

Dec 13, 2001

Memorandum

To: Superintendent, Padre Island National Seashore
Attn: Arlene Wimer

From: James C. Woods
Chief, Mineral Operations Branch
Geologic Resources Division

Subject: BNP Petroleum Corporation Plan of Operations to Drill the Lemon/Lemon Seed No. 1000S and 1008S Wells, Padre Island National Seashore.

The Geologic Resources Division submits the following comments on the BNP Petroleum Corporation (BNP) plan of operations to drill the Lemon/Lemon Seed No. 1000S and 1008S wells at Padre Island National Seashore.

BNP has developed environmentally sound drilling and production programs for the Lemon/Lemon Seed wells. The steps that BNP proposes to carry out the project fall within the standards set forth in the Padre Island Oil and Gas Management Plan and the NPS nonfederal oil and gas regulations (36 CFR, Part 9B).

The Division finds that the proposed plan of operation meets the informational requirements of the 36 CFR Part 9B regulations. We recommend the Superintendent accept the plan for formal processing. The few comments below can be incorporated into the NPS decision letter as conditions of approval or used in the project's environmental analysis. One item related to the setting depth of the surface casing for the No. 1008S will require a response from BNP should they decide to drill a water supply well.

Finally, Pat O'Dell, the Division's petroleum engineer, is available at the park's request to provide onsite assistance in monitoring drilling operations.

Water Supply Well and Surface Casing Setting Depth of Well 1008S

BNP is considering drilling a water well to supply water for drilling operations. The Division supports the use of a water supply well because it minimizes the number of water tanker truck trips up and down the beach. However, the Division is concerned about the setting depth of the surface casing for Well 1008S just 50 feet deeper than the base of the proposed water supply zone. The general rule is to not drill a water well deeper than the surface casing if there is a reasonable chance of encountering abnormal pressures while drilling. The primary target for the well is a potentially overpressured gas zone. The concern is related to well control and possible communication to the water supply well. While BNP meets the general rule, the depth of the water supply zone and the casing shoe are close enough to be of concern.

The surface casing setting depth for Well 1000S is 2230 feet. The deeper setting depth is to accommodate permit requirements for annular injection of drilling fluids, but at the same time minimizes the concern of communication to the water well if high pressure gas enters the wellbore during drilling (i.e., well kick).

If BNP intends to drill a water supply well, the Division requests that it provide a written explanation to the following question.

Is communication to the water supply well a well control concern given the maximum anticipated pressures that the surface casing shoe of Well 1008S could be exposed to during a gas kick?

Also related to the setting depth of the surface casing is the depth to which usable quality water must be

protected. The TNRCC "Depth of Usable Quality Ground Water to Be Protected" forms in Appendix C have not been completed by the TNRCC. BNP states elsewhere in the plan that usable quality ground water must be protected to a depth of 1700 feet, but BNP should provide the completed forms.

Source of Water and Annular Injection

Two issues remain open-ended in BNP's plan. First, BNP is evaluating the feasibility of drilling a water well to support drilling operations. Secondly, BNP has discussed the possibility of disposing of waste drilling mud via annular injection and has applied to the State of Texas for the required permit. Both are strategies aimed at lowering the cost of hauling water to and drilling waste from the site. Coincidentally, these courses of action would reduce impacts to the park resources and visitor experience. However, until an operator demonstrates the feasibility of drilling water supply wells and using annular injection to dispose of drilling fluids, the environmental assessment should continue to evaluate the impacts of hauling water and drilling fluids up and down the beach. The analysis could then state the anticipated reduction in tanker trips (and thus impacts) should either the water well or annular injection prove to be feasible.

Fill from Sources outside Padre Island National Seashore

The plan states or infers in several sections that soils from outside of Padre Island National Seashore may be used to contour during reclamation or replace any contaminated soil that may be removed. The plan appropriately states that soils would be "clean" and "free from contaminants" and similar to native soils, but does not address the potential for introducing non-native species. To avoid introduction of exotics species, the Division recommends the following condition of approval:

"Sources of fill material from outside of Padre Island National Seashore must be approved by the Superintendent. All imported fill material shall be free of contaminants and shall not provide for the introduction of exotic plant species to the park."

Dry Hole Well Plugging

The plan appropriately states that plugging will meet both federal and state standards. BNP provides the necessary detail for the Division to ascertain that the plugging program in the event of a dry hole does indeed meet NPS standards, with the one exception discussed below. Thus, if the well is found to be noncommercial, BNP may proceed directly to plugging operations as set forth in the plan without further NPS approval. Should actual well conditions necessitate wide variation from the plugging plan, BNP would need to obtain concurrence from both the state and the NPS. Pat O'Dell, the Division's petroleum engineer, will monitor drilling progress and will be available to respond to substantial deviations from the plan's plugging program. Work, home, and cell phone numbers will be provided to Arlene Wimer. At the park's request, Mr. O'Dell would be available to provide onsite assistance.

The plug set to isolate the surface casing shoe in Well 1008S is the only plug between the base of the usable quality water zones and deeper zones containing gas or fluids having the potential to migrate. Therefore, the NPS standard would be to test that plug to ensure its integrity. The plug will need to be tested by either tagging with the working pipe string, or pressuring to a minimum surface pressure of 1,000 pounds per square inch. A successful pressure test will be recorded on a chart (or equivalent) and have no more than a 10 per cent drop during a 15-minute period. The following condition of approval would notify BNP of the requirement:

"Should Lemon/Lemon Seed Unit No. 1008S be plugged and abandoned as a dry hole, BNP shall test the plug set to isolate the surface casing shoe to ensure its integrity. The plug will need to be tested by either tagging with the working pipe string, or pressuring to a minimum surface pressure of 1,000 pounds per square inch. A successful pressure test will be recorded on a chart (or equivalent) and have no more than a 10 per cent drop during a 15-minute period."

Spill Reporting

In Section VI., Contaminating or Toxic Substance Spill Control Plan, BNP appropriately includes Padre Island Nation Seashore in the agency spill notification list. The plan does not provide detail as to the content of a verbal notification. Also, the Division recommends that a written report follow spills of contaminating substances in excess of 5 barrels.

To clarify reporting requirements, the Division recommends the following condition of approval be included in the Regional Director's decision letter:

"For all releases to the ground of contaminating or toxic substances, BNP will promptly report the following initial information to Padre Island NS: the time the spill was discovered; the type of product released; the location; estimated spill volume; cause of spill; area covered; estimated rate of release if spill is ongoing; direction of spill movement; description of contaminated area; proximity to surface waters, roads, or trails; weather conditions; what steps are being taken to remedy the situation; and initial response equipment required. For releases in excess of five barrels in the aggregate, BNP will provide a written report to Padre Island NS within 10 working days of the incident. In addition to the information reported in the initial notification, the written report will include steps that will be or have been taken to prevent recurrence of the incident."

Performance Bond Amount

The well plugging and surface reclamation costs listed in Section I. of the Reclamation Plan total more than \$200,000. Therefor, the Division recommends setting the performance bond at \$200,000 – the maximum allowed for any one operator in a given park under 36 CFR §9.48(d)(3). If BNP still maintains a bond specific to the Dunn-Murdock Well No. 1 plan of operations, its language should be modified to include the Lemon/Lemon Seed operations.

Section X. Background Environmental Information

In part D of Section X, BNP provides a very useful summarization of the actions it will take to minimize the project's effects on Padre Island National Seashore's resources. It would be helpful to include in that list the actions that BNP will take in the event of a hurricane. Appendix C includes the Hurricane Preparedness and Evacuation Plan that could be used to write this item. The measure could read something like:

"In accordance with the approved Hurricane Preparedness and Evacuation Plan, BNP will secure the well site in the event of a hurricane. If a hurricane or tropical storm is within 540 miles or 36 hours of the operation site and the operation site is predicted to be in the severe weather area, BNP will fill the hole with drilling mud; set drill pipe slips safety clamps and safety valves 50' above the deepest casing string; lay down and secure drillpipe; close and lock pipe rams and annular BOP; secure loose tools, equipment and electrical connections; lower drilling derrick; close all valves in mud system; and place generators, SCR on oilfield truck floats and chain down. If the well is producing hydrocarbons, BNP will close the storm valve in the well or install backpressure valve in the tree, shut in all valves on tree, replace all hydrocarbons in storage tanks with water, and remove or secure all loose equipment and supplies."

Thank you for the opportunity to comment on this document. If you have any questions or if we can be of further assistance, please contact Pat O'Dell of my staff at (303) 969-2013.

CC: IMR: Skip Ladd, Assistant Regional Director, Natural Resources and Science
SWSO: Linda Dansby, Minerals Program Lead