United States Department of the Interior

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
WASHINGTON, DC 20240-0001

DATE: December 21, 2014

TO: Director Salerno

FROM: Douglas Morris, Chief, Office of Offshore Regulatory Programs

SUBJECT: Report on Liner Seals and Liner Cementing

Attached is the Interim Report on Seal Assembly & Cement Failures that was recently completed by the Quality Control-Failure Incident Team (QC-FIT) within OORP. The objective of this technical assessment was to review the performance of key equipment involved in the Main Pass 295 underground blowout and determine if there were industry-wide issues that needed further evaluation.

During the development of this report, the QC-FIT obtained significant input from equipment manufacturers, service companies, consultants, and operators. This information was supplemented by an analysis of existing technical standards and industry specifications by BSEE staff. Based on an evaluation of this data, the QC-FIT made the following observations related to liner seal assemblies and cementing:

- Although liner seals appear to be functioning as primary barriers, there is a lack of industry guidance related to the design, fabrication, and testing of this equipment.
- Existing pressure testing practices may not be adequate to independently evaluate the integrity of the liner seal and the cement column.
- The potential design and operational risks involved in using this type of equipment and well design might not be fully understood.

To address the findings above, it is recommended that the following steps be taken:

- The report should be circulated to industry trade associations and standards organizations for additional discussion and action. The industry is currently revising several relevant standards and this report could help to expedite this process.
- BSEE should request that OESI explore the feasibility of a joint research project with industry to perform a comprehensive risk assessment of well designs that utilize shallow liners to ensure that good engineering practices are being used.
- BSEE should review current regulations to determine if additional requirements are needed to verify the integrity of pressure barriers and to ensure that downhole equipment is rated for reasonably anticipated service conditions.

These observations and recommendations are consistent with BSEE's goal of increasing the performance of critical safety barriers through (1) better controls over the design,

fabrication, testing maintenance, and repair of the equipment, (2) increased sharing of data on equipment reliability, and (3) more BSEE engagement with standards developing organizations.

With your concurrence, we will move forward with these action items.