

National Park Service
U.S Department of the Interior

Big Thicket National Preserve
Texas



CENTURY EXPLORATION HOUSTON LLC BP-YOSEMITE NO.1 AND UP TO 6 ADDITIONAL DIRECTIONALLY DRILLED WELLS

FINDING OF NO SIGNIFICANT IMPACT

BACKGROUND

In October 2014, the National Park Service (NPS) began the evaluation of potential environmental impacts from the directional drilling of Century Exploration Houston, LLC's (Century) proposed BP- Yosemite Well No. 1 and up to Six Additional wells, from one surface location outside the Beaumont Unit of Big Thicket National Preserve (Preserve) to reach bottom hole targets beneath the Preserve.

This analysis was performed to determine whether Century's proposed directional wells 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 aquifers [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 National Park Service recognizes that the applicants possess private property rights to nonfederal oil and gas in the Preserve.

SELECTED ALTERNATIVE

The Park Service has chosen Alternative B, as Proposed Action Application as Submitted, as the selected alternative because Century 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 Century to exercise their property right interests.

Access, Construction

The Yosemite well pad will be accessed via an existing unpaved road off of Cooks Lake road. The new well pad will require the construction of a 300-foot by 450-foot well pad that will occupy approximately 3.1 acres. The well pad will be mechanically cleared by heavy machinery. Reusable ash and rock will be placed on the well pad to stabilize the surface and provide workspace necessary to drill the well. The eastern corner of the well pad will be sited approximately 55 feet west of the Preserve boundary at the nearest point. A freshwater well will be drilled on the site. Construction of the well pad will not require fill being placed into waters of the U.S. and, therefore, will not require a § 404 permit from the U.S. Army Corps of Engineers. All construction will be accomplished on private property.

Drilling

Century's proposed production operations inside the Preserve for the BP-Yosemite Well No. 1 will consist of drilling a 12-1/4-inch hole from approximately 4,500 feet (the depth at which the bore hole enters the Preserve) to 10,135 feet TVD, an 8-1/2-inch hole from 10,135 feet to 12,500 feet TVD and a 6-1/8-inch hole from 12,500 feet to completion depth at 14,500 feet TVD. The well will then be completed or plugged and abandoned as a dry hole.

Per Railroad Commission of Texas Groundwater Advisory Unit Form GW-2 (Depth of Usable Quality Ground Water to be Protected) usable-quality water occurs from the land surface to a depth of 1,825 feet. Century will comply with all provisions of the RRC's statewide oil and gas regulations to drill and eventually plug the well to ensure the protection of usable quality water zones. The proposed drilling period is approximately 45 days. All mud and cuttings will be contained in a closed system of aboveground storage tanks to recirculate drilling mud and aboveground tanks to contain drill cuttings prior to removal from the site. Earthen pits will not be utilized to

store drilling mud or the cuttings, and all fluids and cuttings will be hauled offsite to a third-party disposal facility.

Flowlines

Should the well be successfully completed as a producing oil and/or gas well, a 6-inch diameter (maximum) flowline will be installed. The flowline of wrapped and welded steel will be buried to a minimum depth of 3 feet below surface. Any sensitive resource areas (wetlands) will be bored to minimize impacts and existing rights-of-way will be followed to the extent practicable.

Production Facilities

If oil and gas is discovered and the proposed wells are completed as producers, production facilities will be constructed on the existing well pad. 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 water tanks, and condensate/oil tank(s) constructed within the areas utilized to drill the wells outside of the Preserve, a flowline connecting the components, and a gas sales line and meter. The facility will be developed and maintained according to Century's SPCC Plan and 40 CFR 112.7.

The tank battery will have an earthen firewall (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 firewall 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 lines from the production facilities to the tanks will be buried at a minimum depth of 1 foot below the surface. Depending on the rate of production, one to two compressors equipped with hospital-grade mufflers may be required at the well pad.

Reclamation Plans

Once drilling and completion operations are finished, or if a well is 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 well 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 Century. The disposal of excess drill fluids and water will occur offsite or downhole dependent on Century obtaining the necessary State permits and approvals.

Reclamation of the areas disturbed during installation of the flowline associated with the wells, if they are produced, will include restoration of preconstruction contours to promote revegetation in areas that were cleared.

MITIGATING MEASURES

In order to reduce impacts on the human environment, Century has incorporated the following mitigation measures listed in Appendix 1 as part of their applications for the proposed operations. While many of the mitigation measures are required by other State and Federal requirements, the NPS does not have the regulatory authority under § 9.32(e) to require mitigation under Option #1, Exemption with No Mitigation.

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 well will not be drilled.

Under Alternative B, Century will directionally drill the wells as described in the *Selected Action* section above.

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."

Century'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 to the level of the No Action Alternative.

The Park Service did not choose the environmentally preferred alternative because Century 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 Century 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, wildlife, vegetation, species of management concern, cultural resources, air resources, lightscape, visitor experience, 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 worse 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 45 days per well). All operations are located outside the Preserve boundary, and are not near designated visitor use areas.

Air quality impacts will occur from connected actions outside the Preserve boundaries, mainly during the drilling phase of operation. These impacts will be no worse than moderate, because the most intense impacts will be temporary (45 days per well), emission levels will be lower than prevention of significant deterioration (PSD) program permitting limits, and prevailing winds are expected to move emissions out of the area.

Lightscape impacts will occur from connected actions outside the Preserve boundaries, mainly during the drilling phase of operation. Century proposes to use hooded construction lights, as necessary, to minimize light pollution in the area, during 24 hr. drilling operations. The introduction of artificial light on the dark night sky of the Preserve during the short-term drilling phase will result in localized, short-term, but moderate adverse impacts since the lighting will be continuous.

Wildlife impacts will occur from the connected actions outside the Preserve boundaries, mainly due to habitat clearing and the above listed soundscapes and lightscape impacts. Construction of the flowline and well pad; drilling and producing the wells; and eventual plugging and reclamation activities will result in short-term, moderate adverse impacts on wildlife in the Preserve, with more intense impacts localized around the well

pad. Construction of the well pad and flowline will remove relatively low quality wildlife habitat from use until reclamation occurred, potentially displacing wildlife into the Preserve. There will be no impacts on wildlife from in-park operations.

Adjacent land impacts specific to geology and soils will occur from construction and associated land grading outside the Preserve boundary. These impacts will be no worse than moderate. Geology and soil 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 well(s) 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 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 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 below in "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".

Prime and Unique Farmland Soils: There are no prime and unique farmland located within the project area, and 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 SPCC Plan.

Wild and Scenic Rivers: There are no wild and scenic rivers located within the preserve.

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 guidelines “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 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.

As of August 2014, there were approximately 8,293 oil producing wells and 3,370 regular gas producing wells in RRC District 3, totaling 11,663 wells. Of these wells, a total of 1,796 or 15 percent of the District total are located within the seven counties where the Preserve is located. These include 1,213 oil wells (14 percent of the District total) and 583 gas wells (17 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 led to the conclusion that there are no highly uncertain, unique or unknown risks associated to the proposed action proposed by Century Exploration Houston LLC.

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 1999 forecast information for 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 one surface location outside the Beaumont 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 Unit, 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 NPS has no authority under 36 CFR § 9B to require archaeological surveys on land adjacent to the Preserve; however, Century contracted Perennial Environmental Services, LLC to perform site-file reviews of the area to identify the likelihood of cultural resources being in the project area. Perennial archaeologists determined that due to the results of previous surveys in the area and the highly disturbed nature of the area resultant from timber harvesting, the project will not impact cultural resources on the land adjacent to the Preserve.

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 Century 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 or from NPS observation or inventory records. 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 24, 2014. 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. One response was received regarding the EA from the Sierra Club Lone Star Chapter. The National 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. The FONSI will be sent to those who provided substantive comments on the EA, or those who requested a copy. A notice of its availability will also be posted to the NPS PEPC website along with the other project related documents.

NATIVE AMERICAN CONSULTATION

The Alabama-Coushatta Tribe of Texas was notified of the actions presented in this EA and during both the public scoping and review process. The Tribe drafted a letter during the scoping process to the Preserve expressing interest in the project. Upon receiving this letter the Preserve proposed to keep the Tribal Council apprised of the ongoing NEPA analysis regarding the actions taken by Century Exploration Houston, LLC. During the public comment/review process, the EA was mailed to the Tribal Council and no comments were received. The FONSI will be sent to the Tribal Council along with the final copy of the Environmental Assessment.

CONCLUSION

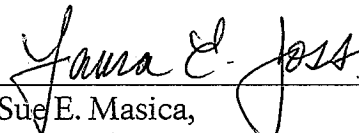
As described above, the Preferred Alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The Preferred Alternative will not have a significant effect on the human environment. Environmental impacts that could occur 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 Century Exploration Houston, LLC an exemption with no mitigation to the NPS nonfederal oil and gas regulations found at 36 CFR Part 9 Subpart B.

Approved:


for Sue E. Masica,
Regional Director, Intermountain Region
National Park Service

3/11/15

Date

APPENDIX 1: Mitigations Measures under the Preferred Action

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Required or Voluntary
Project Planning and General Procedures			
1	Conduct a desktop archeological survey of the proposed project area	archeological resources	Voluntary
2	Prepare and comply with a Spill Prevention Control and Countermeasure (SPCC) Plan	all natural resources, and human health and safety	EPA requirement as per 40 CFR, Chapter 1, Subchapter D, Part 112 – Oil Pollution Prevention
3	Site wells, flowline, and production facilities outside of the Preserve boundary	all natural resources and values	Required to qualify for NPS exemption under 36 CFR § 9.32 (e)
4	Use of screened water intake hoses during water withdrawal for hydrostatic testing	fish and wildlife, threatened and endangered species and other species of management concern	Voluntary
5	Use existing openings to the extent possible and use existing roads to minimize construction of access road	soils, water resources, floodplains, wetlands, vegetation	Voluntary
6	Construct ditch and 1-foot high ring levee around the well pad	water resources, vegetation, soils	Voluntary
7	Construct washout/emergency pit and line with plastic	water resources, soils, vegetation	Construction, design and maintenance of pit in conformance with RRC Statewide Rule 8, liner will be voluntary
8	Utilize hooded lights for well drilling activities	lightscares	Voluntary

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Required or Voluntary
	Cover all pits, ponds, or other containment areas and unprotected oil field equipment containing liquids with screen, netting or other appropriate materials to prevent migratory birds, other wildlife, and sensitive species from being attracted to and entrapped in collected liquid.	wildlife (with emphasis on migratory birds, bats, rodents, and herptiles) and sensitive species	Voluntary but in compliance with state & federal regulations
Well Drilling			
9	Directionally drill well so that wellbore intercepts useable quality groundwater outside of the Preserve	water resources	Required to qualify for NPS exemption with no mitigation measures
10	Use a closed-loop containerized mud system	water resources, soils, vegetation	
11	Set surface casing according to State of Texas RRC requirements	water resources	RRC requirement as per Statewide Rule 13(b)(2)
12	Dispose of drilling mud and well cuttings offsite or downhole	all natural resources	Disposal in accordance with RRC Statewide Rule 8
Production			

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Required or Voluntary
13	Reduce size of well pad after drilling completion and fill in washout/emergency and water pits with native soil in accordance with Statewide Rule 8	soils, vegetation, water resources	Reduction in well pad size voluntary, fill in washout/emergency and water pits required by RRC Statewide Rule 8(d)(4)(G)
14	Construct a 2-foot earthen, rock covered firewall around the tank battery with a capacity 1.5 times the largest tank	water resources, soils, vegetation	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, voluntary to build capacity for holding 1.5 times volume of largest tank
15	Use mulching, seeding, silt fences, and hay bales	water resources, soils	Voluntary
16	Use compressors equipped with hospital-grade mufflers	soundscapes	Voluntary
17	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	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 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			

No.	Mitigation Measures - Proposed Action (Alternative B)	Resource(s) Protected	Required or Voluntary
18	Consult RRC district office regarding well plugging, plug well 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	RRC requirement as per Statewide Rule 14, compliance with Onshore Oil and Gas Order No. 2 voluntary
Reclamation			
19	If the wells are not produced, 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	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
20	Use of rock ash at the well pad to allow for easier removal and restoration of the site, when compared to the use of cement well pads.	all natural resources	Voluntary
21	Reclamation in conformance with the Land Entry Permit or surface agreement between surface owner and Century.	all natural resources	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 will 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, will harm the integrity of park resources or values, including the opportunities that otherwise will 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 will 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 will 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 will have major (or significant) effects.

Impairment findings are not necessary for visitor use and experience, socioeconomic, 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, lightscapes, 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 will 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 will 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 will 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 will 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 will 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 will 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 will 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 will 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 will be no impairment of park resources and values from implementation of the preferred alternative.

SUBSTANTIVE COMMENTS

(Houston Regional Group of the Sierra Club)

#	REPRESENTATIVE QUOTE	RESPONSE
The following substantive comments were received from the Lone Star Chapter of the Sierra Club.		
1	<p>1) Page 1-1, 1.0 Purpose and Need for Action, the area of analysis for cumulative impacts of one-half mile from the boundary of the BU is inadequate for a comprehensive cumulative impact analysis. For example, a road or roads that access the well site may be more than one-half mile long from the boundary but still have impacts (air pollution, fragmentation, etc.). The oil/gas that may be removed from the well will travel by pipeline many miles to be released, leaked, or refined and turned into petroleum products. Then those products will be sold in various places and burned by vehicles, for instance, over many miles of roads. The cumulative impacts analysis area should be much larger and include all cumulative impacts.</p> <p>The NPS should require maintenance standards for the monitoring and upkeep of flow-lines, tank batteries, compressors, heaters, flares, and other associated equipment used at the well site. This will ensure that leaks or spills are prevented or 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 potential environmental impacts of the proposal.</p>	<p>The NPS 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 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, and NPS is bound to follow its own regulations. Nonetheless, in the EA, the 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 fact that NPS discloses and discusses these broader issues as part of the NEPA process does not alter the limited scope of the decision to be made under the regulations.</p> <p>General upkeep of utilities and equipment outside of NPS property is covered by the RRC of whom the Preserve works with on any regulatory issues.</p>
2	<p>2) Pages 1.5 through 1-7, 1.2.2 NPS Nonfederal Oil and Gas Regulations, 36 CFR 9B, the Sierra Club disagrees with the NPS about its interpretation, which is different from the original interpretation about how the 9B regulations operate. It is not just the down-hole impacts that NPS must look at but also what NPS calls connected impacts, and what the Sierra Club calls "plain old" impacts. The new interpretation occurred in 2002 because an</p>	<p>As provided in 36 C.F.R. § 9.32(e), directional drilling operators whose drill hole enters a park unit "need not comply" with the NPS regulations if the Regional Director determines that certain downhole conditions are met. Under the regulatory language, the exemption is automatic once the determination is made, and there is no formal approval or permit. This is further explained in the directional drilling guidance issued on November 14, 2003, by</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>oil/gas operator (Davis Brothers) put pressure on the NPS in the Washington and Regional Offices because he did not want to abide by the NPS interpretation at the time. This George Bush era interpretation could have been changed after Bush left office but since the NPS Regional Office was complicit in implementing a "bogus interpretation" and punishing two NPS employees who had done nothing wrong except implement regulations to protect BTNP as originally intended, the original and correct interpretation has never been reinstated. Now the entire National Park System is stuck with an interpretation that does not fully protect the surface values of the System and specific parks or units.</p> <p>Page 1-6, 1.2.2 NPS Nonfederal Oil and Gas Regulations, 36 CFR 98, NPS is in fact granting an approval or issuing a permit by processing in writing an exemption with no mitigation and by conditioning the exemption with mitigation that is both voluntary and not enforceable by NPS. NPS continues to abdicate its responsibilities with legalist language that not only does not make sense, is not reasonable, and does not provide BTNP with the protection it deserves.</p> <p>On page 1-3 NPS does state that "Although the United States does not own any of the mineral estates underlying the Preserve, Congress charged the NPS with protecting the Preserve from oil and gas operations that may adversely impacts the Preserve's resources and values ... the Secretary shall ... promulgate and publish such rules and regulations ... as he deems necessary and appropriate to limit and control the use of, and activities on, Federal lands and waters". Further NPS states on page 1-4 that "... national preserves will be areas of land ... which possess within their boundaries exceptional values or qualities ... Such areas would often be characterized by significant scientific values ... ecological communities illustrating the process of succession,</p>	<p>the NPS Associate Director, Natural Resource Stewardship and Science entitled "Final Guidance on Implementing the Directional Drilling Provision of the Service's Nonfederal Oil and Gas Regulations at 36 CFR 9B," which also explains the NPS policy for providing NEPA and other compliance documentation for directional drilling proposals.</p> <p>Furthermore, in <i>Sierra Club v. Mainella</i>, the Court held that the plain language of section 9.32(e) limits the impacts NPS may consider to those from activities within a park unit, and thus the restatement of that requirement in the later guidance document referenced above was not a final agency action subject to judicial review.</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>natural phenomena, or climax communities ... The principal purpose of these areas should be the preservation of the natural values which they contain."</p> <p>So NPS has all the authority it needs to protect BTNP and its resources via the Property Clause of the United State Constitution including environmental impacts that potentially may affect the values of BTNP outside the BU's boundaries.</p> <p>NPS's statements that it "must coordinate the timing of access with the operator", that its own regulations provide no authority to allow NPS to access the operator's site, that there is no regulatory reason to access the surface location outside the park, that applied mitigation measures via respective environmental compliance or permitting processes not NPS's cannot be mitigation measures, and that the National Environmental Policy Act (NEPA) is not triggered for an exemption makes no sense and are flat wrong.</p> <p>Page 1-7, 1.2.4 NPS Monitoring of Nonfederal Oil and Gas Operations, 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 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.</p>	

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>Page 1-8, 1.2.4 NPS Monitoring of Nonfederal Oil and Gas Operations, 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.</p> <p>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 potential environmental impacts of the proposal.</p> <p>NPS's own expert in the Denver Office in the early 2000's expressed concern about limiting NPS inspections to those that are announced. NPS ignores that it used to condition exemptions by incorporating other agencies' requirements that NPS adopted. NPS ignores that the impacts that may occur due to oil/gas drilling into and under BTNP may come from outside the BTNP and therefore access makes legal sense. NPS finally, ignores that NEPA is triggered when a federal action, in this case granting an exemption from the requirements of mitigation measures and a Plan of Operations, occurs. NPS's entire legal case rests upon flimsy reinterpretations of regulations.</p> <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</p>	

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>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 seven wells 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>The 2006 Oil/Gas Management Plan (OGMP) inadequately assessed the total direct, indirect, connected, secondary, and cumulative impacts of multiple wells drilled inside and just outside the BTNP. Individual oil/gas activity EAs have also inadequately assessed the direct, indirect, connected, secondary, and cumulative impacts of past, present, and future foreseeable actions inside and just outside BTNP.</p> <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 1-6). The Sierra Club disagrees with NPS, on page 1-7, 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. The NEPA does apply and a full EA/EIS should be prepared with mandatory mitigation measures 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>NPS has stated in the past that it implements its responsibilities by "considering acquisition of the nonfederal oil and gas</p>	

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>interest." If NPS has done this then it should have documentation that shows the analyses it conducted during the consideration for the up to seven 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 acquisition. 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 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, "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 seven Century wells.</p> <p>The Sierra Club is aware of the 69 wells 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 Century will use to drill under the BU and the landscape scale environmental impacts that have occurred (including fragmentation) with wells drilled along BTNP boundaries.</p>	

#	REPRESENTATIVE QUOTE	RESPONSE
	<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 BU.</p> <p>NPS has also not provided to the public what the potential impacts are of seven 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 seven wells are drilled. The public must have this information so that it can review, comment on, and understand all the potential environmental impacts of the proposal.</p>	
3	<p>3) Page 1-6, 1.2.2 NPS Nonfederal Oil and Gas Regulations, 36 CFR 9B, 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</p>	<p>The EA addresses these impacts in Chapter 3, Affected Environments and Environmental Consequences. Each Section of this Chapter focuses on impacts that could potentially affect the Preserve.</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>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 potential environmental impacts of the proposal</p>	
4	<p>4) Page 1-6, 1.2.3 Protecting Park Resources from External Activities, the NPS states "The NPS may seek compensation ... if any activities outside park boundaries ... damage park resources." This is not a proactive policy. NPS admits that it must wait until damage is done which could be extensive and permanent before it sues the company. Preventive actions, like mitigation measures that NPS will not adopt for this exemption approval would help prevent pollution and damage to BTNP. However, the NPS hamstrings itself because it will not incorporate other agencies' mitigation measures into its exemption approval to ensure proactive protection.</p>	<p>Please See Response #1</p>
5	<p>5) Page 1-8, 1.2.6 Approved Park Planning Documents, NPS does not tell the public that the OGMP/EIS also allows the mitigation measures, like performance standards and operating stipulations, to be set aside, a variance if you wish, and weakened. For instance buffer zones around streams can be made smaller if the operator objects to the required buffer zones in the OGMP.</p> <p>NPS states "The NPS completed an Oil and Gas Management Plan for the Preserve on February 28, 2006 ...". It is important to note that the OGMP is weak because it allows for a variance or alteration of sensitive area buffer zones so that oil/gas operators can reduce the width of these zones and therefore the protection they provide for natural resources in BTNP. It is important to note that many of the mitigation</p>	<p>The NPS works with operators to encourage them to adopt mitigation measures on their operations located outside park boundaries. Although the 9B regulatory scheme is limited, impacts associated with the proposed activity are described in the EA and analyzed; and they are also evaluated for their potential impacts under impairment requirements of the NPS Organic Act.</p> <p>The NPS discloses in the EA which mitigation measures are voluntary, which are required by other agencies, and which are within the jurisdiction of the NPS. The justification for this comment comes straight out of the EA. 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</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	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 potential environmental impacts of the proposal.	of the NPS in the sense that they are necessary for the operators to qualify for exemptions with no (further) mitigation required by the NPS.
6	6) Page 1-9, 1.3 Issues and Impact Topics Evaluated, NPS does not do itself justice when it admits that public scoping is encouraged but does not require that its managers involve the public. This is a problem with the OGMP and program. NPS does not allow members of the public who are both interested and affected to participate early in the scoping process. Only federal, state, local, and tribal authorities are invited to the table. This is not acceptable.	Section 1.3 states that a public scoping brochure was sent to "affected state, federal, and local agencies, and <u>interested persons and organizations</u> ". The brochure was also posted to the preserves website.
7	7) Page 1-10, Table 2 Issue Statements for Impact Topics Retained for Detailed Analysis, Natural Soundscapes in the Preserve, the noise issue is not necessarily smaller in scale during the production phase because of the constant use of vehicles and the use of compressors.	Section 3.3.3 <i>Affected Environments</i> , addresses this matter by explaining the current condition of preserve resources and the surrounding areas. Natural Soundscapes are already affected by a multitude of development going on within a 2 mile radius of the proposed drilling site.
8	8) Page 1-12, 1.4 Issues and Impact Topics Eliminated from Further Analysis, the Sierra Club disputes that mitigation will necessarily reduce impacts to minor levels, that there is little controversy on subjects that were eliminated from analysis, and that changes would be small and of little consequence. The reality is that NPS uses mitigation measures in its oil/gas process as a shield to eliminate issues and impact	The NPS analyzed the potential for catastrophic events quantitatively, and reached the conclusion that the topics mentioned do not warrant detailed analysis in the EA based on the likelihood of those events affecting resources and values within the Preserve. The proximity to the Preserve of such events was not a feature of our analysis except in the general sense of examining data from the seven county area

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>topics and to state that there is a level of protection that allows for an exemption when in fact most of the mitigation measures are voluntary by the operator and if the operator changes its mind and does not implement a mitigation measure that it has voluntarily stated it will implement NPS can do nothing about this but protection NPS relied upon to exempt the operator will not exist. On pages 2-9 and 2-10, NPS documents that there will be moderate impacts for sound, light, air quality, wildlife, and adjacent landowners and that cumulative impacts will also be moderate. Yet NPS does little or nothing to reduce these moderate impacts to the smallest possible level thereby providing BTNP the largest measure of protection.</p> <p>Please see pages 2-3 through 2-6, Table 6 Mitigation Measures for the BP- Yosemite Well No. 1 Under the Proposed Action (Alternative B), where 14 of the 21 mitigation measures are entirely or partially voluntary. This means that 66.67% of the mitigation that the NPS relies upon for protection from oil/gas operations within, under, and next door to the Preserve and that allows it to exempt the Century seven wells from further analysis and mitigation is "paper mitigation" that is not assured and cannot be enforced because it is voluntary or required by another agency. This is "sham thinking" and hides from the public the lack of environmental protection provided by the OGMP.</p> <p>The Sierra Club disagrees that Socioeconomics (positive and negative financial impacts), Catastrophic Incidents (fires, air pollution, spills), Geology and Soils in the Preserve (long-term contaminant travel), Water Resources in and outside the Preserve (long-term water contamination), Vegetation in the Preserve (air pollution and water pollution), Visitor Use and Experience in the Preserve (air,</p>	<p>that contains the Preserve. The NPS is not denying that such an event could occur within or near the Preserve, potentially affecting Preserve resources and values. However, such events are unlikely given the number of incidents versus the amount of drilling activity in the seven county areas containing the Preserve, and 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. By eliminating this topic, the NPS is focusing its analysis on issues that are truly relevant. CEQ requires that NEPA documents be "concise, clear, and to the point." They must "emphasize real environmental issues and alternatives" and be useful to the decision-maker and the public (§1500.2). "Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (§1500.1(b)).</p>

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	<p>noise, light, and visual pollution), and Climate Change (greenhouse gas pollution) should be eliminated from further analysis.</p> <p>The Sierra Club disputes NPS that air quality is a topic that should be eliminated from analysis. 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 no mitigation is proposed for air pollution reduction. The Sierra Club, three years ago, sent the NPS a study that the Houston Advanced Research Center (HARC) conducted on fugitive emissions from oil/gas production operations. The TCEQ has conducted monitoring studies on benzene and other air pollutant emissions 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>The Sierra Club believes that NPS errs in eliminating catastrophic incidents from analysis in the EA. 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>	
9	<p>9) Page 1-13, 1.4.1 Socioeconomics, NPS states that an "unknown amount of revenue for the local economy" would be generated by drilling, etc. NPS has had over a decade to conduct a study to estimate the effects of oil/gas drilling, etc., on the local economy. It is not appropriate that NPS continues to state it has no idea what the impacts are on the economy of oil/gas activities in BTNP.</p>	<p>In section 1.4.1, Socioeconomics, the NPS describes the potential impact to the socioeconomic resources in the area. NEPA does not require the NPS to estimate potential revenues and divulge the names of private mineral owners or leasers.</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>The reasonably foreseeable development (RFD) is out-of-date. Already the NPS has approved 69 wells. The RFD only makes provision for 40 wells drilled over the next 15-20 years. So 69 wells have been approved for drilling with seven more proposed for approval. The NPS must update the RFD so that it reflects the reality of more drilling under BTNP.</p>	<p>The RFD is a probability estimate that uses variables that are available during the assessment. As mentioned in the OGMP these variables are subject to change.</p>
10	<p>10) Pages 1-16 through 1-19, 1.4.2 Catastrophic Incidents, Such as Well Blowouts, Well Fires, or Major Spills, NPS fails to state clearly that 66.67% of the mitigation measures that it relies upon to protect the BU and reduce the impacts of catastrophic incidents are voluntary or partially voluntary. NPS does not conduct an analysis that determines how reliance on voluntary mitigation measures increases the risk to BU resources. NPS uses limited data, two years, upon which to make statements about the significance of the risk of catastrophic incidents. NPS ignores the large number of major oil spills and provides little information about what damage has occurred due to such spills. The fact that so many major oil spills occur each year indicates that such events are not only possible but probable. Finally, seeking damage after damage has occurred instead of being preventive (not with voluntary mitigation measures) does not ensure that public resources are protected as required by NPS regulations. This is particularly true since the well footprint is only 55 feet from the BU's boundaries. If something goes wrong then impacts can be expected to occur and occur quickly due to the close distance of the well footprint to the BU.</p>	<p>Please see response # 6 regarding conclusory statements and response #7 regarding term definitions.</p> <p>The NPS 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 NPS is not denying that such an event could occur near the Preserve, potentially affecting Preserve resources and values. However, such events are unlikely given the number of incidents versus the amount of drilling activity in the seven county areas containing the Preserve, and 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>
11	<p>11) Pages 1-28 and 1-29, 1.4.12 Climate Change, NPS must address climate change adequately and comprehensively. Climate change is due mostly to the release of carbon dioxide (CO₂) and methane air pollution from activities like the</p>	<p>Please See Response #12</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>combustion or release of oil/gas and their products. Climate change will alter existing ecosystems and make it more difficult for plants and animals to adapt successfully to changed ecosystems.</p>	
11	<p>Page 1-28, 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 about climate change and not refer to the out-of-date 2007 report (6 years old). An even newer report was printed in the Houston Chronicle on November 3, 2014 (page A4, "U.N. panel warns of dire effects from global warming", Justin Gillis, New York Times) and should also be mentioned.</p> <p>NPS has failed to adequately address climate change. In fact NPS does not even state that the transportation, refining, leaks, releases, spills, and use of oil/natural gas, fossil fuels, via burning or releases or evaporation directly or indirectly (gasoline), will result in CO2 or methane emissions. NPS does not estimate how many CO2 or methane emissions will be generated from the oil/gas that will be pumped from the seven wells and the amount used during drilling and extraction and production of products that will be burned or released as leaks as fossil fuel or their products (gasoline). It is not clear how NPS can state that the proposal will generate "low emissions" of CO2 and methane on page 1-29 when there is no comparative basis upon which to make such an assertion. NPS must answer questions like:</p> <ol style="list-style-type: none"> 1. How will BTNP and the BU 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 	<p>Climate change is a subject of concern for the NPS. However, as stated in the EA, climate change research is still largely lacking a quantifiable method for predicting its effects. Comments regarding the incorporation of climate change research into the resource management strategy of the Preserve will be appropriate during the General Management Plan public input process.</p> <p>The NPS 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>

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>other greenhouse gas emissions?</p> <p>4. What can be done to assist plants and animals so they can adapt to climate change?</p> <p>NPS should prepare and include in the Century EA a climate change ecological resilience and resistance plan (CCERRP). The CCERRP would assess the biological and ecological elements in BTNP and the BU 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 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 BTNP/BU. 2. Reduction of stressors on the ecosystems in BTNP/BU. 3. Restoration of natural functioning ecological processes in BTNP/BU. 4. Use of natural recovery in BTNP/BU, in most instances. 5. Acquisition of buffers and corridors to expand and ensure connectivity of ecosystems in BTNP/BU. 6. Intervention to manipulate (manage) ecosystems in BTNP/BU only as a last resort. 7. Reduction of greenhouse gas emissions from BTNP/BU and the two Century wells and transportation, refining, releases, and use of the products of these wells. 	
12	12) Page 2-2, 2.2.6 Production Facilities, NPS states "one to two compressors	The NPS has no jurisdiction outside the BITH boundary, and therefor can only

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>equipped with hospital-grade mufflers may be required at the well pad." NPS fails to make it clear that this measure is a "may" measure which means it could not be done. NPS fails to mention that this mitigation measure is voluntary and therefore Century does not have to implement it. NPS's reliance on a voluntary mitigation measure may result in no mitigation and there is no legal way that NPS can prevent this unless it writes the voluntary mitigation measure into the exemption approval so that it is enforceable by NPS. NPS also fails to explain how a hospital-grade muffler would be better than a regular muffler or no muffler. NPS must state how much noise pollution will be reduced by a hospital muffler versus no muffler versus a regular muffler.</p>	<p>recommend measures of noise mitigation.</p>
13	<p>13) Pages 2-3 through 2.6, 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. Eleven mitigation measures are entirely/partially the requirements of another agency (52.38%) which means NPS cannot enforce those measures either.</p> <p>This means that only 3 of the 21 mitigation requirements (14.29%) are entirely required (not voluntary) and enforceable by the NPS (enforceable by another agency). 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>What really brings the reckless helplessness of NPS home is that on page 2-5, mitigation measure 17, states that a spill notification to NPS is voluntary. So NPS could be ignorant and blind about a spill because the applicant does not have to notify NPS when a spill occurs. Talk about a pathetic effort to protect a unit of the National Park System.</p>	<p>Please see Response #1</p>

#	REPRESENTATIVE QUOTE	RESPONSE
	NPS should do more proactively to protect BTNP and the BU.	
14	<p>14) Page 2-7, 2.3.2 NPS Acquisition of the Mineral Rights that are Part of Century'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. This is sham protection and does not obviate NPS from conducting a realistic appraisal of what it would cost to buy mineral rights.</p> <p>NPS states "These mitigation measures substantially reduced the potential for adverse impacts on the Preserve's 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 85.71% of the mitigation measures that NPS relies upon to protect the BU cannot be enforced and or required by NPS because they are voluntary or require another agency to enforce them. This should affect NPS's analysis regarding risk/safety and potential adverse impacts to BU resources and values, visitor use and experience, and public health and safety due to the oil/gas proposal. NPS must revise its analysis to take this factual information into account.</p>	Please See Response #1
15	<p>15) Page 3-3, 3.3.2 Guiding Laws, Regulations, and Policies, NPS uses two different phrases to suggest that the BU will be protected. NPS uses "greatest extent possible" and "fullest extent practicable". NPS must analyze the differences between these two phrases and explain to the public what these differences are, which phrase is more protective, and which phrase has priority over the other and why.</p>	These two comments refer to the exact language from two different documents and are intended to be understandable using standard dictionary definitions. They are not technical terms that need further definition or clarification.
16	<p>16) Page 3-4, 3.3.3 Affected Environment, NPS calls some units of BTNP "pearls"</p>	The term 'string of pearls' was used by congressional members as a description for

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	connected by waterways. This is an inaccurate reference to the early NPS proposal for a "string of pearls" proposal of about 34,000 acres. The units now that are connected by waterways are much larger and can hardly be considered "pearls" any more. The Sierra Club requests that NPS no longer use this inaccurate "pearl" analogy.	readers to better understand the corridors (string) that connected the larger parcels of land(pearls) together. This term was used openly during the evolution of the Preserve boundary and by no means was it used to describe an exact number of acres
17	17) Page 3-8, Alternative B, Proposed Action, NPS should quantify the impacts of noise estimated to occur from oil/gas activities by creating a map that shows how far into the BU (how many acres) noise travels. NPS should also monitor the noise by measuring decibels at the BU boundary.	Section 3.3.3 Affected Environments, and the accompanying Tables #'s 9,10,11 clearly show data that was gathered from within the preserve and the impacts on humans and wildlife. A map is irrelevant in showing depth of resonance as this variable with season and location.
18	Pages 3-9 through 3-13, and 3.4 Impacts on Natural Lightscapes in and outside the Preserve, NPS should explain why it does not implement a "dark skies initiative" for the BU to reduce light pollution impacts. NPS should also monitor the light pollution from the proposal to gather real data about light pollution impacts on the BU. Distances could be measured from the well pad to the BU and into the BU to determine the impacts of light pollution.	Section 3.4.4 Environmental Consequences Compares both Alternatives and the implications to which Nightscapes will be affected. <u>Conclusions:</u> Includes mitigation measures that will take place during the 45 day drilling period i.e. hooded lights during night operations.
19	19) Pages 3-15 and 3-16, 3.5.4 Environmental Consequences (air quality), NPS states that the area of analysis is the "immediate location of the proposed ... and the surrounding area". The NPS should tell the public what this means. A simple distance measurement is needed so the public understands how far air pollution from oil/gas activities will affect the BU and people. NPS fails to mention that leaks, spills, and releases of methane, CO2, VOC's, and other air pollutants also occur due to oil/gas activities and will impact the BU. In addition, NPS states that the drilling process will take 45 days on page 3-13 but on page 3-16 states it will take 12 days. Using Wyoming data for oil/gas air pollutants that is 7 years old is inadequate since more recent data from TCEQ and HARC is	Section 3.5.4 Environmental Consequences, Area of Analysis. Recognizes immediate location as the area where the proposed well pad, access road, and flowline corridors exist. The surrounding area covers areas in Hardin County located in maintenance are subject to PDS requirements as mentioned in Methods and Assumptions. Section 1.4.2, Table 4. Well Control Problems Well Fires, and Major Spills in RRC district 3 and the surrounding Seven Counties around Big thicket National Preserve during 2012 and 2013 Provides information on leaks and spills and was dismissed from further analysis due to the relatively small chance of occurrence.

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	<p>available for some drilling and production activities. Texas specific information is needed for the BU. Again, NPS could have prepared a quantitative air pollutant emissions inventory for this proposed drilling of 7 wells but chose to use a nebulous qualitative description that does not tell the public anything about the amount of air pollution that will be generated by the drilling and production of seven wells.</p>	<p>Both the Russel and Pollack and Pollack et al. emission studies were the closest examples to the wells that Century will be drilling in terms of depth and equipment used as stated in the Methodology and Assumptions section of 3.5.4 Environmental Consequences No information of this kind from oil and gas fields in southeast Texas was available at the time of research. These publications give an example of the possible amount of pollutants given off by wells comparable to the ones ones located in New Mexico.</p>
20	<p>20) Page 3-16, 3.5.4 Environmental Consequences, NPS uses an out-of-date emissions inventory that is 10-13 years old for point and area sources. An out-to- date emissions inventory is needed for this analysis. On page 3-17, NPS uses the OGMP which is out-of-date for analyses with regard to air pollution because we now know much more about fugitive VOC emissions and C02 and methane emissions from oil/gas activities that we did not know in 2006 (8 years ago). NPS must use the best available science to conduct its air pollution analyses.</p>	<p>Section 3.5.1 Background, Air pollution sources within park boundaries must, by law, comply with all federal, state, and local regulations. Air pollution sources outside park boundaries are subject to varying federal, state, and local regulations depending upon the land ownership and type and size of pollution source. NPS does use the best available science in conducting air pollution analysis. The ever evolving science behind emissions directs federal, state, and local regulations which are monitored closely by state and NPS staff. The OGMP cannot be updated continually with changing science and therefore relies on current legislation for direction.</p>
21	<p>21) Pages 3-20 and 3-21, 3.6.3 Environmental Consequences, NPS fails to state which wildlife species it uses for the methodology and assumptions for the thresholds for impacts on wildlife. NPS does not have the data to state that all wildlife species would be protected. NPS should use a group of surrogate wildlife species, indicator species, to determine the impacts of the proposal. Otherwise NPS is speaking in generalities and is unable to point out how all species will not be affected by the proposed oil/gas activities.</p>	<p>3.6.2 Affected Environments Makes reference to species cited in other literature available to the public. These citations define the wildlife this EA is referencing.</p>
22	<p>22) Page 3-22, 3.6.3 Environmental Consequences, NPS fails to mention poaching will be made easier in the BU and outside the BU with roads and openings</p>	<p>All operations are will take place off federal property and therefor do not create new entrances within the Preserve boundary itself. Poaching is still strictly enforced by</p>

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	from oil/gas activities. In addition, NPS does not discuss any impacts due to air pollution on wildlife.	Park Service Law Enforcement Officials.
23	23) Page 3-23, 3.7.3 Environmental Consequences, NPS fails to quantify the thresholds of the intensity of impacts by calculating how many acres of BU and adjacent landowner lands are affected in the negligible, minor, moderate, and major categories. In addition, using regional scale for major ensures that major will never be reached. The distance between impacts that occur under moderate and major is too great and ensures that significant impacts will never be labeled as such because the intensity of impacts for thresholds are descriptively too great to ever be reached.	Section 3.7 <u>Impacts on Adjacent Landowners, Resources, and Uses</u> This section focuses on the private lands located in the vicinity of the project area and not Preserve property. The project area is located on private timber company land and is already used for commercial use (timber harvesting, public hunting, and off road vehicle recreation). The qualitative measures used in this section are well defined as to explain the current and future use of this land and the minor affects that drilling will have on it.
24	24) Page 3-25, Cumulative Impacts, NPS states "the existing airshed in the project area is already degraded. Therefore, the temporary impact on air quality ... would have a negligible contribution." Apparently, NPS thinks that if there is a degraded air quality area that it is okay to continue and add to that degradation. This is a "death by 100 cuts" and is what cumulative impacts analysis is all about and what it is supposed to prevent. If any area has degraded air quality then we need to stop adding air pollution that makes it even more degraded. It is not okay to make a bad situation worse.	Section 3.5 Impacts on Air Quality in and outside the Preserve, describes in detail the potential impacts to air quality both in and outside the Preserve. Air pollution sources within park boundaries must, by law, comply with all federal, state, and local regulations. Air pollution sources outside park boundaries are subject to varying federal, state, and local regulations depending upon the land ownership and type and size of pollution source.
25	25) Page 3-1 through 3-26, Methodology and other pages throughout the EA, 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 has research data specific to BTNP and acres of forest or habitat effects caused by other impacts, for example, light pollution, could be estimated. All of NPS's impact intensity thresholds are qualitative even many could be quantitative.	In the opinion on summary judgment in <i>Sierra Club v. Mainella</i> , the Court held that the NPS failed to adequately explain its conclusions. The Court did not direct the NPS to remove conclusions from its analysis. The NPS must reach some conclusion regarding the nonfederal oil and gas proposals at issue. Instead, the Court directed the NPS to prepare a new environmental assessment that provides explanations to support its conclusions. The NPS provided explanations for its conclusions in the EA in accordance with the Court's decision. For example, before drawing any conclusions in the Affected

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	<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. United States District Judge John D. Bates stated, in part, in <i>Sierra Club v. Mainella</i> the following:</p> <p>"Because NPS's impairment analysis served as its NEPA analysis, the flaws in the impairment analysis also apply to the environmental assessment. Those shortcomings are, first, NPS's lack of explanation as to how it reached its conclusions, typically simply describing the impacts followed by a conclusion that the impact was not an impairment or, in the case of NEPA, that it was not "significant"; and second, the use of the descriptors "negligible", "minor", "moderate", and "major" that are largely undefined or are defined in a manner that includes few objective bounds ... nowhere explained the basis for its conclusion that potentially "moderate" impacts could not be significant under NEPA ... There is no basis in the administrative record for accepting NPS's conclusion that even a "minor" impact is not significant under NEPA, because there are no determinate criteria offered for distinguishing a "minor" impact from a "moderate" or "major" impact other than NPS's conclusory say-so ... the scoping regulations still require the agency to explain why they {dismissed issues} will not have a significant effect on the human environment ... Thus, the EA must provide a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum ... In short, NPS's three findings of no significant impact are, the court concludes, arbitrary and capricious for many of the same reasons as are the impairment determinations. In each</p>	<p>Environment and Environmental Consequences section of the EA, the 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, the 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 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 Affected Environment and Environmental Consequences 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 Famcor 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 NPS Management Policies are separate questions.</p> <p>The CEQ defines significant environmental impacts using the 10 guidelines listed in this FONSI. In the EA, significant impacts are defined as synonymous with major impacts, which is a typical methodology used in NPS environmental documents. In the FONSI, NPS relies on the major impact threshold definition, generally equating significant impacts with major impacts, and also applies the CEQ criteria. There are no</p>

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	<p>decision, NPS has failed to take a "hard look" at impacts on the Preserve from adjacent surface activities, as evidenced by the lack of explanations supporting its conclusions and, in particular, its methodology of describing impacts using conclusory labels and then setting forth a bare conclusion without explanation as to the significance of an impact. NPS also failed to provide an adequate cumulative impacts analysis that included the other oil and gas operations in the Gore Baygall Unit ... However, NPS's ultimate conclusions that the drilling activities would not result in impairment of park resources and values under the Organic Act, or a significant impact on the human environment under NEPA, are not supported by reasoned explanations, and hence are arbitrary and capricious and an abuse of discretion."</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 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. relatively low, page 1-14 2. would be required to take precautions, 	<p>major (significant) effects resulting from this proposal.</p> <p>The 2006 Management Policies 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. NPS also has made substantial efforts to mitigate impacts and expects that impacts will be mitigated. NPS has identified numerous mitigation measures, but does not have regulatory jurisdiction to make all of them mandatory.</p> <p>To determine whether or not to evaluate impact topics in detail, the NPS applied the criteria listed on page 18 of the EA. These criteria are unambiguous and are written in plain language that the general public can understand, following 40 CFR§1502.8 of the CEQ NEPA regulations. The words and phrases in question are intended to be understandable using standard dictionary definitions. In general, they are not technical terms that need further definition or clarification. To avoid confusion, the word "minor," which is defined specifically under impact topics examined in detail in the Environmental Consequences section</p>

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	<p>page 1-14</p> <p>3. reasonable assumption, page 1-14</p> <p>4. acceptable levels of activity, page 1-14</p> <p>5. would be reasonably anticipated, page 1-15</p> <p>6. would be very limited, page 1-16</p> <p>7. would likely affect only a small number, page 1-16</p> <p>8. would have such a small effect, page 1-16</p> <p>9. could reasonably be expected, page 1-18</p> <p>10. would be rapidly contained and removed, page 1-18</p> <p>11. impacts are short-lived and limited, page 1-18</p> <p>12. would not pose a substantial threat of damage, page 1-19</p> <p>13. is not a reasonable expectation, page 1-19</p> <p>14. rates of occurrence ... are low, page 1-19</p> <p>15. not a reasonable expectation of project implementation, page 1-19</p> <p>16. there is a reasonable expectation, page 1-19</p> <p>17. would be highly speculative, page 1-19</p> <p>18. would not add more than negligible effects, page 1-19</p> <p>19. likelihood of such incidents ... is very low, page 1-19</p> <p>20. would be remote, page 1-21</p>	<p>of the EA, is generally defined on page 18.</p> <p>The words and phrases in question are intended to be understandable using standard dictionary definitions. They are not technical terms that need further definition or clarification. An environmental assessment is to be a "concise public document" that "briefly provide[s] sufficient evidence and analysis." 40 CFR § 1508.9. To provide separate technical definitions for all of the dozens of terms identified in the comment, rather than using plain language, would render an already long document even longer, and would run contrary to these goals.</p>

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	<p>21. would be a low potential, page 1-21</p> <p>22. would implement all of the mitigation measures, page 1-22</p> <p>23. would be ample time and space, page 1-23</p> <p>24. hospital-grade mufflers, pages 2-2 and 3-9</p> <p>25. mitigation measures substantially reduce, page 2-7</p> <p>26. the greatest extent possible, pages 3-2 and 3-3</p> <p>27. inappropriate noise, page 3-3 (noise by definition, is unwanted sound)</p> <p>28. to the fullest extent practicable, page 3-3</p> <p>27. reasonable amount of noise, page 3-4 (noise by definition, is unwanted sound)</p> <p>28. true solitude, page 3.5</p> <p>29. negligible change, page 3-7</p> <p>30. infrequent noise, page 3.7</p> <p>31. Natural sounds would predominate, page 3-7</p> <p>32. could be heard frequently, page 3-7</p> <p>33. could be heard occasionally, page 3-7</p> <p>34. would be simple and successful, pages 3-7, 3-12, 3-16, 3-20, 3023</p> <p>35. noise could occasionally be present, page 3-7</p> <p>36. noise would predominate, page 3.7</p>	

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	<p>37. could still be heard occasionally, page 3.7</p> <p>38. could be extensive, page 3-7</p> <p>39. would likely be successful, page 3-7, 3-17, 3-21</p> <p>40. where noise is inconsistent, page 3-7</p> <p>41. would persistently dominate, page 3-7</p> <p>42. success would not be guaranteed, pages 3-7 and 3-12</p> <p>43. localized near sources, page 3-8</p> <p>44. substantially reduced, page 3-13</p> <p>45. largely similar, page 3-12</p> <p>46. modified over existing conditions, page 3-12</p> <p>47. Changes in lightscape are obvious, page 3-12</p> <p>48. extend perceptibly overhead, page 3-12</p> <p>49. would be extensive and likely successfully, page 3-12</p> <p>50. clearly altered, page 3-12</p> <p>51. conspicuous overhead, page 3-12</p> <p>52. noticeably brighter, page 3-12</p> <p>53. change to local air quality, page 3-16</p> <p>54. would be so slight, page 3-16</p> <p>55. would not be of any measurable or perceptible consequence, page 3-16</p> <p>56. would be substantially less, page 3-16</p>	

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	<p>57. would be small and of little consequence, page 3-16</p> <p>58. would be considerably less, page 3-16</p> <p>59. would be readily detectable, page 3-16</p> <p>60. could approach, page 3-16</p> <p>61. could affect the attainment status, page 3-17</p> <p>62. could be inconsistent with, page 3-17</p> <p>63. could be required, page 3-17</p> <p>64. would be severe, page 3-17</p> <p>65. success would not be guaranteed, page 3-17, 3-21, 3-23</p> <p>66. in the vicinity of the activities, page 3-17</p> <p>67. a few individuals, page 3-20</p> <p>68. very localized impacts, page 3-20</p> <p>69. barely perceptible consequences, page 3-20</p> <p>70. Sufficient habitat, page 3-20</p> <p>71. Maintain viability of all species page 3-20</p> <p>72. sensitive species, page 3-20</p> <p>73. would cause measurable effects, page 3-20</p> <p>74. relatively small percentage, page 3-20</p> <p>75. relatively large habitat area, page 3-20</p> <p>76. important habitat attributes, page 3-20</p>	

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	77. remain indefinitely viable, page 3-20	
	78. could be expected, page 3-20	
	79. Some impacts, page 3-20	
	80. could be extensive, page 3-21	
	81. would have drastic and permanent consequences, page 3-21	
	82. almost all available unique habitats, page 3-21	
	83. would be permanently altered from normal levels, page 3-21	
	84. Frequent responses to disturbance by some individuals, page 3-21	
	85. improve some habitat, page 3-21	
	86. small linear corridor, page 3-22	
	87. intermittent disturbance, page 3-22	
	88. relatively low quality wildlife habitat, page 3-22	
	89. best professional judgment, page 3-23	
	90. change would be so slight, page 3-23	
	91. would not be of any measurable or perceptible consequence, page 3-23	
	92. would cause limited localized change, page 3-23	
	93. would be consequential, page 3-23	
	94. would be relatively local, page 3-23	
	95. would likely succeed, page 3-23	
	96. would cause substantial alteration, page	

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	<p>3-23</p> <p>97. on a regional scale, page 3-23</p> <p>98. Habitat outside the Preserve is marginal, page 3-23</p> <p>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 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? How is this sustainable? The NPS has never explained this dichotomy. The EA/EIS 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>	
26	26) In this entire EA, NPS has failed to assess the indirect, cumulative, and connected impact that produced water, drill cuttings, and any other wastes generated by	Please Refer to Response #1

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	the drilling and where they will be discharged for cleaning. Just saying these wastes will be disposed of offsite is not sufficient information.	
27	<p>27) In this entire, EA, NPS has failed to address 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>	<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, and NPS is bound to follow its own regulations. Nonetheless, in the EA, the 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 fact that NPS discloses and discusses these broader issues as part of the NEPA process does not alter the limited scope of the decision to be made under the regulations.</p>
28	<p>28) For an EA, dictionary usage of words or phrases will not suffice to provide the public with a clear picture of what the intensity, significance, and context of environmental impacts are from the Century 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</p>	<p>These words and phrases are unambiguous and are written in plain language that the general public can understand, following 40 CFR § 1502.8 of the CEQ NEPA regulations. The words and phrases in question are intended to be understandable using standard dictionary definitions. They are not technical terms that need further definition or clarification.</p> <p>An environmental assessment is to be a "concise public document" that "briefly provide[s] sufficient evidence and analysis." 40 CFR § 1508.9. To provide separate technical definitions for all of the dozens of terms identified in the comment, rather than using plain language, would render an already long document even longer, and would run contrary to these goals.</p>

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	<p>public officials and citizens ... The information must be of high quality. Accurate scientific analysis ... is 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 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>	

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	<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 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</p>	

#	REPRESENTATIVE QUOTE	RESPONSE
	<p>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>	
29	<p>29) The Sierra Club requests that work on the EA for the Century wells cease; that no further oil/gas activities are allowed in BTNP until an adequate OGMP/EIS is prepared, cumulative impacts are comprehensively assessed, and full public review and input is provided before the OGMP/EIS is approved since the current OGMP/FEIS is not acceptable because it does not assess all cumulative impacts; that an EIS be prepared for the Century wells; and that the EIS have a complete qualitative and quantitative cumulative effects analysis, assessment, and evaluation based on the CEQ document, "Considering Cumulative Effects Under the National Environmental Policy Act". The NPS must take the "hard look" that NEPA requires.</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 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 Affected Environment and Environmental Consequences chapter. If the intensity of an impact could be described quantitatively, the numerical data was presented; otherwise the impacts were described qualitatively.</p>