

**VERIFICATION SURVEY
OF PARTIAL GRID E9 AT THE
DAVID WITHERSPOON, INC. 1630 SITE
KNOXVILLE, TENNESSEE**

Prepared by

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INTERIM LETTER REPORT

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INTRODUCTION

The David Witherspoon, Inc. 1630 Site (DWI 1630) received, processed, stored, and shipped scrap metal, including metal contaminated with radiological and chemical contaminants. Past site characterization activities identified numerous radiological and chemical contaminants, including uranium, thorium, heavy metals, polychlorinated biphenyls (PCBs), asbestos, and organic compounds. The contaminants have been noted in various media on the site, including debris, soil, sediment, groundwater, and surface water. There were no buildings located in the subject areas during site operations. The U.S. Department of Energy's (DOE) decommissioning contractor, Bechtel Jacobs Company (BJC), LLC., has performed characterization surveys, subsequent remediation, and verification surveys and sampling within the subject area (BJC 2006 and ORISE 2007).

DOE requested that the Oak Ridge Institute for Science and Education (ORISE) conduct verification surveys of available grids at the DWI 1630 in Knoxville, Tennessee. On May 29, 2008, a representative with the Independent Environmental Assessment and Verification (IEAV) team from ORISE conducted a verification survey of a partial area within Grid E9 (Figure 1).

PROCEDURES

Verification activities were performed in accordance with a Project-Specific Plan (PSP) submitted to and approved by DOE, and the ORISE Survey Procedures and the Oak Ridge Associated Universities (ORAU) Quality Program Manuals (ORISE 2007 and 2008 and ORAU 2007). The survey area boundary was obtained from the verification survey package provided by the contractor (BJC 2008). Information about the survey area was used by ORISE in ArcGIS to develop a map for the global positioning system (GPS). The GPS was used to collect gamma count rate information during walkover surface scans so that each data point can be referenced to a map position. The survey area in Grid E9 was primarily in the northwest corner; however, the survey boundary also included small portions of Grids E8, F8, and F9 (Figure 1). ORISE performed surface gamma scans of approximately 75% or more of accessible surfaces in the subject grids (Figure 1). Ponding of water in the scan area, from a previous rain event, affected access during the survey scans. Scans were performed using sodium iodide (NaI) scintillation detectors coupled to ratemeters with audible output. ORISE also reviewed the contractor survey data for Grid E9 as part of the independent verification process. This review provided indication as to the density of scanning necessary to adequately evaluate the grid.

FINDINGS AND RESULTS

No areas exhibiting elevated direct gamma radiation levels were detected during the walkover scan of the subject grid. The ambient background radiation level was determined on-site near the boundary control station. The average ambient background was approximately 5,000 counts per minute (cpm). The distribution of counts obtained during the walkover scans ranged from 5,000 to 7,000 cpm (Figure 2).

CONCLUSIONS

ORISE personnel conducted a gamma walkover scan May 29, 2008 of the E9 grid located at the 1630 Witherspoon Site in Knoxville, Tennessee. The gamma scan of the survey boundary area did not identify any gamma radiation levels indicative of residual contamination. This information combined with the BJC verification survey scan results (2688 to 5999 cpm) and soil sample results (non-detectable for U-238), provides sufficient evidence that Grid E9 satisfies the appropriate guidance site specific guidelines.

REFERENCES

Bechtel Jacobs Company, LLC. (BJC). Sampling and Analysis Plan for Final Verification of the David Witherspoon, Inc. 1630 Site. Oak Ridge, Tennessee; December 2006.

Bechtel Jacobs Company, LLC. Independent Verification Survey at the David Witherspoon, Inc. 1630 Site DW11630-08-10 Job number 23900. Oak Ridge, Tennessee; May 2, 2008.

Oak Ridge Associated Universities (ORAU). Quality Program Manual for the Independent Environmental Assessment and Verification Program. Oak Ridge, Tennessee; November 1, 2007.

Oak Ridge Institute for Science and Education (ORISE). Final Project-Specific Plan for Conducting In-Process Reviews and Independent Verification Surveys of Remedial Action Activities at the David Witherspoon, Inc. 1630 Site, Knoxville, Tennessee. Oak Ridge, Tennessee; May 17, 2007.

Oak Ridge Institute for Science and Education. Survey Procedures Manual for the Independent Environmental Assessment and Verification Program. Oak Ridge, Tennessee; May 1, 2008.

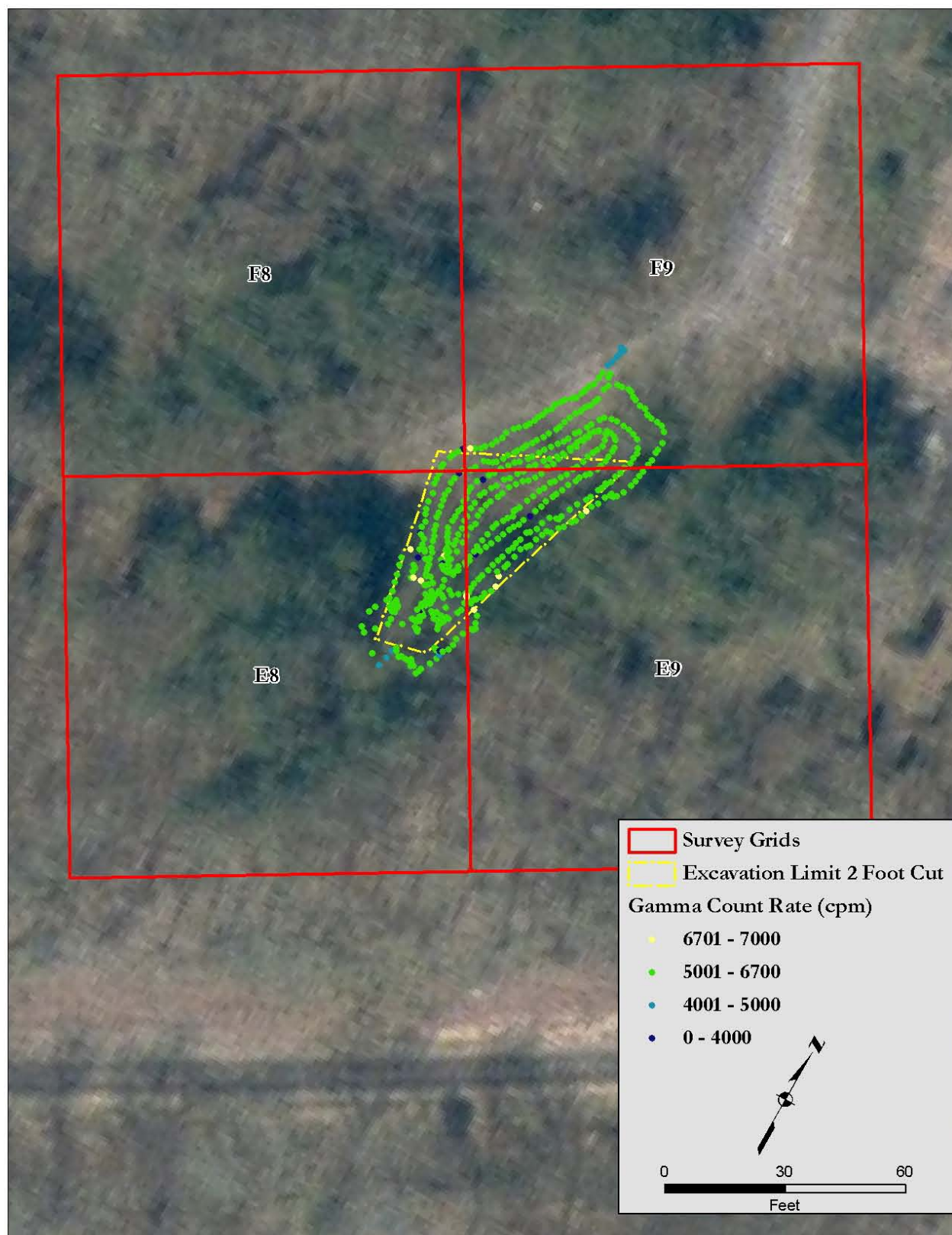


FIGURE 1: 1630 WITHERSPOON SITE - GRID E9

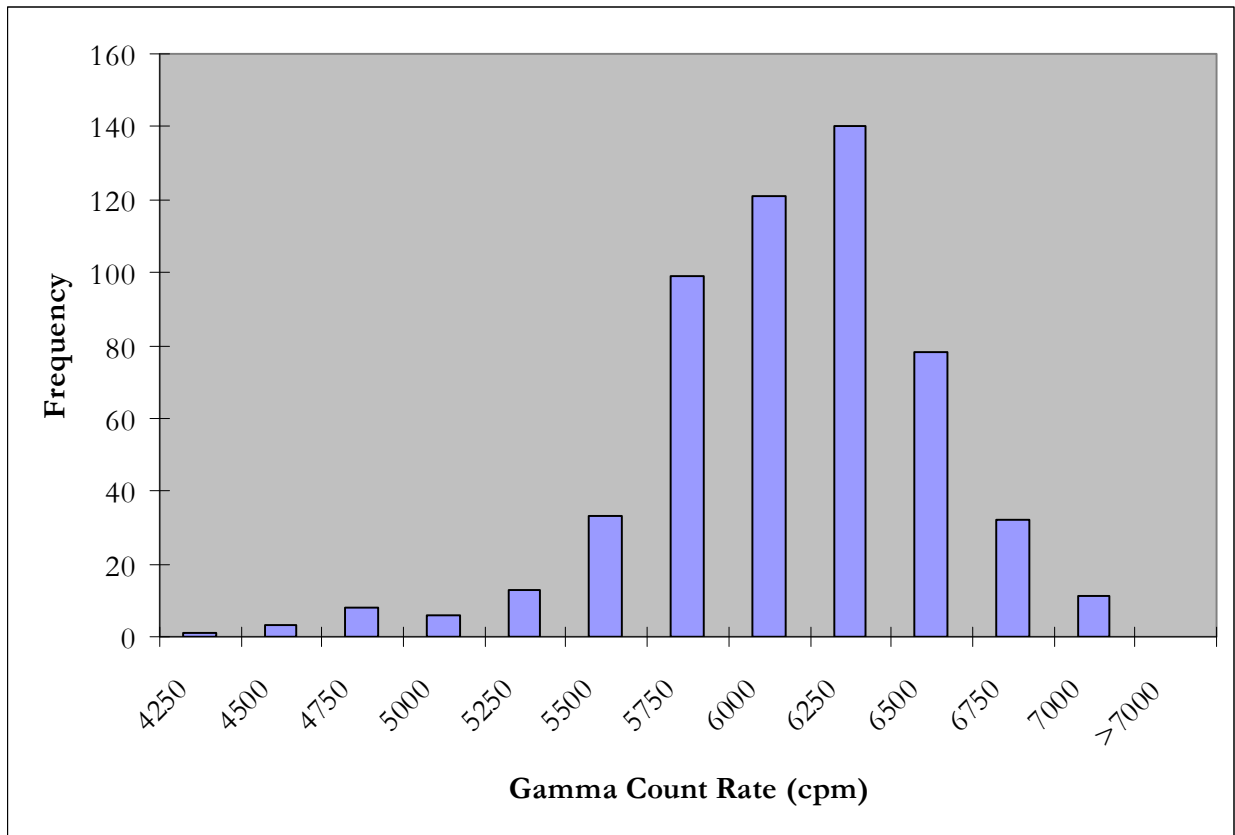


FIGURE 2: 1630 WITHERSPOON SITE - COUNT RATE DISTRIBUTION IN GRID E9