NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description
6216	Danko	University of	QARC	Nye	Modeling	Final Progress Report for April 1, 2003 to March 31, 2004 (Ventilation Modeling) with two papers accepted for the ASME Summer Conference and Presentation for NWTRB January 2004

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Doc. Date 5/5/2004 **General Doc. Type** Report **Keyword2** ventilation

Entry Date 5/19/2004 **Detailed Doc. Type** Report **Keyword3** MULTIFLUX

Data Originator Preparer George Danko

Title of Data Nye County Ventilation Modeling; April 1, 2003 - March 31, 2004

Description of Data The subject letter report serves as the annual report of ventilation modeling activities directed by George Danko for period of April 1, 2003 through March 31, 2004. This record consists of a hard copy of the letter report and attachments. The letter report briefly describes major ventilation modeling activities and results for the reporting period. The attachment includes the following two technical papers accepted for presentation at the July 2004 American Society of Mechanical Engineers (ASME) professional society meeting: 1. Danko, G. and D. Bahrami. 2004. Heat and Moisture Flow Simulations with MULTIFLUX (HT-FED2004-56048). Proceedings of ASME, Heat Transfer/Fluid Engineering. July 11-15, 2004. Charlotte, North Carolina. 2. Danko, G. 2004. Numerical Transport Code Functionalization Procedure and Software Functions.(HT-FED2004-56049). Proceedings of ASME, Heat Transfer/Fluid Engineering. July 11-15, 2004. Charlotte, North Carolina. The attachment also includes copies of the following two technical presentations made in winter 2004: 1. Danko, G. and D. Bahrami. 2004. Coupled, Multi-Scale Thermohydrologic Ventilation Modeling with MULTIFLUX. SME Annual Meeting, February 24, 2004. Denver, CO. 2. Danko, G. D. Bahrami, J. Walton. January 2004. Status of Nye County Ventilation Studies. Nuclear Waste Technical Review Board, Winter Meeting. Las Vegas, NV.

Data Collection Method MULTIFLUX, a fully coupled, hydrothermal ventilation model and software code has been developed and used to model the flow of heat, moisture, and air in a conceptual design of a high-level underground nuclear waste repository at Yucca Mountain, NV.

Data Location(s) MULTIFLUX was configured to simulate ventilation in the Department of Energy's conceptual repository design, according to the BSC (Bechtel SAIC Company), 2002, "Ventilation Model Report," (ANL-EBS-MD-000030 REV 01D). The output data from MULTIFLUX simulation was collected at University of Nevada, Reno.

Data Collection Period(s) April 1, 2003 - March 31, 2004

Data Source(s) MULTIFLUX source is input data from the previous BSC/DOE input data files included in the BSC (Bechtel SAIC Company), 2002, "Ventilation Model Report," (ANL-EBS-MD-000030 REV 01D), Las Vegas, Nevada. RID 6033 titled "Coupled Hydrothermal-Ventilation Studies for Yucca Mountain, Annual Report for April 2002 - March 2003. NWRPO-2003-05".

Data Censoring N/A

Data Processing A procedure (Numerical Transport Code Functionalization) is used in MULTIFLUX to develop a model for the representation of the computational results of the porous media numerical transport code (NUFT). Typically, 4 to 6 NUFT runs are used for a MULTIFLUX model calculation with three complete iterations. The NUFT results are post-processed using the NTCF modeling technique used in MULTIFLUX.

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Data Limitations	The data produced by MULTIFLUX are subject to the limitations of the input parameters such as engineered backfill properties of the access tunnels and shafts. Data limitations must follow the assumptions stated in the report regarding the natural fracture permeability values for Yucca Mountain
Governing QA Docs.	QAP-3.2 Rev. 1
Frequency of Transmittal	Annually
Direct Questions About Data To-	Nye County QA Records Center