

Fansteel Inc.

number ten tantalum place muskogee, oklahoma 74403-9297
(918) 687-6303 Fax: (918) 687-6112

December 7, 1999
Project No. 3789A-01

Administrator, Nuclear Regulatory
Commission Region IV
Harris Tower
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064
Attn: Lou Carson

and

Oklahoma Department of
Environmental Quality
Water Quality Department
P.O. Box 1677
Oklahoma City, OK 73101-1677

Groundwater Monitoring
Reporting Requirement per
Nuclear Regulatory Commission
License No. SMB-911

Dear Sirs:

The purpose of this letter is to provide information concerning groundwater monitoring at the Fansteel, Inc. (Fansteel) facility located in Muskogee, Oklahoma. During scheduled sampling of groundwater from monitoring wells and sumps along the interceptor trench, elevated levels of uranium (U)-234 and U-238 were found in Sump 2.

Recently, samples from the monitoring wells and sumps were analyzed for gross alpha and gross beta activity. Fansteel's license requires the following actions, depending on the results of groundwater monitoring analyses:

- If action levels of 15 and 50 picocuries per liter (pCi/l) for gross alpha and gross beta, respectively, are exceeded, the sample then will be analyzed for specific U isotopes (U-234 and U-238) and specific thorium (Th) isotopes (Th-228 and Th-232).
- If the value in 10 Code of Federal Regulations (CFR) 20, Appendix B, Table II is exceeded by more than ten times, Fansteel will submit a report to the Administrator, Nuclear Regulatory Commission (NRC) Region IV and the Oklahoma Department of Environmental Quality (OKDEQ).

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Administrator, NRC Region IV and
OKDEQ, Water Quality Department

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Sump 2 samples were found to be above 15 and 50 pCi/l, respectively, requiring additional samples to be sent for isotopic analysis of U and Th. Isotopic analyses revealed that U-234 and U-238 in Sump 2 samples exceeded ten times the 10 CFR 20 limit. Consequently, samples were reanalyzed and elevated values were confirmed. Analytical results for Sump 2 are enclosed.

Because the trench is designed to intercept groundwater, no radiological material has been released off site. Water collected in the trench is pumped from the sumps to the on-site waste treatment facility. No other sumps or monitoring wells exceeded reportable limits based on the National Pollutant Discharge Elimination System permit or NRC license requirements.

Sincerely,



John J. Hunter
Site General Manager

JJH:cak

Attachment

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**Sump 2
Analytical Results**

**Sump 2
Groundwater Testing**

Parameter	Date of Sample*	Date Sample Sent	Date of Report	Results (pCi/l)
Gross Alpha	5/20/99	5/20/99	9/22/99 (Prelim. Data 7/23)	763 ± 27
Gross Beta	5/20/99	5/20/99	9/22/99 (Prelim. Data 7/23)	3,550 ± 45
Th-228	5/20/99 - Split	8/4/99	10/29/99	0.781 ± 0.412
Th-232	5/20/99 - Split	8/4/99	10/29/99	0.0 ± 0.423
U-234	5/20/99 - Split	8/4/99	10/29/99	3,930 ± 123
U-238	5/20/99 - Split	8/4/99	10/29/99	5,580 ± 146
Confirm U-234 Requested 11/4	5/20/99 - Split	8/4/99	11/24/99	5,053 ± 173
Confirm U-238 Requested 11/4	5/20/99 - Split	8/4/99	11/24/99	5,460 ± 180

Note: Asterisk denotes split samples taken on May 20, 1999. One split sample was sent to laboratory for gross alpha and beta. The other sample was held at Fansteel until needed for confirmation testing.