



STEVEN A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY  
Governor

February 23, 2005

Rita K. Ware  
RCRA Technical Section  
U.S. Environmental Protection Agency  
1445 Ross Avenue (6EN-HX)  
Dallas, TX 75202-2733

RE: 2004 Annual Groundwater Report  
Sequoyah Fuels Corporation  
Gore, Oklahoma

Dear Ms. Ware:

The Oklahoma Department of Environmental Quality (Department) completed a review of the 2004 Groundwater Report received on February 1, 2005.

The report was generated in compliance with the requirement imposed by SFC's Source Materials License (SUB-1010) issued by the Nuclear Regulatory Commission (NRC). Groundwater monitoring has been ongoing at SFC for over twenty years. This groundwater report represents monitoring conducted under an original groundwater monitoring program which will apply until a new Groundwater Monitoring Plan, required by Condition 49 of NRC Source Material License SUB-1010, is approved.

The primary RCRA-regulated constituent of concern present in the groundwater beneath the facility is arsenic. The major non-RCRA constituents of concern routinely monitored at the facility are uranium, radium-226, nitrate, and fluoride. The NRC is addressing these constituents under Source Material License SUB-1010.

Sampling results indicate total arsenic continues to be detected above the maximum contaminant level (MCL) of 0.05 mg/L in both the Terrace Groundwater System and the Shallow Bedrock Groundwater System. Arsenic was not detected in the Deep Bedrock Groundwater System.

Arsenic concentrations detected in the Terrace Groundwater System ranged from less than 0.005mg/L to 1.79 mg/L. Arsenic impacts to the Terrace Groundwater are present south of the Main Process Building (MPB), north of the Clarifier Basins, south of the Fluoride Settling Basins, and north of the Emergency Basin.



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The total arsenic detected in the Shallow Bedrock Groundwater ranged from less than 0.005mg/L to 3.58mg/L. Arsenic impacts to the Shallow Bedrock Groundwater continue south of the MPB, southwest, west and north of Pond 2, and in the Fluoride Holding Basin No. 1 area.

Uranium continues to be detected above its MCL of 30µg/L in the Terrace Groundwater System and the Shallow Bedrock Groundwater System. It was detected above MCL in one sample from monitoring well MW072B in the Deep Bedrock Groundwater at 203µg/L; however, the Department concurs that this reading is probably not representative of the true water quality at MW072B because the sampling equipment had not been properly decontaminated before sampling this well, and because additional purging subsequently reduced the uranium concentration to background level.

Total uranium in the Terrace Groundwater was detected at levels ranging from less than 0.1µg/L to 52,100µg/L (at monitoring well MW025 north of the SX Building.) Uranium impacts in the Terrace Groundwater continue to be monitored in the southwest, west and northwest of the MPB, north and west of the SX Building, north and west of the Emergency Basin, in the Clarifier Basins area, and in the Solid Waste Burial Areas.

In the Shallow Bedrock Groundwater System uranium was detected at levels ranging from less than 1.0µg/L to 3,760µg/L. Uranium continues to impact the northwest corner of the MPB, the area north of the SX Building, the area south of Pond 2, the Clarifiers Basins area, and the area north of Fluoride Holding Basin No. 2.

Nitrate continues to be detected at concentrations above its MCL of 10mg/L in the Terrace Groundwater System and the Shallow Bedrock Groundwater System. However, it was not detected above MCL in the Deep Bedrock Groundwater System in 2004. Nitrate impacts to the Terrace Groundwater are mostly found around the MPB, Clarifier Basins, west and north of the Emergency Basin, and in the Pond 2 area. In the Shallow Bedrock Groundwater, impacts by nitrate continue to occur adjacent to and west of Pond 2, west of the Pond 1 Spoils Pile, in the SX Building area, west of the MPB, in the North Ditch and Emergency Basin area, and in the Fertilizer Pond area.

Fluoride continues to be detected above the 4.0 mg/L MCL in the Terrace Groundwater System and the Shallow Bedrock Groundwater System. Fluoride has not been detected above MCL in the Deep Bedrock Groundwater System. The only occurrence of fluoride

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above MCL in the Terrace Groundwater was in monitoring well MW014 located north of the MPB. The concentration was measured at 6.5mg/L.

The fluoride detected in the Shallow Bedrock Groundwater ranged from less than 0.2mg/L to 8.0 mg/L. The high of 8.0mg/L occurred in well MW064A located east of Fluoride Sludge Holding Basin No. 1. Shallow Bedrock Groundwater wells in which fluoride was detected above MCL were MW057A, MW061A, and MW064A. The fluoride impacts to the Shallow Bedrock Groundwater are southwest of Pond 2 and east of Fluoride Sludge Holding Basin No. 1.

In general, concentrations detected during 2004 continue to follow a trend of unanticipated spikes or drops in concentrations similar to those encountered to varying degrees in the past. These fluctuations could be a result of seasonal availability of groundwater at the time of sampling.

The Department has no objections if EPA approves the report.

If you have questions regarding this matter, please contact Mr. Robert Replogle at 405.702.5131 or [robert.replogle@deq.state.ok.us](mailto:robert.replogle@deq.state.ok.us).

Sincerely,



Saba Tahmassebi, Ph.D., P.E.  
Chief Engineer  
Land Protection Division

xc: Mr. Myron Fliegel, NRC, Rockville, MD