



U.S. Department
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**Information Crosswalk
for the
Burning Ground
Human Health Risk Assessment
Pantex Plant**

May 2006

BWXT
Pantex

Information Crosswalk for the Burning Ground Human Health Risk Assessment, Pantex Plant, May 2006

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Layout of the Burning Ground Human Health Risk Assessment

Report Layout	Location/Information
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Section 2	Facility/Site Description and Background
Section 3	Conceptual Site Model and EA Determination
Section 4	COPC Evaluation Methods and Results
Section 5	Risk Characterization Methodology
Section 6	Risk Evaluation
Section 7	Uncertainties
Section 8	Summary of Results
Section 9	References
SUPPORTING INFORMATION	
Regulatory Correspondence	Appendix A - presents all regulatory correspondence pertaining to the Burning Ground HHRA including all RFIR and RI Report approval letters, BRA Work Plan approvals, and comment resolution for finalization of this HHRA
ASGLs	Appendix B – provides the detailed development of ASGLs used in Section 4 COPC Evaluation
Fate and Transport Modeling	Appendix C – provides the detailed fate and transport analysis conducted for the soil-to-groundwater and soil gas-to-groundwater pathways for chemicals and radionuclides (as applicable), including travel time sensitivity analysis and SVE system data to support residual NAPL fate and transport analysis
Atmospheric Fate and Transport Evaluation	Appendix D – provides the detailed fate and transport analysis conducted for the offsite air pathways
Data	Appendix E - includes all data used in the HHRA, risk driver tables developed for the hotspot analysis conducted in Section 3, Appendix L radiological data, and historical perched groundwater data
Background and RBSV Tables	Appendix F – Tables F-1 and F-2 provide documentation for the screening values used in the COPC Evaluation discussed in Section 4 of the Main Text
COPC Evaluation Tables	Appendix F – Tables F-3 through F-11 provide the detailed COPC Evaluation tables by media and pathway
EPC Tables	Appendix G – provides the statistical summary tables for calculation of EPCs according to specific media and pathways
Toxicity Profiles	Appendix H – provides the toxicity profiles for COPCs and COCs reviewed for cumulative effects in this HHRA
Unit Risk Values	Appendix I - provides the basis for the URVs and the summary of calculated URVs used for calculation of risk in this HHRA
Risk Calculations	Appendix J – provides the detailed risk calculation tables, by pathway, for each receptor
Administrative Cover Evaluation	Appendix K - provides an analysis of risk to demonstrate the effectiveness of the administrative covers in reducing risk in Grid Cells 13 and 18
Radiological SRC Evaluation	Appendix L - provides the detailed risk analysis of all radiological SRCs not carried forward as COPCs in this HHRA. Attachment 1L provides documentation for the development of radiological SSLs
Soil Gas and NAPL Evaluation	Appendix M - provides more detailed information for the soil gas and residual NAPL plume beneath the former SEP in the Burning Ground
Ogallala Groundwater Data Evaluation	Appendix N - presents the Ogallala uncertainty analysis conducted to address regulatory requirements contained in Tier 1 Core Team Meeting agreements dated June 13-14, 2005
Reference Documents	Final Tab – contains electronic version of the Burning Ground, Independent Sites, and Groundwater RFIRs and RI Report, data used in the RFIRs and RI Report, groundwater plume maps, BRA Work Plan, and Subsurface Model Report, and supporting reports to the Burning Ground RFIR

Crosswalk of Burning Ground HHRA Report Content to Main Report Text and Appendices

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-- Not applicable

Crosswalk of Burning Ground HHRA Appendices

Appendix A – Regulator Correspondence

(Provided Electronically on CD)

- TCEQ, 2003. Letter: Conditional Approval of Release Characterization – Final RCRA Facility Investigation Report (Soils Final Report) for the Burning Grounds Waste Management Group (WMG-13), Dated March 15, 2002. September 16, 2003.
- TCEQ, 2004. Letter: Contaminant characterization in soils – Final Independent Sites, Resource Conservation and Recovery Act (RCRA) Facility Investigation (Soil RFIR) Dated: January 2004. July 29, 2004.
- TCEQ 2004. Letter: Requests for additional information: Pantex Plant Final RCRA Facility Investigation Report, Groundwater, dated March 15, 2004. August 3, 2004.
- TCEQ, 2004. Letter: Conditional Approval, Baseline Risk Assessment Work Plan. 1. Revised Final Baseline Risk Assessment (BRA) Work Plan for the U.S. Department of Energy dated February 2003. 2. Final Site-Wide Ecological Risk Assessment (ERA) Work Plan Addendum dated February 2004, and supplemental DOE materials dated March 8, 2004. August 24, 2004.
- TCEQ, 2004. Letter: Response to TCEQ Comments [dated August 9, 2004] on the Approach to Calculating the Exposure Point Concentration (EPC) for the Human Health Risk Assessment (HHRA) dated September 27, 2004. October 21, 2004.
- TCEQ, 2005. Letter: DOE's Response to the TCEQ Letter dated July 29, 2004 – Final Independent Sites Investigation (SOIL RFIR) Dated: January 2004. April 25, 2005.
- TCEQ, 2005. Letter: Conditional Approval - Groundwater Final RCRA Facility Investigation Report dated March 15, 2004, with supplemental information submitted by DOE-Pantex on November 1, 2004 and May 23, 2005. July 15, 2005.
- TCEQ, 2005. Final Approval Letter to USDOE: Approval – RCRA Facility Investigation Unit Closures. August 26, 2005.
- EPA, 2005. Letter: U.S. Environmental Protection Agency (EPA) Concurrence with the Texas Commission on Environmental Quality (TCEQ) Conditional Approval [for the] Pantex Plant Final RCRA Facility Investigation Report for Groundwater, March 15, 2004; EPA Site ID TX 4890110527. July 18, 2005.
- EPA, 2005. Approval Letter to USDOE: Final Pantex Plant Radiological Investigation Report (January 2004); EPA Site ID TX 4890110527. September 8, 2005.
- EPA, 2006. Letter: U.S. Environmental Protection Agency (EPA) Concurrence with the Texas Commission on Environmental Quality (TCEQ) August 26, 2003 Approval for RCRA Facility Investigation Unit Closure; Pantex Plant; EPA Site ID TX48901100527. April 10, 2006.
- USDOE, 2006. Letter: Transmittal of Response to Texas Commission on Environmental Quality Comments on the Burning Ground Human Health Risk Assessment (April 2005). April 27, 2006.
- Ethridge, S. “ASGLs”. Email to Michelle Bolwhann. March 2, 2006.
- Bolwhann, M. “Playa Worker Evaluation”. Email to Tier 1 Core Team. April 3, 2006.

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Model Input-Output Files

FEHM

- Attachment 2C
- 2C_PT20060426A
- 2C_PT20060426B
- 2C_PT20060426C

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- 3C_200604

Traveltime Calculator

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- Code Test BEEST.doc
- Pantex Concentration Contour Plot Data (V_Period_MH30).doc
- Pantex Dry & Wet Deposition Contour Plot Data (P_5yr).doc
- ISC3 Air Model Output File.doc

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(Provided Electronically on CD)

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- Alternate Grid Cell 18a Evaluation COPC Dataset
- Burning Ground Perched Groundwater COPC Dataset
- Burning Ground Ogallala Groundwater Dataset
- Burning Ground Soil Gas COPC Dataset
- Burning Ground Surface Water COPC Dataset

Appx L_Data Tables.xls

- Burning Ground Soil SRC Dataset
- Burning Ground Perched Groundwater SRC Dataset
- Burning Ground Ogallala Groundwater SRC Dataset
- Burning Ground Surface Water SRC Dataset

BG_RiskDriverAnalysis.xls

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- Burning Ground Carcinogen Risk Ratios by Sample Location
- Burning Ground Noncarcinogen Risk Ratios by Sample Location

Historical Perched GW Data_1994-2001.xls

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 - Table L-11. SRC Evaluation for Burning Ground Ogallala Groundwater
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 - Table 1L-7. Average Saturation
 - Table 1L-8. Water Travel Time
 - Table 1L-9. Model Results (Playa Recharge Scenario)
 - Table 1L-10. Alternative Analysis Comparison (Playa Recharge Scenario)
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 - Sorption of Uranium on Blackwater Draw Sediments

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Appendix M – Soil Gas and NAPL

Attachment 1M (Provided Electronically on CD)

SVE Report, May 2004

SVE Report, August 2005

Attachment 2M (Provided Electronically on CD)

VOC Volume Removed by Soil Vapor Extraction Well SVE-S-005
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-006
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-007
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-008
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-009
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-010
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-011
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-012
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-013
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-014
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-015
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-016
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-017
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-018
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-019
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-020
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-021
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-022
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-023
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-024
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-025
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-026
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-027
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-028
VOC Volume Removed by Soil Vapor Extraction Well SVE-I-029
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-030
VOC Volume Removed by Soil Vapor Extraction Well SVE-S-031
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Appendix N – Ogallala Data Evaluation

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Table N-3c. Ogallala Data Evaluation Against RRS 1 and GW-Res – No Criteria for Comparison

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Table N-5. Comparison of RRS 1 Exceedances to GW-Res

Table N-6. Comparison of Organic RRS 1 and GW-Res

Table N-7. Summary of Detection Limit Evaluation

Reference Documents and Data CD Contents

Documents listed in this crosswalk can be found in electronic form in the CD located in the back of the Volume.

DISK 1:

01 BRA Work Plan:

- *Revised Final Baseline Risk Assessment Work Plan*, February 2003, BWXT Pantex and Science Applications International Corporation

02 Burning Ground RFIR:

- *Final Burning Ground RCRA Facility Investigation Report*, Volume 1 of 3, March 2002, S.M. Stoller
- *Appendix Reports:*
 - 1a, Final Implementation Report for Burning Grounds Soil and Gas Surveying and Volatile Organic Compound (VOC) Source Team Investigation, Vol. 1 Sept. 2001, by S.M. Stoller.
 - 2a, Soil Laboratory Analysis for Burning Grounds Soil and Gas Surveying and Volatile Organic Compound (VOC) Source Team Investigation, Sept. 2001, by S.M. Stoller.
 - 3a, Soil Gas Laboratory Analysis for Burning Grounds Soil and Gas Surveying and Volatile Organic Compound (VOC) Source Team Investigation, Sept. 2001, by S.M. Stoller.
 - 4a, Draft Final Implementation Report, Interim Corrective Measures and Composting Implementation Burning Grounds (AL-PX-01), Sept. 1999, by S.M. Stoller.
 - 5a, Seismic Evaluation and Reconnaissance TDEM Survey of the Southeast and Playa 3 Areas of the Pantex Plant, Carson County, Texas, October 2000, by Jeffrey G. Paine
 - 6a, Final Closure Report for the RCRA Closure of the Burning Ground Units, Burning Cages and Flash Pits, Volume 1. July 1996, by Jacob Engineering Group
 - 7a, Final Closure Report for the RCRA Closure of the Burning Ground Units, Burning Cages and Flash Pits. Volume 2. July 1996 by Jacobs Engineering
 - 8a, Revised Draft Final RCRA Facility Investigation Report for the Burning Grounds Assessment. Volume 1. February 1996 by USACE.
 - 9a, Revised Draft Final RCRA Facility Investigation Report for the Burning Grounds Assessment. Volume 2. February 1996 by USACE.
- *Phase 3 Conceptual Model Report for Burning Ground Soil Gas Surveying and Volatile Organic Compound (VOC) Source Term Investigation*, September 24, 2001.
- *Addendum to Phase 3 Conceptual Model Report for Burning ground Soil Gas Surveying and Volatile Organic Compound (VOC) Source term Investigation*, July 2003, BWXT Pantex.

Reference Documents and Data CD Contents

Documents listed in this crosswalk can be found in electronic form in the CD located in the back of the Volume.

DISK 2:

03 Groundwater RFIR:

- *Final Groundwater RCRA Facility Investigation Report, Volume 1, S.M. Stoller. March, 2004.*
- *Final Groundwater RCRA Facility Investigation Report, Volume 2, S.M. Stoller. March, 2004.*
- Data Files
 - All Groundwater Data
- GW Plume Maps

04 Independent Sites RFIR:

- *Final RCRA Facility Investigation Report, Independent Sites*
- *Appendices to Final RCRA Facility Investigation Report, Independent Sites*
- Data Files:
 - Appendix D Data on CD – Others
 - Appendix D Data on CD - SVOC

05 Radiological Investigation Report:

- *Final Pantex Plant Radiological Investigation Report, January 2004, BWXT Pantex*
- Data Files
 - Site-Wide Soil SRC Data Results
 - Site-wide Groundwater Non-SRC Data Results
 - Site-wide Surface Water Non-SRC Data Results

06 Subsurface Modeling Report:

- *Subsurface Modeling Report for the U.S. Department of Energy/National Nuclear Security Administration, Pantex Plant, Amarillo, Texas, September 2004, BWXT Pantex and Science Applications International Corporation*

07 Risk Reduction Rule Guidance:

- *Final Report for Risk Reduction Guidance to the Pantex Plant RFI, April 2002*
- *Errata for Final Risk Reduction Rule Guidance to the Pantex RFI, April 2002.*
- *Instructions for Page Changes for the Update to the Final Risk Reduction Rule Guidance to the Pantex RFI, April 2002.*
- *Update to the Final Risk Reduction Rule Guidance to the Pantex RFI, April 2002, effective March 2004.*