



**FORT APACHE ENERGY, INC. PROPOSAL TO DIRECTIONALLY DRILL
AND PRODUCE THE BAPTIST FOUNDATION NO. 1 AND NORDIN NO. 1
WELLS FROM TWO LOCATIONS OUTSIDE THE TURKEY CREEK UNIT**

FINDING OF NO SIGNIFICANT IMPACT

BACKGROUND

In September 2013, the National Park Service (NPS) began the evaluation of potential environmental impacts from the directional drilling of Fort Apache Energy, Inc.'s (Fort Apache), Baptist Foundation No. 1 and Nordin No. 1 Wells from two surface locations outside the Turkey Creek Unit of Big Thicket National Preserve (Preserve) to reach bottomhole targets beneath the Preserve.

One reason the analysis was performed was to determine whether Fort Apache's directional wells and associated access roads and flowlines qualify for an exemption from the NPS's nonfederal oil and gas rights regulations found at 36 CFR 9B. Specifically, § 9.32(e) governs operators that propose to develop nonfederal oil and gas rights in any unit of the National Park System by directionally drilling a well from a surface location outside unit boundaries to a location under federally-owned or controlled lands within park boundaries. Per § 9.32(e), an operator may obtain an exemption from the 9B regulations if the Regional Director is able to determine from available data that a proposed drilling operation under the park poses "no significant threat of damage to park resources, both surface and subsurface, resulting from surface subsidence, fracture of geological formations with resultant fresh water aquifer [sic] contamination or natural gas escape or the like." The analysis also served the purpose of disclosing to the public the potential impacts on the human environment, both inside and outside the Preserve.

This document records 1) a Finding Of No Significant Impact (FONSI) as required by the National Environmental Policy Act (NEPA) of 1969, and 2) a decision to exempt the operation from the NPS nonfederal oil and gas regulation found at 36 Code of Federal Regulations (CFR) Part 9, Subpart B in accordance with 36 CFR § 9.32 (e). Also appended to this document is a non-impairment determination as required by the NPS Organic Act of 1916.

Big Thicket National Preserve Enabling Act

When Congress authorized the establishment of the Preserve on October 11, 1974, the U.S. Government acquired surface ownership of the area. Private entities retained the subsurface mineral interests on most of these lands, while the State of Texas retained the subsurface mineral interests underlying the Neches River and navigable reaches of Pine Island Bayou. Thus, the federal government does not own any of the subsurface oil and gas rights in the Preserve. To protect the Preserve from oil and gas operations that may adversely impact or impair Preserve resources and values, NPS regulates the operations in accordance with NPS laws, policies and regulations. The Park Service recognizes that the applicants possess private property rights to nonfederal oil and gas in the Preserve.

SELECTED ALTERNATIVE

The Park Service chose Alternative B, Proposed Action Application as Submitted, as the selected alternative because Fort Apache holds valid oil and gas lease rights which, if developed, will not result in major or significant adverse impacts or an impairment of park resources and values. The Park Service believes this alternative fulfills its park protection mandates while allowing Fort Apache to exercise their property right interests.

Access

Access to the Baptist Foundation #1 project location will be along a newly constructed road that will be approximately 1,150 feet long by 30 feet wide (totaling 34,500 sq. ft. or 0.79 acre) and extending easterly from Hicksbaugh Road to where it meets the northwestern corner of the wellpad. The access to the Nordin #1 project location will be along a newly constructed road that will be approximately 320 feet long by 30 feet wide (totaling 9,600 sq. ft. or 0.22 acre) and extending westerly from Pineville Road to where it meets the northeastern corner of the wellpad.

Wellpads

The Nordin #1 wellpad will measure approximately 230 feet x 290 feet (66,700 sq. ft. or 1.53 acres); and Baptist Foundation #1 wellpad will measure 250 feet x 270 feet (67,500 sq. ft. or 1.55 acres). Both locations will be constructed by mechanically clearing the area with heavy machinery. Gravel will be placed on the pad (and access road) to provide the all-weather work surface necessary to drill and operate the well. The Baptist Foundation #1 well will be sited approximately 82 feet south of the Unit boundary. The Nordin #1 well will be sited directly east of the Unit boundary. A 100-foot x 100-foot washout/emergency (reserve) pit excavated to a clay base will be constructed adjacent to the pad site to be used as a retention basin for washing the steel rig tanks and to contain any excess runoff from the area of the rig equipment. A fresh-water well will be drilled on site. Construction of the Nordin #1 and Baptist Foundation #1 wellpads will not require fill into waters of the U.S. and, therefore, will not require a § 404 permit from the U.S. Army Corps of Engineers.

Drilling

Fort Apache's proposed operations inside the Preserve will consist of drilling hole from a point below approximately 2,100 feet (Nordin #1) and approximately 3,250 feet (Baptist Foundation #1) total vertical depth (TVD), where the wellbore crosses the unit boundary, to a target depth (TD) of 8,200 feet TVD, resulting in about 6,100 feet (Nordin #1) and 4,950 feet (Baptist Foundation #1) TVD of wellbore being within the Unit. The wellbore will then have a 10 3/4 surface casing set and cemented to a depth of 1,000 feet TVD. The wells will then be completed, or plugged and abandoned as a dry hole.

As per RRC Groundwater Advisory Unit (0051R Transition Form Rev. 9/1/2011), the base of usable-quality water that must be protected is estimated to occur at a depth of 1,800 feet below the land surface. Moreover, the fresh water contained in the interval from the land surface to a depth of 1,000 feet must be isolated from water in underlying beds. Fort Apache will comply with all provisions of the Railroad Commission of Texas' statewide oil and gas rules to drill and eventually plug the wells to ensure the protection of usable quality water zones.

The proposed drilling period is approximately two weeks, with an additional two-week completion period. All mud and cuttings will be contained within a closed-loop, tank system to recirculate drilling mud.

Flowlines

Should the wells be successfully completed as producing oil and/or gas wells and Fort Apache deems necessary, a flowline will be constructed to extend from the wellbore location to an existing infrastructure outside of the Unit boundary. The flowline will be entirely within a new flowline corridor. The flowline, of wrapped and welded steel, will be buried to a minimum depth of 3 feet below the surface.

Production Facilities

If oil and/or gas are discovered and the proposed wells are completed as a producer, production facilities will be constructed within the areas utilized to drill the wells. The production facility will be developed on the existing rock pad in approximately two weeks. Features could include the wellhead with a Christmas tree valve system, line heaters and separation devices, a glycol dehydration unit, a tank battery consisting of a water tank and two (minimum) condensate tanks, a series of flowlines connecting the components, and a gas sales line and meter. The facility will be developed and maintained according to the Fort Apache Spill Prevention Control Countermeasures (SPCC) Plan and 40 CFR 112.7.

The tank battery will have an earthen berm or retaining wall (covered with rock to reduce erosion) surrounding the feature that provides secondary containment with a capacity of 1.5 times the capacity of the single largest tank. The approximate height of

the berm will be 2 feet. The off-load connection will have a safety drip device below it to catch any dripping fluid lost during hook-up and disconnection. All oil and water (storage) lines from the production facility to the tanks will be buried at a depth of 1 foot below the surface.

Reclamation Plans

Once drilling and completion operations are finished, or if the wells are not productive, the portion of the drill site no longer needed will be reclaimed, and the washout/emergency and water pits will be filled with native soil in accordance with RRC Statewide Rule 8. Upon final abandonment, the equipment and all related materials will be removed, the area returned to its original contour, and the wells plugged according to RRC Statewide Rules 13 and 14. The site will be reclaimed in conformance with the surface use agreement between the surface owner and Fort Apache. The disposal of excess drill fluids and water will occur off-site or downhole depending on Fort Apache obtaining the necessary permits and approvals.

MITIGATING MEASURES

In order to reduce impacts on the human environment, Fort Apache has incorporated the mitigation measures listed in Appendix 1 as part of their application for the proposed operation. While many of the mitigation measures are required by other State and Federal requirements, the Park Service does not have the regulatory authority under § 9.32(e) to require mitigation for operations that qualify for option #1, Exemption with No Mitigation. The wells qualify for an exemption with no mitigation because they will originate on land located outside of the Units, and the wellbores will cross through the Units at a sufficient depth so as to have no impact on the surface of the Units.

ALTERNATIVES CONSIDERED

Two alternatives were described and evaluated in the EA, Alternative A, No Action, and Alternative B, Proposed Action, Application as Submitted. The No Action Alternative was required under NEPA and established a baseline for comparing the present management direction and environmental consequences of the action alternative. Under No Action, the two surface locations and three wells would not be developed. Under Alternative B, Fort Apache will directionally drill the wells as described in the *Preferred Alternative* section above.

During the scoping process, alternative locations were considered for siting the wells. These alternative locations were discussed in consultation with Fort Apache, BIO-WEST, Inc. (Fort Apache's contracted consultant), and NPS staff at the Preserve, Regional and Washington Offices. Alternative locations for siting the wells within the Preserve were dismissed from further analysis. Siting the wells within the Preserve would have entailed access into the Preserve and an approved plan of operations. There

are no existing roads inside the Unit near the location considered; therefore, a new access road would have been needed. Access through the Unit would have been required, crossing wetlands and floodplains. Although drilling wells from inside the Unit is technically feasible, this alternative was judged to be unreasonable in terms of economics, logistics, degree of environmental impact, and time required to implement the proposal.

Park Service acquisition of the mineral rights that are part of Fort Apache's proposal was also considered. With respect to Fort Apache's drilling proposal, mitigation measures were identified and applied, most notably directionally drilling from surface locations outside the Preserve. These mitigation measures substantially reduced the potential for adverse impacts to the Unit's resources and values, visitor use and experience, and public health and safety. As a result, the acquisition of mineral rights was dismissed from further consideration in this EA.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative "that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative."

The environmentally preferred alternative for drilling and producing a directional well is based on these national environmental policy goals. Under Alternative A, No Action, the wells will not be drilled. Because there will be no new impacts, Alternative A would provide the greatest protection of the area and Unit resources and values, thereby making it the environmentally preferable alternative.

Fort Apache's Proposal, Alternative B, will have greater effects on the environment because of the drilling and production activities. Although mitigating measures will reduce effects to Unit resources and values, there will still be effects, and, therefore, this alternative will not meet the Park Service's environmental policy goals as well as the No Action Alternative.

The Park Service did not choose the environmentally preferred alternative because Fort Apache holds valid oil and gas lease rights which if developed, will not result in major impacts or an impairment of park resources and values. The Park Service believes Alternative B will fulfill its park protection mandates while allowing Fort Apache to exercise their property right interests.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the context (including duration) of an impact, and its intensity, including a consideration of the criteria that follow. Based on the analysis in the EA, which is summarized in the following sections, the NPS has determined that the selected alternative can be implemented without significant adverse effects. All impact threshold definitions (negligible, minor, moderate, major) referred to in this FONSI are defined in the EA.

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

Implementation of the preferred alternative will result in adverse impacts ranging from short-term to long-term and negligible to moderate. Resource topics whose projected impacts exceeded minor levels were retained for further analysis within the EA. The impacts on socioeconomics, catastrophic incidents, environmental justice, prime or unique farmland soils, geology and soils, water quality and resources, fish and aquatic life, vegetation, species of management concern, cultural resources, and climate change did not exceed minor levels and were therefore dismissed from further analysis.

Soundscape impacts will occur from connected actions outside the Preserve boundary, mainly due to the operation of machinery and trucks. These will be no more than moderate, because the noise produced by the machines is attenuated by distance and surrounding vegetation and the most intense impacts will be temporary (approximately 28 days per well).

Air quality impacts will occur from connected actions outside the Preserve boundary, mainly in the form of emissions (particulate matter, NO_x, CO₂, and SO₂) generated during the drilling phase of the operation. These impacts will be no more than moderate, because the most intense impacts will be temporary (approximately 14 days per well) and the emission sources are outside the Preserve boundary.

Lightscape impacts will occur from connected actions outside the Preserve boundary, mainly due to the use of rig lighting during the drilling phase of the operation. These impacts will be no more than moderate, because the most intense impact will be temporary (approximately 14 days per well), and the artificial lighting is outside the Preserve boundary.

Wildlife impacts will occur from connected actions outside the Preserve boundaries, mainly due to the increased sound and light impacts generated during the construction and drilling phase of the operation. These impacts will be no more than moderate, because the most intense impacts will be temporary (approximately 28 days per well) and habitat removal will be outside the Preserve boundary.

Visitor use and experience impacts will occur from connected actions outside the Preserve boundaries, mainly due to the increased sound and light impacts generated during the construction and drilling phases of the operation. These impacts will be no more than moderate, because the most intense impacts will be temporary (approximately 28 days per well).

Adjacent land impacts, specifically to geology and soils and vegetation, will occur from construction and associated land clearing outside the Preserve boundary. These impacts will be no more than moderate. Geology, soil and vegetation impacts will be limited to the project footprint outside the Preserve boundary.

If production of hydrocarbons results from the Preferred Alternative, it will result in only a negligible beneficial effect on the local or regional economy, because the proposed wells represent such a small amount of the total production in the Texas Railroad Commission (RRC) district 3. The amount of revenue generated from leases, royalties, and rents will be very limited, and revenue related to production will not necessarily be retained locally. Revenue from sales of goods to crews will be limited, sporadic, and short-term.

The degree to which the proposed action affects public health or safety.

The wellbores for the Baptist Foundation No. 1 and Nordin No. 1 wells will cross into the Preserve at 3,250 and 2,100 feet respectively. The wellbores will cross into the Preserve well below the usable quality water zone designated by the Texas Commission on Environmental Quality (TCEQ). The wells will be cased to protect usable-quality water following RRC regulations, regardless of the depth at which they cross the Preserve boundary. As noted below in the discussion of unknown risks, because there will be no potential for a catastrophic incident, such as a well blowout, well fire, or major spill occurring as a result of the in-park operations, and because the likelihood of such incidents occurring as a result of the connected actions is very low, it is not expected that the action will result in more than negligible impacts to public health and safety.

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

Cultural resources effects are discussed in a later section.

Prime and Unique Farmland Soils: Soils inside the Preserve and on other NPS-administered lands are not considered prime and unique farmland soils because they are public lands unavailable for food or fiber production. Further, NPS does not assess effects under the Farmland Protection Policy Act (Public Law 97-98) to the proposed project activities outside of NPS administered lands because NPS has no regulatory authority on those lands.

Wetlands: There will be no direct impacts to wetlands or waters of the United States due to the proposal; however, potential wetland or water resources impacts may occur from connected actions outside the Preserve boundary if there is a release that results in resource contamination. These impacts will be no worse than minor due to the distance from activities to water resources, and the use of ring levees and a Spill Prevention Control and Countermeasure (SPCC) Plan.

Wild and Scenic Rivers: There are no wild and scenic rivers within the operations area.

Ecologically Critical Areas: There are no ecologically critical areas within the operations area.

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

Under NEPA "controversial" refers to circumstances where a substantial dispute exists as to the environmental consequences of the proposed action and does not refer to the existence of opposition to a proposed action, the effect of which is relatively undisputed (43 CFR 46.30). Past concerns raised regarding 9.32(e) exemptions have primarily focused on the framework for NPS decision-making, rather than the actual environmental effects. Lack of public comments during review (only one comment letter was received) is an indication the environmental impacts are well-understood and that there is no substantial factual dispute.

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

There were no highly uncertain effects, or unique or unknown risks identified with this proposal. As of September of 2012, there were approximately 7,697 oil producing wells and 3,733 regular gas producing wells in RRC District 3, totaling 11,430 wells. Of these wells, a total of 2,934 or 25 percent of the District total are located within the seven counties where the Preserve is located. These include 2,100 oil wells (27 percent of the District total) and 834 gas wells (22 percent of the District total). The likelihood of well blowouts, well fire, or major spills within the RRC District 3 has been analyzed by the RRC and is detailed within the EA.

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

The Park Service has addressed the future of nonfederal oil and gas operation within the Preserve's *Oil and Gas Management Plan* published in 2006. This plan presents a reasonably foreseeable development scenario for the Preserve derived using available drilling, production, and other geologic data for the area, and analyzes the impact of the estimated wells on Preserve resources. The activities covered by this EA are consistent with the actions described in that plan, and therefore do not set precedent or represent a decision in principle about a future consideration.

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 component parts.

In the EA, NPS disclosed to the public the potential impacts that could occur both inside and outside of the Preserve. The Park Service also analyzed the cumulative impacts of past, present, and reasonably foreseeable actions within and outside Preserve boundaries. No significant cumulative impacts were identified in the EA.

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.

Under the Preferred Alternative, the wells will be directionally drilled from two surface locations outside the Unit. The wellbores will cross into the Unit at a depth below usable quality groundwater to extract hydrocarbons and other fluids from beneath the Unit. The wells will qualify for an exemption with no mitigation because they will originate on land located outside of the Unit, and the wellbores will cross through the Unit at a sufficient depth so as to have no impact on the surface of the Unit. Under this scenario, actions by NPS with respect to the National Historic Preservation Act are non-discretionary. Because the in-park operations will have no effect on cultural resources inside the Units, NPS has no §106 responsibility, nor authority, associated with the wells for the proposed in-park operations for which a §9.32(e) exemption is being evaluated. The Park Service has no authority under 36 CFR § 9.32(e) to require Fort Apache to contract an archeological survey in the project area on lands adjacent to the Preserve. However, recent archeological surveys were conducted for other proposed actions in the immediate area and no cultural resources were recorded during these surveys.

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.

Under NPS policy, the proposed operations qualify for an exemption with no mitigation. Under this scenario, actions by NPS with respect to the Endangered Species Act (1973) are non-discretionary. The wells will originate on land outside of the Units, and the wellbore will cross through the Units at a sufficient depth to preclude any effect on surface resources (species or habitat). Therefore, NPS has no Endangered Species Act §7 responsibility or authority associated with the proposed wells, other than assessing potential impacts to threatened and endangered species from connected actions outside the Units.

The Park Service determined that the directional drilling and production of the Fort Apache wells will neither have an effect on federally-listed threatened and endangered species or their habitat in or outside the Unit, nor will there be an effect to the state-listed species that may possibly occur in the Unit. This determination is based upon a combination of factors. First, the habitat in the project areas is not suitable for any of the species identified by U.S. Fish and Wildlife Service. Second, there is an absence of observations of any of these species based on site-specific surveys completed by the

proponent. Third, the depths at which the wells will enter the Unit eliminate the possibility of surface habitat disturbance.

Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

The Preferred Alternative is in compliance with all applicable RRC, TCEQ, and federal environmental protection laws and regulations.

PUBLIC INVOLVEMENT

The EA was made available for public review and comment during a 30-day period ending November 6, 2013. A direct mailing notifying interested and affected parties was distributed to the Preserve's mailing list and the document was posted to the NPS Planning, Environment, and Public Comment website. The following state and federal agencies were notified: the RRC District 3; the Texas Historical Commission; the Texas Parks and Wildlife Department; the U.S. Army Corps of Engineers Galveston District; and the U.S. Fish and Wildlife Service. Also, a notice of availability was sent to the Alabama-Coushatta Tribe of Texas, the Big Thicket Association, Davis Bros. Oil Producers Inc., Fort Apache Energy Inc., BIO-WEST, Inc., the Lone Star Chapter and Houston Regional Group of the Sierra Club, the Texas Conservation Alliance, and one unaffiliated individual from Beaumont, Texas. A notice of availability was also sent to the congressional offices of Senator John Cornyn, Senator Ted Cruz, Congressman Steve Stockman, and Congressman Randy Weber.

One response was received regarding the EA from the Sierra Club Lone Star Chapter. The Park Service determined there were numerous substantive comments from the Sierra Club's letter. Generally, these comments were in reference to NPS policy regarding 36 CFR 9B implementation, mitigation measures, cumulative impacts, impact determinations and thresholds, drilling and production methodologies, and the definition of terms used. Responses to the substantive comments are attached, and changes made to the text of the EA are indicated on the Errata Sheet. The FONSI will be sent to those who provided substantive comments on the EA, or those who requested a copy.

CONCLUSION

As described above, the Preferred Alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The Preferred Alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. There are no unmitigated adverse effects on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly or controversial impacts, unique or unknown risks, significant

cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law. Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

DECISION

In accordance with 36 CFR 9.32(e) I hereby grant, to Fort Apache Energy, Inc. an exemption with no mitigation to the NPS nonfederal oil and gas regulations found at 36 CFR Part 9 Subpart B.

Recommended:

Douglas S. Neighbor

Douglas S. Neighbor,
Superintendent, Big Thicket National Preserve

11/19/13

Date

Approved:

Colin Campbell

Colin Campbell,
Acting Regional Director, Intermountain Region

12/6/13

Date

APPENDIX 1: Mitigations Measures under the Preferred Action

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in § 9.32(e) Application	Required or Voluntary
Project Planning and Site Construction				
1	Prepare and comply with a Spill Prevention Control and Countermeasure (SPCC) Plan	all natural resources, and human health and safety	Section 6	EPA requirement as per 40 CFR, Chapter 1, Subchapter D, Part 112 – Oil Pollution Prevention
2	Site the wellpads, access road, pipeline and production facilities outside of the Turkey Creek Unit boundary.	all natural resources and values in Big Thicket National Preserve	Section 4, p.1; Section 6, p. 1; and Section 7, p. 1	Required to qualify for NPS exemption under 36 CFR § 9.32(e)
3	Use existing openings to the extent possible and use existing roads to minimize construction of access road (at Nordin)	soils, water resources, floodplains, wetlands, vegetation	Section 6, pp. 1 & 2	Voluntary
4	Schedule construction to avoid rain events	soils, vegetation	Section 7, p. 1	Voluntary
5	Construct ditch 3-foot deep ditch and 2.6-foot high packed earth/rock ring levee around the wellpads	water resources, vegetation, soils	Section 4, page 6	Voluntary
6	Construct 100-foot x 100-foot washout/emergency pit lined with clay	water resources, soils, vegetation	Section 4, page 1	Construction, design and maintenance of pit in conformance with RRC Statewide Rule 8, liner will be voluntary
Well Drilling				
7	Directionally drill wells so that wellbores intercepts useable	groundwater in Preserve	Section 4, drilling diagram	Required to qualify for NPS exemption with no

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in § 9.32(e) Application	Required or Voluntary
	quality groundwater outside of the Preserve			mitigation measures
8	Use a closed-loop, mud tanks system	water resources, soils, vegetation	Section 4, pp. 1-2	Voluntary
9	Install construction grade silt fencing around construction site and treat vegetation between wellpad and roadsides with herbicide	vegetation and groundwater	Section 4, pp. 2	Voluntary
10	Set surface casing according to State of Texas RRC requirements	groundwater	Section 4, pp. 3 and 4	RRC requirement as per Statewide Rule 13(b)(2)
11	Dispose of drilling mud and well cuttings off- site or downhole	all natural resources located on and adjacent to wellpads	Section 4, pp 1-2	Disposal in accordance with RRC Statewide Rule 8
Production				
12	Reduce size of wellpads after drilling completion and fill in washout/emergency and water pits with native soil in accordance with Statewide Rule 8	soils, vegetation, water resources	Section 4, p. 2	Reduction in wellpad size voluntary, fill in washout/ emergency and water pits required by RRC Statewide Rule 8(d)(4)(G)
13	Construct a 2-foot earthen, rock covered berm around the tank battery with a capacity 1.5 times the largest tank	water resources, soils, vegetation	Section 4, p. 2	EPA requirement as per 40 CFR, Chapter 1, Subchapter D, Part 112.9(c)(2) to construct secondary containment capable of holding the volume of largest tank plus sufficient freeboard to contain precipitation,

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in § 9-32(e) Application	Required or Voluntary
				voluntary to build capacity for holding 1.5 times volume of largest tank
14	Install a safety drip device on the off-load connection	soils	Section 4, p. 2	Voluntary
15	Use mulching, seeding, silt fences, and hay bales	water resources, soils	Section 4, p.1	Voluntary
16	Wind-erosion preventive measures will include watering if dust conditions are determined to be detrimental during construction	air quality, vegetation, water resources	Section 4, p. 1	Voluntary
17	Use 26 hp compressor and muffler.	soundscapes	Section 4, pp. 2	Voluntary
18	Notify regulatory authorities and Big Thicket Superintendent within 24 hours in the event of a release or spill of hydrocarbon condensate, crude oil, or other contaminating substance exceeding five barrels	all natural resources	Section 4, p. 3	RRC requirement to report well blowout/well control problems or spills- exceeding 5 barrels as per Statewide Rules 20 and 91(e), in the event of any condensate spill, operator must consult with RRC as per Statewide Rule 91(b) and any spills of crude oil into water must be reported to the RRC as per Statewide Rule 91(e)(3), spills of other contaminating substances may require reporting to the TCEQ or EPA under a variety

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in § 9.32(e) Application	Required or Voluntary
				of laws and regulations depending on the substance released, the amount, whether or not the release was into soil, water or air, whether the release was ongoing, etc., notification to NPS voluntary
Well Plugging				
19	Consult RRC district office regarding well plugging, plug wells to isolate each productive horizon and usable water quality strata according to RRC Statewide Rules 13 and 14 and Bureau of Land Management Onshore Oil and Gas Order No. 2, § III.G., Drilling Abandonment Requirements	all natural resources	Section 4, pp. 2 and 4	RRC requirement as per Statewide Rule 14, compliance with Onshore Oil and Gas Order No. 2 voluntary
Reclamation				
20	If a well does not produce, equipment and related materials will be removed and the area will be restored to original contours and/or as agreed to with the surface owner.	all natural resources	Section 4, p. 2	RRC requirements as per Statewide Rule 14(d)(12), this section of the Statewide Rules requires an operator to "contour the location to discourage pooling of surface water at or around the facility site," restoration of original contour voluntary

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Reference in § 9.32(e) Application	Required or Voluntary
21	Reclamation in conformance with the Land Entry Permit or surface agreement between surface owner and Fort Apache	all natural resources	Section 4, p. 2	RRC requirements as per Statewide Rule 14(d)(12), required by landowner as per surface use agreement

APPENDIX 2: Non-Impairment Finding

National Park Service's *Management Policies*, 2006 require analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values.

However, the laws do give NPS the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given NPS the management discretion to allow certain impacts within park, that discretion is limited by the statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of these resources or values. An impact to any park resource or value may, but does not necessarily, constitute an impairment, but an impact would be more likely to constitute an impairment when there is a major or severe adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to pursue or restore the integrity of park resources or values and it cannot be further mitigated.

The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;

- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. The NPS's threshold for considering whether there could be an impairment is based on whether an action would have major (or significant) effects.

Impairment findings are not necessary for visitor use and experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, because impairment findings relates back to park resources and values, and these impact areas are not generally considered park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

After dismissing the above topics, topics remaining to be evaluated for impairment include natural soundscapes, air quality, lightscares, and wildlife. These topics are important aspects of the fundamental resources and values for Big Thicket National Preserve which are identified in the Preserve's *General Management Plan* (1980), and which are considered necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; are key to the natural or cultural integrity of the park; and/or are identified as a goal in the park's General Management Plan or other relevant NPS planning document.

- **Natural Soundscape** – Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which the natural soundscape is a part. This project involves temporary impact to the natural soundscape of the Preserve by elevated noise from connected actions outside Preserve boundaries. Although natural sound resources are an important resource to the Preserve, the preferred alternative would result in only negligible to moderate (impact ranges from the lowest levels of detection to measurable), temporary, site specific adverse impacts to natural sounds; therefore, there would be no impairment to the natural soundscape.
- **Air Quality** – Big Thicket National Preserve was established “to assure the preservation, conservation, and protection of the natural, scenic, and recreational values” of the Big Thicket area, of which air quality is a part. This project involves temporary to long term impact to the air quality of the Preserve by emissions generated by connected actions outside Preserve boundaries. Although air resources are an important resource to the Preserve, the preferred alternative would result in only negligible to moderate (impact ranges from the lowest levels of detection to measurable), temporary to long term (with long term impacts at

the negligible level), site specific adverse impacts to air resources; therefore, there would be no impairment to air resources.

- **Lightscares**-Big Thicket National Preserve was established "to assure the preservation, conservation, and protection of the natural, scenic, and recreational values" of the Big Thicket area, of which the natural lightscape and night sky is a part. This project involves temporary to long term impact to the natural lightscape and night sky of the Preserve by light generated by connected actions outside Preserve boundaries. Although the natural lightscape and night sky are important resources to the Preserve, the preferred alternative would result in only negligible to moderate (impact ranges from the lowest levels of detection to measurable), temporary to long term (with long term impacts at the negligible level), site specific adverse impacts to the natural lightscape and night sky; therefore, there would be no impairment to light and night sky resources.
- **Wildlife** -- Big Thicket National Preserve was established "to assure the preservation, conservation, and protection of the natural, scenic, and recreational values" of the Big Thicket area, of which wildlife is a part. This project involves temporary impact to the wildlife of the Preserve by elevated noise, increased light, and human presence from connected actions outside Preserve boundaries. Although wildlife resources are an important resource to the Preserve, the preferred alternative would result in only negligible to moderate (impact ranges from the lowest levels of detection to measurable), temporary, site specific adverse impacts to wildlife; therefore, there would be no impairment to the wildlife resources.

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there would be no impairment of park resources and values from implementation of the preferred alternative.

ERRATA SHEET
PROPOSAL TO DIRECTIONALLY DRILL AND PRODUCE THE
THE BAPTIST FOUNDATION NO. 1 AND NORDIN NO. 1 WELLS FROM TWO
LOCATIONS OUTSIDE THE TURKEY CREEK UNIT
BIG THICKET NATIONAL PRESERVE

Changes are indicated by bold text.

Page 24, Section 1.4.2 Catastrophic Incidents, such as Well Blowouts, Well Fires or Major Spills, *Major Spills*, replace the following sentences:

"During 2011, in RRC District 3, there were 20 spills reported greater than 5 barrels of oil, equating to approximately 1 spill for every 372 wells per year. Four of the 20 spills were located in the 7 counties in which Big Thicket National Preserve is located. During 2012, in RRC District 3, there were 46 spills reported, equating to approximately 1 spill for every 164 wells per year. Twenty-two of the 48 spills were located in the 7 counties in which Big Thicket National Preserve is located."

with

"During 2011, in RRC District 3, there were 3 spills reported greater than 5 barrels of oil, equating to approximately 1 spill for every 3,767 wells per year. One of the 3 spills was located in the seven counties where the Preserve is located."

Page 66, Section 3.3 Impacts on Natural Soundscape in and outside the Turkey Creek Unit, *Affected Environment*, change the following sentence:

"A 26.0 horsepower compressor with a muffler."

to

"Fort Apache would use a 26.0 horsepower compressor with a muffler, which, in comparison to typical 195-500 horsepower compressors, would produce considerably decreased noise levels."

Page 68, Section 3.3 Impacts on Natural Soundscape in and outside the Turkey Creek Unit, *Environmental Consequences, Impacts from Connected Actions*, change the following sentence:

"Currently, a 26 horsepower generator with noise reducing muffle is proposed to be installed."

to

"Currently, a 26 horsepower generator with noise reducing muffle is proposed to be installed, which, in comparison to typical 195-500 horsepower compressors, would produce considerably decreased noise levels."

Page 31, Section 1.4.8 Vegetation, change the following sentence:

The vegetation composition at Baptist #1 consists of swamp chestnut oak (*Quercus michauxii*), water oak (*Quercus nigra*), sweet gum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), large-flower magnolia (*Magnolia grandiflora*), southern bayberry (*Morella caroliniensis*), yaupon (*Ilex vomitoria*), and bay-gall holly (*Ilex coriacea*).

to

"The vegetative composition at Baptist #1 consists of a transition from upland pine (*Pinus taeda*) plantation down slope into the Preserve. The vegetation found within the Preserve consists of swamp chestnut oak (*Quercus michauxii*), water oak (*Quercus nigra*), sweet gum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), large-flower magnolia (*Magnolia grandiflora*), southern bayberry (*Morella caroliniensis*), and yaupon (*Ilex vomitoria*)."

Page 90, Section 3.8 Impacts on Adjacent Landowners, Resources, and Uses, Background, Vegetation, change the following sentence:

"Where the clearing of all vegetation for the construction of the wellpads and access roads corridors would occur, the vegetation or forest type can be generally described as upper and middle slope pine oak forest/wetland baygall thicket."

to

"Where the clearing of all vegetation for the construction of the wellpads and access roads corridors would occur, the vegetation or forest type can be generally described as upper and middle slope pine oak forest."

Page 91, Section 3.8 Impacts on Adjacent Landowners, Resources, and Uses, Background, Vegetation, remove the following sentence:

"Wetland baygall thickets are dominated by sweetbay magnolia (*Magnolia virginiana*) and gallberry holly (*Ilex glabra*)."

SUBSTANTIVE COMMENTS

(All from the Lone Star Chapter and Houston Regional Group of the Sierra Club)

No.	Comment	Response
1	<p>The Sierra Club supports the acquisition of the mineral estate, so that oil/gas activities in BTNP, over time, will cease and the landscape of BTNP can then be restored. If this alternative is not chosen then the Sierra Club supports Alternative 1, No Action, because this is the most environmentally protective alternative.</p> <p>The Sierra Club believes that this proposal is significant because drilling of this and all other wells next to or through the BTNP; via slant drilling, in addition to any proposals to drill wells within the BTNP, do constitute crossing of the significance threshold and requires that an environmental impact statement (EIS) be prepared for this proposal on a landscape level.</p> <p>NPS has stated in the past that it implements its responsibilities by "considering acquisition of the nonfederal oil and gas interest." If NPS has done this then it should have documentation that shows the analyses it conducted during the consideration for the five wells that it proposes to approve. These analyses should include cost estimates for acquiring private mineral rights under BTNP as a whole and certain units or areas of units. NPS has never presented any information in its EAs for any oil/gas activity. NPS has not made a serious attempt to consider acquisition of private oil/gas mineral rights and continues to stonewall the Sierra Club and the public by doing no such analysis or providing the appropriate information so the light of public review and comment is shone on NPS actions.</p> <p>The Sierra Club appreciates that NPS listed four alternatives during scoping. While the Sierra Club does not support all of the alternatives listed we do agree they are "reasonable" and therefore require full NEPA analysis.</p> <p>NPS has refused to conduct an alternative analysis on "all reasonable alternatives" in any EA as required by the President's Council on Environmental Quality's (CEQ) NEPA rules. In Section 1502.14(a) of these rules CEQ states,</p>	<p>Comment noted.</p> <p>Section 2.3, on page 53 of the EA, describes <i>Alternatives Considered but Dismissed from Further Analysis</i>, including purchasing the mineral rights that are part of Century's proposal and drilling the wells from inside the Preserve, and explains why they were dismissed from further consideration. These alternatives are amongst the range considered, and by dismissing them, the NPS is focusing the NEPA document consistent with NPS Director's Order 12 and CEQ's NEPA regulations (40 CFR §1500-1508).</p>

	<p>"Rigorously explore and objectively evaluate all reasonable alternatives". Such an "all reasonable alternatives" analysis would include an alternative for buying the mineral rights for the FAE wells.</p> <p>The Sierra Club is aware of about 59 wells (34 drilled + 23 approved but not drilled + the two wells in this proposal) that NPS has approved or is in the process of approving that involve slant drilling under the BTNP. NPS must develop an alternative analysis in the EA that seriously assesses and evaluates an alternative that buys the mineral rights that FAE will use to drill under the TCU and the landscape scale environmental impacts that have occurred (including fragmentation) with wells drilled along BTNP boundaries.</p> <p>Such an alternative is a "reasonable" alternative and is required to be assessed under the NEPA and the CEQ regulations that implement NEPA. Although NPS listed such an alternative in the scoping notice it has never provided an analysis in an EA that seriously contemplates buying mineral rights under BTNP for any individual oil/gas drilling proposal. Therefore there is no estimate of what mineral rights are worth and how much they would cost to buy.</p> <p>A further documented lack of analyses for all reasonable alternatives is that NPS in the past has refused to conduct environmental analysis in any EA for the option of drilling a well within a unit. The Sierra Club does not favor this type of alternative. However, it is a "reasonable alternative". NPS must analyze and include in an EIS "all reasonable alternatives" including drilling in the TCU.</p> <p>NPS has also not provided to the public what the potential impacts are of two wells drilled under BTNP. Instead, NPS has only provided a qualitative, not quantitative description of what the environmental impacts will be of one well. NPS is required by NEPA to reveal all potential environmental impacts. NPS never provides the public with the analysis and information that documents what the quantitative environmental impacts will be if five wells are drilled. The public must have this information so that it can review, comment on, and understand all the environmental</p>	
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	impacts of the proposal.	
2	<p>The NPS should require maintenance standards for the monitoring and upkeep of flow-lines, tank batteries, compressors, heaters, and other associated equipment used at the well site. This will ensure that leaks or spills are prevented or their damage is minimized. This has not been done as a mitigation measure. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p>	<p>The scope of the NPS's jurisdiction under its regulations at 36 CFR Part 9B, including its authority under section 9.32(e), is limited to operations that occur inside the boundary of the park. Therefore, the NPS does not have regulatory authority to require additional mitigation.</p>
3	<p>Because the well pads are located only 80 and less than 135 feet (the NPS does not give the exact distance from the boundary) from the TCU and 200 to 900 feet from residences, NPS should analyze how far noise will travel into the unit and estimate the environmental impacts of that noise using decibels as a unit of measure. In addition, NPS should analyze what noise reduction mitigation measures are available to reduce unwanted sound from the TCU.</p> <p>However, NPS has not provided clear quantitative decibel standards or criteria to use to assess this proposal. In fact NPS avoids using quantification on the very impact topic that it has hard data for. This is an abdication of NPS's authority and promise to the public to protect the National Park System from harm and implement the NEPA. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p> <p>Page 15, Table 2, Natural Soundscape, it is important to stress that the proposal is 80 and less than 135 feet from the TCU boundary which is the most immediate and important concern NPS has with regard to resource protection and BTNP and should be the defining concern. NPS knows it can do nothing about noise on private land except to reveal the impacts.</p> <p>Pages 60-69, 3.3 Impacts on Natural Soundscape in and outside the Turkey Creek Unit, the NPS does not provide a quantitative limit for noise although on page 59, NPS states "Where intensity of an impact can be described quantitatively, numerical data are presents." This is not true for noise and the NPS should eliminate the above sentence</p>	<p>NPS has described the potential impact to natural soundscapes from each phase of operations for the Fort Apache wells. The Park Service detailed the current natural soundscape in the project area, the potential outside sources of noise and the likely effects on the resources and values of the Preserve. This included quantitative ambient sound levels, expected noise levels due to the operations, and an expected distance of attenuation. The NPS believes this analysis provided sufficient reasoning upon which to base its conclusions regarding the context, duration, timing, and intensity of the impacts.</p>

	because it is not true. NPS has decibel data it can use for the impact intensity thresholds but refuses to use it in this EA. The Sierra Club has pointed this out previously in other EAs and NPS continues to publish and incorrect statement and refuses to use the best available science for the EA.	
4	<p>Page 11, NPS states "The NPS identified no resource occurring on the surface of the Preserve that could be affected by the wellbore crossing into the plane of the Preserve at a substantial depth ... ". NPS ignores that resources on the surface, due to slant drilling under BTNP, will be impacted by air pollution, noise pollution, light pollution, visual pollution, and gradual subsidence of the surface when gas/fluids are removed. The level of NEPA analysis by NPS is incomplete, distorted, and misleading. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p>	<p>The quoted text refers to the anticipated impact to natural resources as a result of actions <i>within the boundary of the Preserve</i>. NPS has also fully analyzed the impact that connected actions outside the boundary of the Preserve will have on NPS resources and values. These impacts are discussed for every impact topic at a level of detail consistent with the potential impacts.</p>
5	<p>Because the Sierra Club disagrees with the NPS that it is not granting an approval we disagree with the three so-called "legally permissible options" that have been used in this EA (page 10). The Sierra Club disagrees with NPS, on page 12, that "While it can be argued that NEPA is not triggered ... ". NPS does authorize oil/gas drilling via a waiver (exemption) which is a form of approval.</p> <p>Therefore National Environmental Policy Act (NEPA) does apply and a full EA/EIS should be prepared with mandatory mitigation and not voluntary mitigation measures. A mitigation plan must be developed and provided in the EA/EIS so that the public and decision-maker can review, comment on, and learn about this NEPA required element.</p> <p>Page 11, NPS states that "The NPS must coordinate the timing of such access with the operator". There is no law which requires NPS to do this. NPS, as a regulatory body, can ensure that this exemption is followed and enter private property to determine compliance with the exemption. NPS at one time did this but in 2002 quit when Davis Brothers oil company complained and applied political pressure. Any enforcement officer who has experience with natural resource regulation will tell you that you tip-off the operator when you contact them ahead of</p>	<p>The scope of NPS's jurisdiction under its regulations at 36 CFR Part 9B, including its authority under section 9.32(e), is limited to operations that occur inside the boundary of the park. Under this authority, there are two listed mitigation measures—no surface access to the Preserve, and directional drilling so as not to intercept usable quality groundwater within the Preserve—that are requirements of the NPS in the sense that they are necessary for the operators to qualify for exemptions with no (further) mitigation required by NPS. This is the extent of the mitigation which the NPS can require. The analysis in the EA was based on these mitigation measures as described in the applications for exemption submitted by Century.</p> <p>Nonetheless, in the EA, NPS discloses to the public potential impacts to park resources associated with operations occurring outside park boundaries and outside the Service's regulatory jurisdiction. The Park Service also works with operators to encourage them to adopt voluntary mitigation measures on their operations outside park boundaries. The fact that NPS discloses and discusses these broader issues as part of the NEPA process and impairment evaluation required by the Organic Act does not alter the limited scope of the decision to be made under the regulations.</p>

time and tell them you are coming to inspect their facilities. Operators then have time to cover-up or correct violations. NPS's statement is based upon flawed reasoning with regard to compliance and enforcement actions and is not in the public interest.

Page 11, NPS states "In the event the NPS becomes aware of a compliance concern ... the NPS should alert that agency in a constructive manner." NPS has a public obligation to alert natural resource agencies about damage to natural resources that it sees. NPS fails to state that before 2002 it put other agencies' natural resource protection requirements in its exemption as mandatory mitigation measures to ensure that NPS had authority to enforce them if the other agency did not. Only due to oil/gas company pressure has NPS removed this requirement and weakened its regulatory authority. NPS is not doing all that it can to ensure that natural resources are protected. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.

It is important to note that many of the mitigation measures that NPS relies upon are either voluntary, which it cannot enforce, or those of other agencies which it cannot enforce because it has not made these mitigation measures a mandatory part of the exemption. NPS has virtually no enforcement capability because most of the "mitigation measures" are completely voluntary, partly voluntary, or can only be enforced by another agency. NPS touts that it can sue the operator after a problem occurs but good enforcement ensures that problems are taken care of before they damage public lands. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.

Page 29, 1.4.5 Geology and Soils, NPS states "The potential for runoff to reach lands inside the Preserve ... would be minimal, based on site topography and the mitigation and minimization measures that Fort Apache would implement ... based on the flat site topography and mitigation that would help to confine any releases to the site".

However, NPS does not state here that almost

<p>all of these "mitigation measures" are either voluntary, in which case FAE can promise but does not have to implement, or are required by some other agency and cannot be enforced by NPS. Therefore, NPS is beholden to the enforcement process of another state/federal agency to get justice for BTNP. That is not a comforting thought for park lovers.</p> <p>Pages 50-53, 2.2.8 Mitigation Measures, Table 6, of the 21 mitigation measures listed, 14 are entirely/partially voluntary (66.67%) for an operator to comply with. Another 10 mitigation measures are entirely/partially the requirements of another agency (47.62%).</p> <p>This means that 19 of the 21 mitigation requirements are entirely/partially not required (voluntary) or not enforceable by the NPS because mitigation measures are required by another agency. Only 2 (9.52%) of the 21 mitigation measures are required or enforceable by NPS. Since NPS cannot enforce mitigation measures that are voluntary for operators to comply with or are the requirements of another agency NPS is helpless to guarantee that mitigation measures will be enforced or complied with.</p> <p>Page 54, 2.3.2 NPS Acquisition of the Mineral Rights that are Part of Fort Apache's Proposal, NPS states "mitigation measures were identified and applied". However, NPS cannot make any claim that mitigation measures that are voluntary or that it cannot enforce will be applied or implemented.</p> <p>Page 53, 2.3.2 NPS Acquisition of the Mineral Rights that are Part of Fort Apache's Proposal, NPS states "These mitigation measures substantially reduced the potential for adverse impacts to Unit resources and values ... As a result the acquisition of mineral rights was dismissed from further consideration in this EA."</p> <p>The problem is that 90.48% of the mitigation measures that NPS relies upon to protect BTNP and the TCU in particular cannot be enforced and or required by NPS because they are voluntary or require another agency to enforce them.</p> <p>This should affect NPS's analysis regarding</p>	
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	<p>risk/safety and the potential adverse impacts to Unit resources and values, visitor use and experience, and public health and safety due to the oil/gas exploitation proposal. NPS must revise its analysis to take this factual information into account.</p> <p>The NPS has not addressed what monitoring will be required and how often it will be done, and who will conduct the monitoring. NPS has weakened its monitoring activities by limiting what it will monitor, by hiring third party monitors instead of using qualified NPS employees, and by requiring that the operator be notified before monitoring instead of conducting unannounced monitoring inspections.</p> <p>NPS must address in the EA/EIS that the enforcement authority it has and how willing it is to use that authority. NPS must tell the whole story and the whole truth. The basic problem is trust. The EA must address what illegal actions are expected and excused by NPS or will be prosecuted.</p>	
6	<p>Page 14, 1.3 Issues and Impact Topics Evaluated, NPS states "Based on project scoping concerns ... the NPS determined that the impacts topics listed ... would likely have more than minor impacts". This statement is incorrect. The Sierra Club brought up many "scoping concerns". NPS has ignored the concerns the Sierra Club provided to it in our May 26, 2013 scoping letter and does not cover them and this is the reason the Sierra Club repeats many of these concerns.</p>	<p>NPS acknowledged Sierra Club's scoping concerns in the previous paragraph "Substantive scoping comments focused on analyzing cumulative effects, acquisition of mineral rights, analysis of alternatives, and enforceability of mitigation measures." As stated in the EA, the decision to carry forward an impact topic was based on internal and external scoping concerns as well as the "level and extent of potential impacts likely to occur."</p>
7	<p>Page 15, Table 2, Air Resources in and outside the Turkey Creek Unit, the NPS fails to mention the fugitive volatile organic compound (VOC) emissions and leaks that come from tanks, valves, flanges, pumps, compressors, and other equipment during construction, production, and maintenance. There is no quantification of these air pollutants and no acknowledgment of this air pollution problem and not mitigation proposed for air pollution reduction. The Sierra Club three years ago sent the NPS a study that the Houston Advanced Research Center (HARC) about fugitive emissions from oil/gas production operations. In addition, the TCEQ has conducted monitoring studies of benzene and other air pollutant emissions</p>	<p>The NPS described the potential impact to Preserve resources from increased emissions associated with construction, drilling, and production of the proposed wells. As is stated in the EA, these emissions will lead to no more than minor impacts to Preserve resources. Any fugitive volatile organic compound (VOC) emissions from tanks, valves, flanges, pumps, and compressors would be a result of non-compliance with Texas Commission on Environmental Quality (TCEQ) regulations.</p>

	<p>from oil/gas drilling and production activities. NPS has failed to acknowledge and use this best available science. NPS is required by NEPA to cover potential environmental impacts.</p> <p>Page 71, Air Quality, Area of Analysis, the NPS fails to state clearly what the area of analysis is. NPS states "includes the immediate location ... and the surrounding area". Define clearly what this means. The air quality analysis also fails to state that because our prevailing winds for much of the year are southeast or south-southeast, much of the air pollution generated by the two wells and production after those wells are complete will blow into TCU and have impacts on the BTNP. NPS states on page 73, "Prevailing winds would carry some pollutants into the Unit ... the effects to air quality from the proposed operation could travel beyond the analysis area and affect the air quality in the Unit or other surrounding areas". NPS must get the science right.</p> <p>NPS neglects to include any discussion about toxic air pollutants (like benzene) and volatile organic compounds (VOCs) that evaporate from tank batteries, other facilities, and components (like flanges, compressors, pumps, valves, etc.) during production. The Sierra Club provided to the NPS several years ago a study about VOCs from tank batteries that the Houston Advanced Research Center (HARC) conducted for the Texas Commission on Environmental Quality (TCEQ).</p> <p>The Sierra Club does not find in the EA any information from this study and NPS has failed to address this air pollution issue. NPS mentions that work-overs on wells could occur every 5-10 years. Work-overs will also create air pollution. This air pollution impact has not been calculated and presented in the EA. NPS should provide an emissions inventories (EIs) for this proposal but does not.</p> <p>NPS fails to acknowledge that the oil/gas that is removed from under TCU will be transported, refined, sold, and burned to create additional conventional air pollutants and climate change gases like methane and carbon dioxide. These connected actions must be acknowledged and their impacts quantified.</p>	
8	Page 18, Table 3. Impact Topics Eliminated	All references to gallberry or baygall holly were

<p>from Further Analysis, the Sierra Club believes that NPS errs in eliminating catastrophic incidents and water resources from analysis in the EA. One of the wells will be constructed in wetlands, "baygalls" are wetlands. NPS knows wetlands occur which are not jurisdictional but are still wetlands even if they do not have all three jurisdictional criteria: hydric soils, water, and wetland vegetation. Since catastrophic events have occurred in the counties where the BTNP exists and have occurred at a well that was approved (Sierra Club word) by NPS via the exemption process, this potential environmental impact and issue should be analyzed in the EA.</p> <p>Page 30, NPS states "Therefore, it was determined that there would be no loss of regulatory wetlands or "Waters of the United States" as a result of this proposed action." This statement is misleading, at best because it fails to acknowledge that wetlands other than regulatory wetlands exist and that the loss of these non-jurisdictional wetlands is not good for water quality or wildlife. Page 31, NPS states that "the Baptist #1 consists of ... bay-gall holly". Bay-gall holly occurs only where there is surface and or groundwater or as "Trees, Shrubs, and Woody Vines of East Texas," by Elray S. Nixon states about where this woody species is found, "Wet areas, especially bogs and seepages."</p> <p>Pages 90-92 state "vegetation or forest type can be generally described as ... wetland baygall thicket ... Other hardwoods found in this forest type include ...wetland baygall thickets are dominated by sweetbay magnolia and gallberry holly ... Wetland areas crossed would not be disturbed, because the flowline would be installed using horizontal directional drilling under the small wetland areas." NPS must be honest with the public and reveal how many nonjurisdictional wetlands will be impacted by this proposal and what NPS will do about this loss of important wildlife habitat.</p>	<p>in error. They were remnants from a former document. The vegetation type at the Baptist #1 wellsite is pine plantation (<i>Pinus taeda</i>) that slopes downward into hardwoods within the Preserve.</p> <p>Please see the errata sheet attachment of this FONSI for all corrections.</p>
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9	<p>Page 20, 1.4.1 Socioeconomics, the reasonably foreseeable development (RFD) is out-of-date. Already the NPS has approved 59 wells, with 34 wells drilled and 23 approved but not drilled plus the two wells in this for proposal means that there are at least 59 wells that have been approved or are proposed to be approved. The RFD only makes provision for 40 wells drilled over the next 15-20 years while since 1997, 16 years have passed and 57 wells have been approved for drilling with two more in this EA proposed for approval. The NPS must update the RFD so that it reflects the reality of more drilling under BTNP.</p>	<p>The Park Service has addressed the future of nonfederal oil and gas operations within Big Thicket National Preserve in the Preserve's <i>Oil and Gas Management Plan</i> published in 2006. This plan presents a reasonably foreseeable development scenario for the Preserve derived using available drilling, production, and other geologic data for the area, and analyzes the impact of the estimated wells on Preserve resources.</p>
10	<p>Pages 22-26, 1.4.2 Catastrophic Incidents, such as Well Blowouts, Well Fires or Major Spills, there are different ways of looking at data. NPS attempts with the data on dangerous incidents to state that incidents are not likely to happen. Yet, for major oil spills, of the 3 that occurred in the 29 county RRC District 3 in 2011, 1 or 33% occurred in the 7 counties where BTNP is. For 2012, these figures show of the 9 major oil spills, 7 or 78% occurred in these 7 counties. These figures document that major oils spills (not including minor oil spills) are more likely to occur within the 7 counties that BTNP exists in than in the 22 other counties in RRC District 3. In 2011, the only well fire that occurred in RRC District 3, occurred in one of the 7 counties where the BTNP occurs, next to BTNP, by a well that NPS exempted, for a 100% risk occurrence. These are not trivial risks and they occur frequently enough so that NPS should use the EA to address what the risk is for BTNP and not attempt to denigrate or explain away that risk. NPS fails to include releases of air pollutants and explosions as catastrophic events that should be specifically enumerated.</p> <p>Page 24, the NPS uses data that is different than found on Table 4, page 23, when it says "Four of the 20 spills were located in the 7 counties ... 46 spills reported ... Twenty-two of the 48 spills were located in the 7 counties." Which set of data is correct? This is very confusing for the public.</p> <p>NPS states "rates of occurrence for such incidents are low and are not a reasonable expectation of project implementation." Perhaps NPS should tell that to the RRC, operators, neighbors, and land that was</p>	<p>The Park Service analyzed the potential for catastrophic events quantitatively, and reached the conclusion that this topic does not warrant detailed analysis in the EA based on the likelihood of those events affecting resources and values within the Preserve. The Park Service is not denying that such an event could occur within or near the Preserve, potentially affecting Preserve resources and values. However, statewide oil and gas regulations require oil and gas operators like Century to apply downhole well control technologies which make such events unlikely as noted by the number of incidents versus the amount of drilling activity in the seven-county area containing the Preserve. These events are even more unlikely to affect the Preserve because of the small amount of drilling activity that actually is close enough to have any potential to affect the Preserve.</p> <p>The oil and gas wells found in the Preserve's seven counties represent approximately 25% of the wells found within RRC District 3. Given this percentage, it is within reason that more incidents occur within these counties.</p> <p>Regarding the differences in the data, please see the errata sheet attachment of this FONSI.</p>

	<p>affected by these incidents. Perhaps NPS should tell these stakeholders what moderate and high risks are. What would be significant to NPS to take a catastrophic event seriously? This is the same type of logic that Minerals Management Service used before the BP spill occurred in 2010. This led to MMS's demise. Has NPS learned nothing?</p> <p>NPS states that "impacts are short-lived" and "could be remedied and mitigated over time". How much time? What does short-lived mean? What impacts are NPS talking about? Just what does NPS believe is a "substantial threat"? What does "would provide for timely response and cleanup" mean? How fast is this? What does "reasonable expectation" mean? What are "negligible effects", "very low rates of occurrence", "would be no potential for catastrophic incident", and "is very low" mean? Why is "further analysis on this topic would be highly speculative"? The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p> <p>It is disconcerting that NPS should say on page 25, that it can seek a remedy after the damage is done to BTNP due to one of these incidents. In other words, NPS proposes that it wait until the damage is done before doing anything to prevent it in the future. It is indeed sad when the public's number one protector of parks is not "preventive" with regard to the safety and health of BTNP but wants to wait until the "horse is out of the barn" before closing the door. This type of attitude does not breed confidence for park users that BTNP will be protected and is "penny-wise and pound-foolish".</p>	
11	<p>Pages 36-38, 1.4.11 Climate Change Pollutants, NPS must address climate change adequately and comprehensively. Climate change is due mostly to the release of carbon dioxide (CO2) air pollution from activities like the combustion of oil/natural gas and their products. Climate change will alter existing ecosystems and make it more difficult for plants and animals to adapt successfully to these changed ecosystems.</p> <p>Page 38, states "The five proposed wells contemplated in this assessment". NPS has stated up to this point in the EA that only two</p>	<p>Climate change is a subject of concern for NPS. However, as stated in the EA, climate change research is still largely lacking a quantifiable method for predicting its effects.</p> <p>The recommended CCERRP is outside the scope of this EA. Furthermore, the Park Service does not consider the consumption of the minerals that may be generated due to the drilling of these wells to be a connected action for this project.</p> <p>The Park Service cannot analyze the impact of the proposed project on EPA guidelines regarding CO₂ regulation until they have been</p>

<p>wells are contemplated in this proposal. NPS must correct this EA to clearly state how many wells this EA covers. Page 38, NPS mentions the intergovernmental Panel on Climate Change (IPCC) 2007 report. A new report by IPCC came out on October 4, 2013. NPS must incorporate and use this new report as a source of its findings about climate change not refer to the out-of-date 2007 report (6 years old).</p> <p>NPS has failed to adequately address climate change. In fact NPS does not even state that the transportation, refining, and use of oil/natural gas, fossil fuels, via burning directly or indirectly (gasoline), will result in CO2 emissions. NPS does not estimate how many CO2 emissions will be generated from the oil/natural gas that will be pumped from the two wells and the amount used during drilling and extraction and production of products that will be burned as fossil fuels or their products (gasoline). It is not clear how NPS can state that the proposal will generate "low emissions" of CO2 on page 38.</p> <p>NPS provides information about these connected actions that will emit regular air pollutants and CO2 when on page 47, 2.2.5 Flowline, it states "a flowline would be constructed to extend from the wellbore location to an existing infrastructure outside of the Unit boundary." What is this existing infrastructure and what impact has it had and does it continue to have? NPS must answer questions like:</p> <ol style="list-style-type: none"> 1. How will BTNP and the TCU be affected by climate change? 2. What can be done to create more resilient and resistant habitats and ecosystems? 3. What can BTNP do to reduce CO2 or other greenhouse gas emissions? 4. What can be done to assist plants and animals so they can adapt to climate change? <p>NPS should prepare and include in the FAE EA a climate change ecological resilience and resistance plan (CCERRP). The CCERRP would assess the biological and ecological elements in BTNP and the TCU and the effects that climate change has had and will have on them. The CCERRP would also assist plants, animals, and ecosystems in adapting to</p>	<p>issued.</p> <p>This EA was released on September 21, 2013, prior to the release of the October 4, 2013 IPCC report.</p>
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	<p>climate change and would require monitoring of changes and mitigation measure effectiveness. The CCERRP would be based on:</p> <ol style="list-style-type: none"> 1. Protection of existing functioning ecosystems in BTNPITCU. 2. Reduction of stressors on the ecosystems in BTNPITCU. 3. Restoration of natural functioning ecological processes in BTNPITCU. 4. Use of natural recovery in BTNPITCU, in most instances. 5. Acquisition of buffers and corridors to expand and ensure connectivity of ecosystems in BTNPITCU. 6. Intervention to manipulate (manage) ecosystems in BTNPITCU only as a last resort. 7. Reduction of greenhouse gas emissions from BTNPITCU and the two FAE wells and transportation, refining, and use of the products of these wells. 	
12	<p>Page 44, 2.2.2 Access, NPS fails to mention public road damage due to the use of roads for the hauling of heavy oil/gas equipment. This is a cost that should be acknowledged in the EA.</p>	<p>The potential increase in truck traffic from the selected alternative will be negligible given the large amount of commercial truck traffic found in the project area.</p>
13	<p>Page 59, 2.6 Summary of Alternatives, NPS states "Where the intensity of an impact can be described quantitatively, numerical data are presented." For the negligible, minor, moderate, and major impact intensity thresholds there are no quantitative standards set for any of the impact topics even though the soundscapes impact topic has an easily used measurement, decibels, and research data specific to BTNP. All of NPS's impact intensity thresholds are qualitative even many could be quantitative.</p> <p>This EA fails to mention or implement the court ruling in favor of the Sierra Club and against the NPS about assessment of impacts and the methodology used, from impairment and NEPA perspectives, which was deemed inadequate, arbitrary, and capricious.</p> <p>NPS must quantify in the EA the impacts that potentially will occur and its methodology must remove the "conclusory statements" that Judge Bates ruled against. Judge Bates states in his decision that the descriptors "negligible", "minor", "moderate", and "major" are largely undefined or are defined in a manner that includes few objective bounds. These descriptors must be defined</p>	<p>In the opinion on summary judgment in <i>Sierra Club v. Mainella</i>, the Court held that NPS failed to adequately explain its conclusions. The Court did not direct NPS to remove conclusions from its analysis. The Park Service must reach some conclusion regarding the nonfederal oil and gas proposals at issue. Instead, the Court directed NPS to prepare a new environmental assessment that provides explanations to support its conclusions.</p> <p>The Park Service provided explanations for its conclusions in the EA in accordance with the Court's decision. For example, before drawing any conclusions in the <i>Affected Environment</i> and <i>Environmental Consequences</i> section of the EA, NPS detailed the sources of possible impacts for each phase of operations, discussed the likely effects of each impact on the resources and values of the Preserve, and provided reasoning upon which to base its conclusions regarding the context, duration, timing, and intensity of the impacts.</p> <p>In the EA, NPS took a "hard look" by considering the direct, indirect, and cumulative impacts of the proposed action on the environment, along with connected, cumulative and similar actions. Impacts were</p>

<p>with objective bounds. NPS must explain the basis for its conclusion that potentially "moderate" impacts are not significant under NEPA or impairment standards.</p> <p>NPS uses conclusory language that is embedded in the definitions for negligible, minor, moderate, and major and in other places in this EA. These conclusory words or phrases are undefined. Some of the conclusory words/phrases that NPS uses in this EA include:</p> <ol style="list-style-type: none"> 1. would not exceed minor levels, page 17 2. there is little controversy, page 17 3. minor effect, page 17 4. would be small and of little consequence, page 17 5. small number of people, pages 19 and 22 6. relatively low, page 19 7. very small in relation to both, page 20 8. such a small amount, page 21 9. would be very limited, page 21 10. is very low, page 22 11. would produce a small effect, page 22 12. in the rare event, page 25 13. an effective deterrent, page 25 14. present a risk of damage, page 25 15. incidents are low and are not a reasonable expectation, page 25 16. would not pose a substantial threat, page 25 17. would be highly speculative, page 26 18. very low rates of occurrence, page 26 19. would be low potential, page 26 20. incidents from the connected actions is very low, page 26 21. more than minor impacts, page 26 22. very little potential, page 28 23. low emissions anticipated from drilling two wells, page 38 24. would be similar to, page 55 25. at a substantial depth, page 59 26. maintaining ecological integrity, page 60 27. to the greatest extent possible, pages 60 and 61 28. impacts of inappropriate noise, page 61 30. fullest extent practicable, page 62 31. negligible change, page 67, NPS must explain to the public why it uses negligible in a definition to describe negligible. Does negligible as used in this instance have a different definition? If so, what is it? 32. very infrequent, page 67 33. infrequent noise, page 67, 	<p>described in terms of context, duration, and timing using four impact intensity threshold definitions (negligible, minor, moderate, major), which are defined for each impact topic in the <i>Affected Environment</i> and <i>Environmental Consequences</i> chapter. If the intensity of an impact could be described quantitatively, the numerical data was presented; otherwise the impacts were described qualitatively.</p> <p>The analysis in the EA demonstrates that the directional drilling and production of the Century wells from outside the boundary of the Preserve would create impacts that range in intensity from negligible to moderate levels. Whether impacts are significant under NEPA and whether they are unacceptable under the <i>NPS Management Policies</i> are separate questions.</p> <p>The CEQ defines significant environmental impacts using the 10 criteria listed in this FONSI. In the EA, major impacts are synonymous with significant impacts. In the FONSI, NPS relies on the major impact threshold definition, generally equating significant impacts with major impacts, and also applies the CEQ criteria. Based on the analysis in the EA and FONSI, there are no major (significant) effects resulting from this proposal.</p> <p>The 2006 <i>Management Policies</i> state (§8.1.1) "the fact that a park use may have an impact does not necessarily mean it will be unacceptable or impair park resources or values for the enjoyment of future generations. Impacts may affect park resources or values and still be within the limits of the discretionary authority conferred by the Organic Act. In these situations, the Service will ensure that the impacts are unavoidable and cannot be further mitigated." The Preserve Enabling Act specifically lists the extraction of minerals, oil, and gas as an appropriate use if such activities could "be conducted without jeopardizing the natural values for which the area seeks to preserve." The impacts described in the EA are an unavoidable consequence of that activity. They will not jeopardize the resources and values of the Preserve, for the reasons explained in the EA and FONSI. The Park Service also has made substantial efforts to mitigate impacts and expects that impacts will</p>
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<p>34. could be heard frequently, page 67</p> <p>35. could be heard occasionally, page 67</p> <p>36. would be simple and successful, page 67</p> <p>37. could occasionally be present, page 67</p> <p>38. could still be heard occasionally, page 67</p> <p>39. could be extensive, page 67</p> <p>40. would likely be successful, page 67</p> <p>41. would persistently dominate, page 67</p> <p>42. Extensive mitigation measures, page 67</p> <p>43. success would not be guaranteed, page 67</p> <p>44. would be similar to Alternative A, page 68</p> <p>45. the immediate location, page 71</p> <p>46. would be so slight, page 72</p> <p>47. would not be of any measurable or perceptible consequence, page 72</p> <p>48. would be substantially less, page 72</p> <p>49. would be small and of little consequence, page 72</p> <p>50. would be considerably less, page 72</p> <p>51. would be simple and successful, page 72</p> <p>52. would be readily detectable, page 72</p> <p>53. would likely be successful, page 72</p> <p>54. would be severe, page 72</p> <p>55. Extensive mitigation measures, page 72</p> <p>56. success would not be guaranteed, page 72</p> <p>57. largely similar to existing conditions, page 78</p> <p>58. would be simple and successful, page 78</p> <p>59. Changes in lightscape are obvious, page 78</p> <p>60. would be extensive and likely successful, page 78</p> <p>61. Changes in lightscape are conspicuous overhead, page 78</p> <p>62. background is noticeably brighter, page 78</p> <p>63. success would not be guaranteed, page 78</p> <p>64. would be similar to those described for Alternative A, page 80</p> <p>65. would be well within the range of natural fluctuations, page 82</p> <p>66. a few individuals of a wildlife species, page 82</p> <p>67. have very localized impacts, page 82</p> <p>68. would have barely perceptible consequences, page 82</p> <p>69. would remain functional to maintain viability of all species, page 82 (which species are being referred to)</p> <p>70. relatively small percentage of the population, page 82</p> <p>71. existing dynamics between multiple species, page 82</p> <p>72. relatively large habitat area, page 82</p> <p>73. would remain indefinitely viable, page 82</p> <p>74. would remain functional to maintain</p>	<p>be mitigated. The Park Service has identified numerous mitigation measures, but does not have regulatory jurisdiction to make all of them mandatory.</p>
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<p> variability of all native wildlife species, page 82 75. would likely be successful, page 82 76. would have drastic and permanent consequences, page 82 77. almost all available unique habitat, page 82 78. would be permanently altered from normal levels, page 82 79. Frequent responses to disturbance by some individuals, page 82 80. negative impacts to feedings, reproductions, or other factors, page 82 81. Extensive mitigation measures, page 82 82. success would not be guaranteed, page 82 83. would result in the loss and fragmentation of wildlife habitat, page 83 84. would affect few visitors, page 87 85. would have a slightly detectable, page 87 86. would be simple and successful, page 87 87. would cause measurable effects on a relatively limited extent of visitor use, page 87 88. relatively large visitor use area, page 87 89. but remain sustainable, page 87 90. could be extensive, page 87 91. would likely be successful, page 87 92. would have drastic and permanent consequences, page 87 93. would affect many visitors, page 87 94. Extensive mitigation measures, page 87 95. success would not be guaranteed, page 87 96. would be so slight, page 91 97. would not be of any measurable or perceptible consequence, page 91 98. would cause limited localized change, page 91 99. would be simple and successful, page 91 100. would have measurable impacts, page 91 101. would be consequential, page 91 102. would be relatively local, page 91 103. would likely succeed. Page 91 104. would cause substantial alteration, page 91 105. regional scale, page 91, 106. Extensive mitigation measure, page 91 107. success would not be guaranteed, page 91 All of these conclusory and undefined words and phrases leave the public in a quandary about what the environmental impacts are, what their intensity is, and how different alternatives can be compared and </p>	
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	<p>differentiated. The public and decision-makers need this information clearly stated and transparently presented so that it can be reviewed, commented on, and understood in relation to the environmental impacts of the proposed five wells. The NPS has not implemented Judge Bates' ruling in a convincing and complete manner. The Sierra Club objects to NPS ignoring Judge Bates' decision.</p> <p>NPS must not fail to take the "hard look" that Judge Bates admonished it to do. Ultimately, the Sierra Club asks the question "Why are moderate environmental impacts acceptable in the National Park System and in BTNP?" NPS has stated in other oil/gas EAs that "The authorizing legislation directs the Secretary of the Interior to administer the lands within the Preserve "in a manner which will assure their natural and ecological integrity in perpetuity". How can moderate environmental impacts assure BTNP's natural ecological integrity in perpetuity?</p> <p>How is this sustainable? The NPS has never explained this dichotomy. The ENEIS must explain this dichotomy. The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p>	
14	<p>Pages 60-62, 3.3 Impacts on Natural Soundscape in and outside the Turkey Creek Unit, Background, Guiding Laws, Regulations and Policies, the NPS should state clearly what the difference is between "to the greatest extent possible" and "to the fullest extent practicable". How do these two phrases differ and what is their practical effect on the protection of BTNP's soundscape resources.</p>	<p>The phrases "to the greatest extent possible" and "to the fullest extent practicable" were quoted from NPS Management Policies 2006 and Director's Order #47 respectively.</p>
15	<p>Pages 66 and 68, Affected Environment and Impacts from Connected Actions, the NPS states "A 26.0 horsepower compressor with a muffler ... if an unmitigated compressor is used. Currently, a 26 horsepower generator with noise reducing muffler is proposed to be installed." The first part of this quote is not a sentence. The second part of this quote does not explain how a 26 horsepower compressor with a muffler will reduce noise in comparison to what FAE normally uses.</p> <p>Since there will be drilling and production on both sides of the TCU with the wells in close</p>	<p>The wells will not be drilled simultaneously, thus limiting cumulative impacts to the natural soundscape of the Preserve.</p> <p>Regarding the 26.0 horsepower motor, please see the errata sheet attachment of this FONSI.</p>

	proximity to each other there is no cumulative noise impact analysis of what this will mean to visitors and how many feet or miles of the Turkey Creek Trail will be affected. NPS cannot assure that FAE will put noise mitigation equipment on because this is a voluntary mitigation measure.	
16	<p>Pages 69-93, Area of Analysis, there is no indication how the size of the area of analysis, including the "immediate location ... and the surrounding area", 1,500 feet, or "limited to the private adjacent lands outside the Unit in the immediate vicinity of the project location" was chosen as an appropriate area of analysis. When referring to "limited to the private adjacent lands outside the Unit in the immediate vicinity of the project location" this description is not clear enough for the public to understand the size and how large this area of analysis is. A map would be helpful in this endeavor.</p> <p>Pages 85-89, Visitor Experience and Aesthetics, the area of analysis is given as 1,500 feet even though on page 66 the NPS sets the area of analysis for noise at 2,000-4,000 feet. The area of analysis should be 2000-4000 feet and not 1,500 feet which is arbitrarily low and keeps NPS from assessing noise effects on that those who use the full extent of the Turkey Creek Trail in the area particularly since there will be noise coming from two locations on opposite sides of the TCU.</p>	<p>NPS has designated a specific area of analysis for each resource topic according to the extent that the resources may experience impacts. The area of analysis for natural soundscape and lightscape has been defined with a "wide net" to capture the presence of any increase in noise or light created by the proposed action. However, the perceptions of visitors are such that they will be impacted in a smaller area around the proposed action.</p> <p>Furthermore, the proposed wells will be drilled one at a time, thereby limiting any cumulative effects.</p>
17	<p>NPS should assess the impacts of illegal use of all-terrain vehicles or other off-road vehicles (including poaching of wildlife) on public and private lands due to the use of roads or other routes to access the area where drilling will occur.</p> <p>The public must have this information so that it can review, comment on, and understand all the environmental impacts of the proposal.</p>	<p>The Park Service has stated in the EA that there will be no vegetation removal within Preserve boundaries as a result of the proposed action; thus, no new access points will be generated for illegal ATV use.</p>
18	<p>NPS has not assessed the indirect, cumulative, and connected impact that produced water, drill cuttings, and any other wastes generated by the drilling and where they will be discharged for cleaning. Just saying these wastes will be disposed of offsite is not sufficient information.</p>	<p>The Park Service does not consider the off-site disposal of drilling wastes a connected action for this project.</p>
19	<p>For an EA, dictionary usage of words or phrases will not suffice to provide the public with a clear picture of what the intensity,</p>	<p>In its NEPA analyses, NPS brings together technical specialists who possess the knowledge and skills to assess the effects of the proposal in</p>

<p>significance, and context of environmental impacts are from the FAE wells. In other words a qualitative assessment, analysis, and evaluation of environmental impacts is not sufficient to deal with the clearly articulated CEQ requirements in Section 1502.14, that the EIS "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public".</p> <p>Quantitative assessment, analysis, and evaluation are necessary to ensure that alternatives and environmental impacts are clearly defined and shown in the EA/EIS. As stated in the CEQ NEPA implementing regulations, Section 1500.1(b), Purpose, "NEPA procedures must insure that environmental information is available to public officials and citizens ... The information must be of high quality. Accurate scientific analysis...are essential to implementing NEPA".</p> <p>As stated in Section 1501.2(b), "Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses."</p> <p>As stated in Section 1502.8, "which will be based upon the analysis and supporting data from the natural and social sciences and the environmental design arts."</p> <p>As stated in Section 1502.18(b), about the Appendix, "Normally consist of material which substantiates any analysis fundamental to the impact statement."</p> <p>As stated in Section 1502.24, "Agencies shall insure the professional integrity, of the discussions and analyses ... They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement."</p> <p>The analyses in EAs that NPS has conducted in the past is based on "best professional judgment" which is simply what a group of people think is important based on their experiences and training. This level of</p>	<p>an interdisciplinary team, and it is their judgment that forms the basis of the analysis. This is consistent with CEQ's requirement of interdisciplinary preparation. The ultimate purpose of NEPA, as CEQ has noted, is not better documents, but better decisions.</p> <p>This is even truer of NPS determinations regarding impairment which (as explained in Management Policies) are expressly to be determined "in the professional judgment of the responsible NPS manager."</p>
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<p>assessment, analyses, and evaluation for environmental impacts and alternatives is an insufficient base for an EA.</p> <p>In past EAs "best professional judgment" is not defined. NPS must define what "best professional judgment" means so that the public can review, comment on, and understand what NPS is referring to. The qualitative description of phrases used to describe environmental impacts or the protectiveness of an alternative does not provide the public with the degree of comparison required by the CEQ.</p> <p>The use of "best professional judgment" is not a substitute when quantitative information is available to show what impacts are or could be. This is the concern that the Sierra Club has when NPS develops and uses the "Methodology for Assessing Impacts". This methodology is based on "best professional judgment" but the public is not told what this phrase means. The interaction of the "Methodology for Assessing Impacts" with the requirement in Section 1502.22 of the CEQ's NEPA implementing regulations must be discussed completely in the EA.</p> <p>Section 1502.22, requires that when evaluating reasonably foreseeable significant adverse effects on the human environment in an EA that incomplete or unavailable information be plainly stated as lacking in the EA or EIS. This section also requires that if the costs of obtaining this information are "not exorbitant" then the agency must include the information in the EIS. Finally, this section also requires that if the information cannot be obtained due to exorbitant costs that the agency must state the information is incomplete or unavailable; state the relevance of this information to evaluating the significant adverse impacts; summarize the credible scientific evidence; and then provide the agency's evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community."</p> <p>In this case the use of "best professional judgment" is the theoretical approach or research method that is generally accepted in the scientific community that NPS uses to</p>	
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<p>assess the environmental impacts of oil/gas activities in, on, or through BTNP. Therefore NPS must give a thorough discussion of the use of this evaluation method in place of using quantitative data for the impact issue that is being discussed. NPS cannot substitute "best professional judgment" for gathering existing quantitative data that it does have or gathering quantitative data that does not cost an exorbitant amount to collect for this EA. The Sierra Club opposes the use of "best professional judgment" in lieu of using existing or not exorbitantly costly acquired quantitative data. The Sierra Club requests that NPS clarify and detail clearly the comparative differences between each alternative and define clearly what the words or phrases used mean. The environmental impact that this policy choice causes must be assessed in the EA so that the public and decision-maker can review, comment on, and learn about this NEPA required element.</p>	
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