified for land use ownership.

LAND USE OWNERSHIP MONITORING

No monitoring has been developed for land use ownership.

TRAFFIC AND TRANSPORTATION

No design features were identified in the 2002 FEIS and no new measures or monitoring have been developed for the PEA.

CULTURAL RESOURCES

2002 FEIS DESIGN FEATURES

- All subsequent specific oil and gas developments must be implemented in compliance with Section 106 of the NHPA. Regulations implementing this Act require that: (1) cultural resources be thoroughly inventoried within areas that would be potentially affected by these projects; (2) the significance of any identified resources be evaluated; and (3) measures be taken to avoid or mitigate any identified adverse effects on significant resources. This requirement must be done in consultation with the State Historic Preservation Office (SHPO), Federal Advisory Council on Historic Preservation, BIA, and other interested parties.

- Standard Tribal and BIA procedures require project developers to retain archaeological consultants to intensively survey project areas (accompanied by Tribal representatives), and prepare reports that document the survey results, assess projected impacts, and formulate recommendations about resource

significance and measures to avoid or mitigate any identified adverse effects. These procedures must be completed in accordance with all applicable regulations. Standard procedures stipulate that all well site, access road, and pipeline development activities be confined within areas that have been inventoried for cultural resources.

- All work crews would be routinely informed of cultural resource protection laws and that they are subject to prosecution if they collect artifacts or disturb archaeological sites. This measure would be included in all future stipulations and COAs for oil and gas development projects.

- It is anticipated that most projects probably can be modified to avoid direct impacts on archaeological and historical sites. If avoidance is impossible, the potential is high for satisfactorily mitigating impacts through professional study to recover important data from archaeological and historical sites before they are affected by a proposed project.

- Environmental assessments of any subsequent authorized individual projects would consider impacts on archaeological sites and also provide additional opportunities for the Tribe to assess and address protection of traditionally used native species and preservation of SUIT heritage.

NEW OR MODIFIED DESIGN FEATURES

- If COAs or other stipulations state that a cultural resources monitor must be present during construction activities and the operator does not comply with that stipulation, the project will be shut down until such monitoring is present. Additionally, lawfully authorized penalties may be imposed for non-compliance.

- No drilling activity will be allowed within 0.25 mile of the Sun Dance and Bear Dance grounds during these annual events. Through traffic will be minimized in these areas during these events.

- A resolution was passed in 2002 restricting oil and gas development on Indian Mesa (no surface occupancy).

CULTURAL RESOURCES MONITORING

No monitoring has been developed for cultural resources.

VISUAL RESOURCES

FACILITY LOCATION

2002 FEIS DESIGN FEATURES

- Locate facilities at the base of slopes where feasible to provide a background of topography and/or natural cover.

- Choose sites that would provide topographic and vegetative screening for the location of well facilities.

- Locate facilities away from prominent topographic features.

- If possible, avoid locations near populated areas, parks, scenic areas, hilltops, and natural or manmade structures. For linear facilities such as access roads, avoid crossing hill crests.

- Where placement of a facility is necessary in a hilltop area, consider locations on the slopes or brow of a hill to minimize the silhouette.

NEW OR MODIFIED DESIGN FEATURES

No design features were identified in the 2002 FEIS and no new measures or monitoring has been developed for this PEA.

FACILITY DESIGN

2002 FEIS DESIGN FEATURES

- Paint facilities to match the surrounding vegetation/landscape.

- Use low profile tanks and other production facilities to minimize visibility.

- Design cut-and-fill slopes to achieve maximum compatibility with the surrounding natural topography.

- Align access roads to follow existing grades to minimize cuts and fills.

- Provide access roads with side drainage ditches and traverse culverts to prevent soil or road erosion.

- Design exterior lighting of project facilities to minimize visual impacts while meeting applicable safety and security objectives.

NEW OR MODIFIED DESIGN FEATURES

No design features were identified in the 2002 FEIS and no new measures or monitoring has been developed for the PEA.

LANDFORM DISTURBANCE

2002 FEIS DESIGN FEATURES

- Limit the clearing of trees and vegetation for the project facilities to the minimum area required. Clearing edges should be feathered and thinned, as appropriate.

NEW OR MODIFIED DESIGN FEATURES

- Panel barriers will be erected around meter houses, pump heads or other surface facilities unless an allottee or private landowner requests fencing of the location. The type and location of barriers would be determined during on a case by case basis during the onsite.

VISUAL RESOURCES MONITORING

No monitoring has been developed for visual resources.

NOISE

2002 FEIS DESIGN FEATURES

Recommended measures that may be used to reduce noise impacts may include, but are not limited to, the following:

- Muffling: Equipment-specific noise reduction techniques may be used to reduce noise levels for each piece of equipment. Several different grades of muffling systems have been developed for gas compressor engines and pumping units ranging from standard mufflers to hospital grade mufflers and supercritical muffling systems. Muffling systems can reduce noise levels up to 15 A-weighted decibels (dBA) with hospital grade mufflers.

- Sound Barriers: Sound barriers such as walls and earthen berms are commonly used to mitigate noise. Sound barriers can be effective in reducing noise from the cooling fans associated with compressor engines. The effectiveness of a barrier depends upon factors such as the relative height of the barrier and the distance from the barrier to the source. To be effective, a barrier must block the line-of-sight path from the noise source to the receptor. Properly installed barriers reduce sound levels in a range of 15 to 20 dBA.

- Enclosures: Construction of a building to enclose the frame portion of a compressor is very effective in reducing noise levels. Reductions between 20 dBA and 30 dBA can be achieved depending upon the acoustical design of the building.

- Existing Topography: With proper siting, existing topography and vegetation can act as natural barriers to reduce noise generated by well construction and production activities. Hills, trees, and other vegetation can be effective in reducing noise levels at sensitive receptors. The effectiveness of noise level reduction is dependent on the frequency of the noise source and the orientation of the noise source in relation to the topography and vegetation. Proper siting allows the topography and vegetation to block the line-of-sight path from the noise source to the receptor. The type and thickness of the vegetation also is a factor.

- Electric motors would be installed where practicable.

- Motors or compressors would be located and/or oriented to reduce noise transmission.

NEW OR MODIFIED DESIGN FEATURES

- Operators will comply with COGCC noise regulations for facilities located on Tribal lands, until superseded by Tribal regulation.

- Electrification will be utilized to reduce situations where noise conflicts are identified. The need for electrification will be determined on a case-by-case basis during the on-site evaluation.

- SUIT DNR, SUIT DOE, BLM, and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance with noise mitigation measures and may require additional mitigation measures for operators and take additional, legally authorized enforcement actions to assure compliance.

HEALTH AND SAFETY

2002 FEIS DESIGN FEATURES

No design features were identified in the 2002 FEIS.

NEW OR MODIFIED DESIGN FEATURES

- Companies with oil and gas facilities on the Reservation will provide sanitary facilities at locations such that a person would not have to travel by vehicle any longer than 10 minutes from a given location to reach a sanitary facility.

- In the event that personnel are not able to reach a sanitary facility and must relieve themselves onsite, they are expected to have access to a shovel and bury any toilet paper and human waste sufficiently beneath the surface of the ground.

HEALTH AND SAFETY MONITORING

- SUIT DNR, SUIT DOE, SUIT EPD, USEPA, BLM, and BIA may perform inspections of facilities within the exterior SUIT boundary to assess compliance and spill prevention measures.

ATTACHMENT 3

EXISTING ENVIRONMENTAL PROTECTION MEASURES APPLICABLE TO OIL AND GAS DEVELOPMENT ON THE RESERVATION

The following regulations and orders (not included due to their size) are the basis for oil and gas development on the Southern Ute Indian Reservation:

- 43 CFR 3160; Onshore Oil and Gas Operations Regulations, which include the following Onshore Oil and Gas Orders:
  – Onshore Order #1; Approval of Operations,
  – Onshore Order #2; Drilling Operations,
  – Onshore Order #3; Site Security,
  – Onshore Order #4; Measurement of Oil,
  – Onshore Order #5; Measurement of Gas,
  – Onshore Order #6; Hydrogen Sulfide Operations,
  – Onshore Order #7; Disposal of Produced Water.

The following documents contain existing environmental protection measures applicable to oil and gas development on the Southern Ute Indian Reservation, and are included in this Attachment:

- Notices to Lessees:
  – NTL-88-1; Well Abandonment and Bonding Requirement Revisions.
  – NTL-88-2-Colorado; Paying Well Determinations and Venting and Flaring Applications on Jurisdictional Coal Bed Methane Wells.
  – NTL-MDO-91-1 (Change 1 and Change 2); Bradenhead Testing.
  – IB 95-1; Prevention of Potential Bird and Bat Mortalities.
- SUIT General Well Site Conditions of Approval;
- SUIT General Pipeline Right-of-Way Stipulations ; and
- Mitigation Measures from the Environmental Assessment of Oil and Gas Leasing and Development on Southern Ute Indian Reservation, BIA, 1990.