MEMORANDUM

To: BLM-28 Well File

Originator: Geoff Giles

Date: October 13, 2000

Subject: **BLM-28 INCIDENT REPORT - October 6 through 11, 2000**

- On the afternoon of Friday 10/06/00 Tony Torrez of the Lynx, Ltd. Environmental Dept. staff reported a problem with well BLM-28 in the field. Attempts to run a pressure profile had to be abandoned due to an obstruction in the well at a depth of approximately 12 feet below ground surface (bgs).

- A camera log was performed immediately following the attempted pressure profile and revealed that the Westbay® MP38 casing had separated at a depth of 12 feet bgs. The separation between the two casing lengths was between four to six inches. The rupture was at a regular coupling at the upper shear wire. The coupling was still attached to the top of the lower casing section and was intact, but cracked. The upper portion of the MP38 casing was also cracked with a small piece of PVC missing which presumably fell down the outside of the casing. The Westbay® casing below the break in the borehole had slumped to the outside of the borehole casing. The casing, now supported by the borehole wall, was inferred to spiral to the depth of the uppermost packer at 410 feet below ground surface. The four to six inches of separation between the casing at the rupture appeared to have been caused by the release of tension and relaxation of the casing components. BLM-28 was installed prior to the use of centralizing packers in the upper part of the borehole.

- On Tuesday 10/10/00, Marc Dunford and Frank Gallegos of the Lynx, Ltd. Environmental Department staff initiated procedures to repair the well by removing the upper 12 feet of Westbay® casing above the location of the rupture. While pulling the upper casing from the well, which was secured within five-inch surface casing by a well seal, the coupling between the two lengths of Westbay® casing comprising the upper 12 feet ruptured (between the 10 and two footers). This indicated a significant amount of weakness in the upper couplings. Marc and Frank were able to remove both casing pieces from the well.

- Later the same morning, Geoff Giles of the Lynx, Ltd. Environmental Department staff called David Mercer at Westbay® Instruments, Inc. David Mercer suggested that there may have been too much tension (>200 lbs. of weight) on the top part of the well (between the surface clamp and the uppermost packer at 410 feet), which could have been the primary cause for the break. The couplings near the surface were subject to greater extremes of temperature variation which may have weakened the casing. It has been a standard WSTF Westbay® installation procedure to unclamp the Westbay® casing after packer inflation activities and reclamp it after tension

release. Marc Dunford, who was employed by Larjon Drilling and present at the time BLM-28 was installed in May 1994, confirmed that the tension was always released on Westbay® wells following packer inflation.

- David Mercer agreed that we should thread 12 feet of new Westbay® casing into the ruptured coupling and evaluate the well through a pressure profile. He recommended we not try to wash any of the rust off the broken area (derived from the surrounding surface casing) as it may fall down the inside of the well. Once the upper Westbay® casing was attached, the well could be used for pressure profile and sampling activities.

- On the afternoon of Tuesday 10/10/00, Marc Dunford reported that 12 feet of new Westbay® casing had been inserted into the broken coupling. The shear wire which sat in the top of the broken coupling had apparently fallen out, presumably on the outside of the casing, at the time of the break. This allowed the new casing to be set relatively easily into the top coupling. Although the attached casing is relatively secure, no shear wire could be inserted to form a permanent connection. As a result , minimum disturbance should be imparted on the coupling at 12 feet bgs whenever possible.

- On the morning of Wednesday 10/11/00 0730 hrs, a pressure profile was performed on the BLM-28 well. Marc Dunford reported that no anomalies relative to previous pressure profiles were present. At this time, the well is assumed to be completely operational for the purposes of future pressure profiling and sampling.

Cc: Ray Spencer
Troy Wiebe