Revision 3/03

CORRES. CONTROL
OUTGOING LTR NO.

DOE ORDER #

05 RF 00238

DIST.	LTR	ENC
BERARDINI, J.	X	
BRAILSFORD, M.D		
FERRERA, D.W.	X	
FERRI, M.S.		
FULTON, J.C.		
GIACOMINI, J.		
HALL, L.		
MARTINEZ, L.A.		
PARKER, A.M.		
POWERS, K.		
SCOTT, G.K.		
SHELTON, D.C.	X	
SPEARS, M.S.		
TRICE, K.D.		
VOORHEIS, G.M.		
WIEMELT, K.L.	X	X
THORNBURG, AMY	X	
COR. CONTROL	X	X
ADMIN. RECORD	x	x
WASTE REC. CTR		
TRAFFIC		
PATS/130		
CLASSIFICATION:		
UCNI		
UNCLASSIFIED		
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE
Exemption – CEX-105-01

Date

IN REPLY TO RFP CC NO:

ACTION ITEM STATUS

☐ PARTIAL/OPEN

☐ CLOSED

LTR APPROVALS:

ORIG & TYPIST INITIALS

KAISER•HILL COMPANY

March 2, 2005

05-RF-00238

Mr. Joseph A. Legare, Director
Project Management Division
DOE, RFPO

Mr. Steve Gunderson
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1502

Mr. Mark Aguilar
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, CO 80202-2466

TRANSMITTAL OF THE FINAL NO FURTHER ACCELERATED ACTION (NFAA) JUSTIFICATION ADDENDUM FOR TRENCH T-7 – KLW-020-05

Enclosed are copies of the Final NFAA Justification Addendum for Trench T-7 for your files. Previous comments have been incorporated and the document was approved by the EPA on February 23, 2005.

If you have any questions, please contact me at extension 9883.

R Lee for Norton

Karen L. Wiemelt
Manager, Environmental Restoration Programs

KLW:dm

Orig and 1 cc – Joseph Legare
cc: Norma Castaneda

Enclosures:
As Stated

RECEIVED
MAR - 2 2005

Revision 7/04

ADDENDUM
NO FURTHER ACCELERATED ACTION JUSTIFICATION FOR TRENCH T-7

PAC REFERENCE NUMBERS: NE-111.4

Additional Characterization

A No Further Accelerated Action Justification (NFAA) was prepared for Trench T-7 in May 2003 (DOE 2003a). However, upon reviewing data associated with the trench, there was uncertainty regarding levels of radioactivity within the material used to cover the trench debris. Therefore, additional characterization was conducted at the location, and results are documented in this NFAA Addendum.

Samples were collected on October 25, 2004, in accordance with Buffer Zone Sampling and Analysis Plan (BZSAP) Addendum 04-02 (DOE 2003b) and an Environmental Restoration (ER) Regulatory Contact Record dated October 21, 2004 (Appendix A). Samples were collected from the fill material overlying the trench contents at three biased locations along the length of the trench and analyzed for radionuclides.

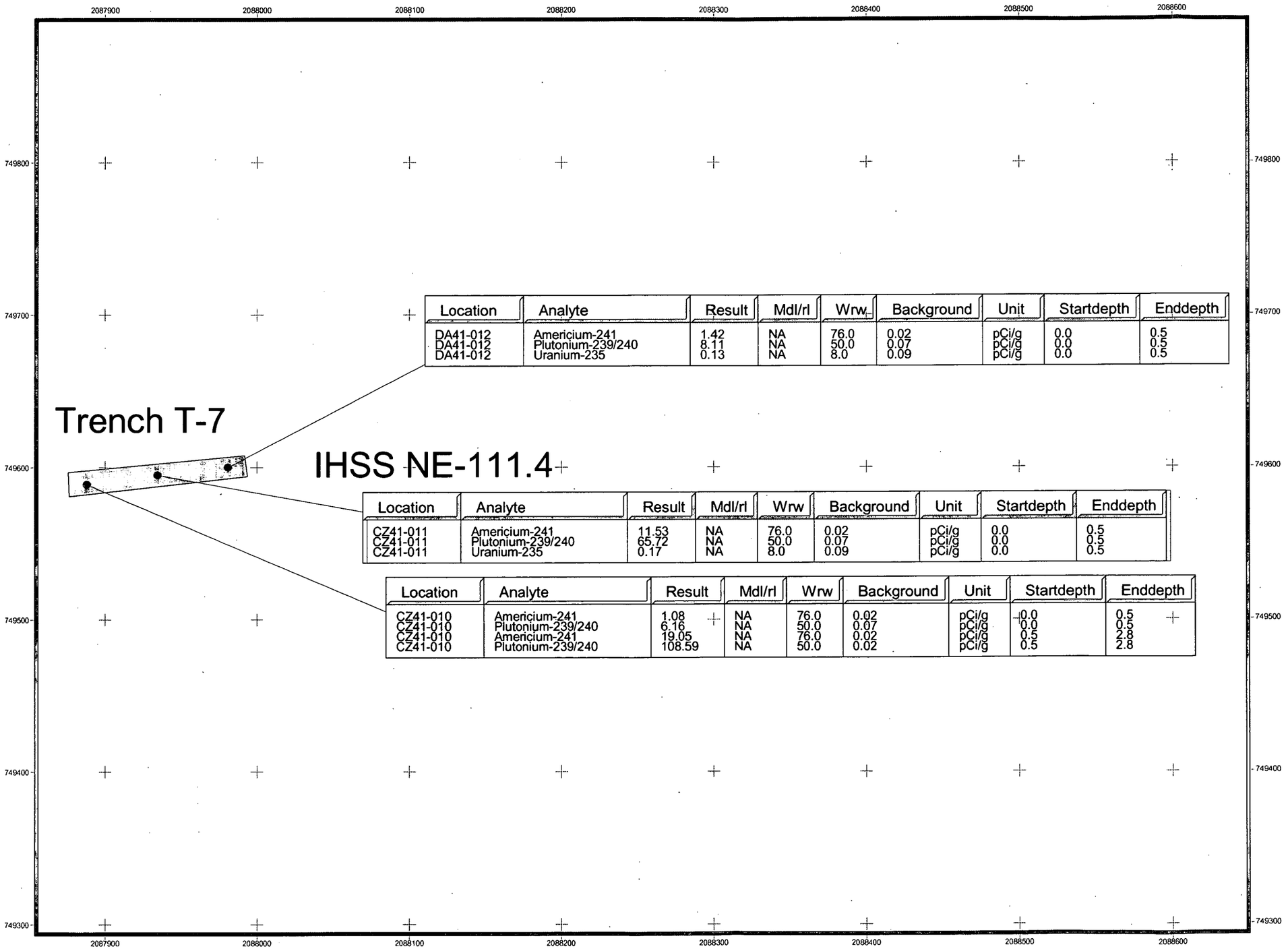
Analytical results indicated that radionuclides were present at activities less than Rocky Flats Cleanup Agreement (RFCA) action levels (ALs) for the Wildlife Refuge Worker (WRW), with two exceptions. At Sampling Location CZ41-011, the surface activity for plutonium-239/240 was 65.72 picocuries per gram (pCi/g), and at Sampling Location CZ41-010, the subsurface activity for plutonium-239/240 was 108.59 pCi/g. The WRW AL is 50 pCi/g. Results are shown on Figure 1. Only results greater than background means plus two standard deviations are shown.

T-7 Hot Spot Remediation and Confirmation Sampling

Based on the results from characterization of the cover material, the Trench T-7 soil was remediated during November 2004. This action was conducted in accordance with RFCA, the ER RFCA Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2003c), and an ER Regulatory Contact Record dated November 10, 2004 (Appendix A). The initial excavation at each hot spot was approximately 5 feet by 5 feet. Based on the exceedances, the eastern hot spot was excavated to a depth of approximately 6 inches, the western hot spot to a depth of approximately 3 feet.

Eight confirmation samples were collected on November 24, 2004, from the side walls and field screened using gamma spectroscopy. Screening results indicated that plutonium-239/240 activities were less than the WRW AL, and the samples were then sent to the off-site laboratory and analyzed using alpha spectroscopy. However, alpha spectroscopy results for the northern and southern side walls of the eastern hot spot (confirmation sampling locations CZ41-017 and CZ41-019, respectively) exceeded the AL. Therefore, additional soil was removed to the north and south of the original excavation on January 6 and 10, 2005 (related photographs are presented in Appendix B). Two additional confirmation samples were collected (at confirmation sampling locations DA41-013 and CZ41-020), and field screening results indicated plutonium-239/240 activities less than the WRW AL. The two confirmation samples were then sent to the

2



Location	Analyte	Result	Mdl/rl	Wrw	Background	Unit	Startdepth	Enddepth
DA41-012	Americium-241	1.42	NA	76.0	0.02	pCi/g	0.0	0.5
DA41-012	Plutonium-239/240	8.11	NA	50.0	0.07	pCi/g	0.0	0.5
DA41-012	Uranium-235	0.13	NA	8.0	0.09	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl/rl	Wrw	Background	Unit	Startdepth	Enddepth
CZ41-011	Americium-241	11.53	NA	76.0	0.02	pCi/g	0.0	0.5
CZ41-011	Plutonium-239/240	65.72	NA	50.0	0.07	pCi/g	0.0	0.5
CZ41-011	Uranium-235	0.17	NA	8.0	0.09	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl/rl	Wrw	Background	Unit	Startdepth	Enddepth
CZ41-010	Americium-241	1.08	NA	76.0	0.02	pCi/g	0.0	0.5
CZ41-010	Plutonium-239/240	6.16	NA	50.0	0.07	pCi/g	0.0	0.5
CZ41-010	Americium-241	19.05	NA	76.0	0.02	pCi/g	0.5	2.8
CZ41-010	Plutonium-239/240	108.59	NA	50.0	0.02	pCi/g	0.5	2.8

Figure 1
Trench T-7
Characterization Sampling Results
Greater Than Background Means
Plus Two Standard Deviations

KEY

- Sampling location with radionuclide activity greater than WRW AL
- Sampling location with radionuclide activities less than WRW ALs
- Trench

N
W E
S

30 0 30 Feet

Scale = 1:800

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Date: 12.02.2004

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File:W:\Projects\Fy2004\900-12\char_confrm_hist_120104.apr

3

off-site laboratory and analyzed using alpha spectroscopy. Results show that plutonium activities in both samples were below the WRW AL.

Final confirmation results are presented on Figure 2. Only results greater than background means plus two standard deviations are shown. Data on the two initial confirmation sampling locations that had activities greater than the WRW AL (CZ41-017 and CZ41-019) are not shown. The final Trench T-7 excavation boundaries are shown. The removed material, approximately 300 cubic feet, was disposed of in intermodal containers as low-level radioactive waste. The excavation was backfilled with clean fill from the Trailer 371 area. Because of the small size of the excavations, no erosion control or reseeding was required.

No Longer Representative Sampling Location

The A interval at Sampling Locations CZ41-011, CZ41-017 and CZ41-019 were removed during soil remediation, and therefore, are no longer representative. The A and B intervals at Sampling Location CZ41-010 were removed and are no longer representative. Data for these sampling locations have been marked as such in the Soil Water Database so that they will not be used in the Sitewide Comprehensive Risk Assessment (CRA) and other Site analyses.

Conclusion

As a result of the accelerated action, an NFAA for Trench T-7 is justified as follows:

- Residual surface soil radionuclide activities are less than RFCA WRW ALs (DOE et al 2003).
- The Subsurface Soil Risk Screen indicates that additional accelerated action is not required for the near-surface fill material. The area is not subject to significant erosion (Figure 1 of RFCA) (DOE et al 2003).

Residual contamination will be further evaluated in the Sitewide CRA and the Accelerated Action Ecological Screening Evaluation.

Approval of this NFAA Addendum constitutes regulatory agency concurrence that Trench T-7 is an NFAA site. This information and NFAA determination will be documented in the Fiscal Year 2005 Historical Release Report. This addendum will be submitted to the Comprehensive Environmental Response, Compensation, and Liability Act Administrative Record for permanent storage 30 days after being provided to the Colorado Department of Public Health and Environment and/or U.S. Environmental Protection Agency, Region VIII.

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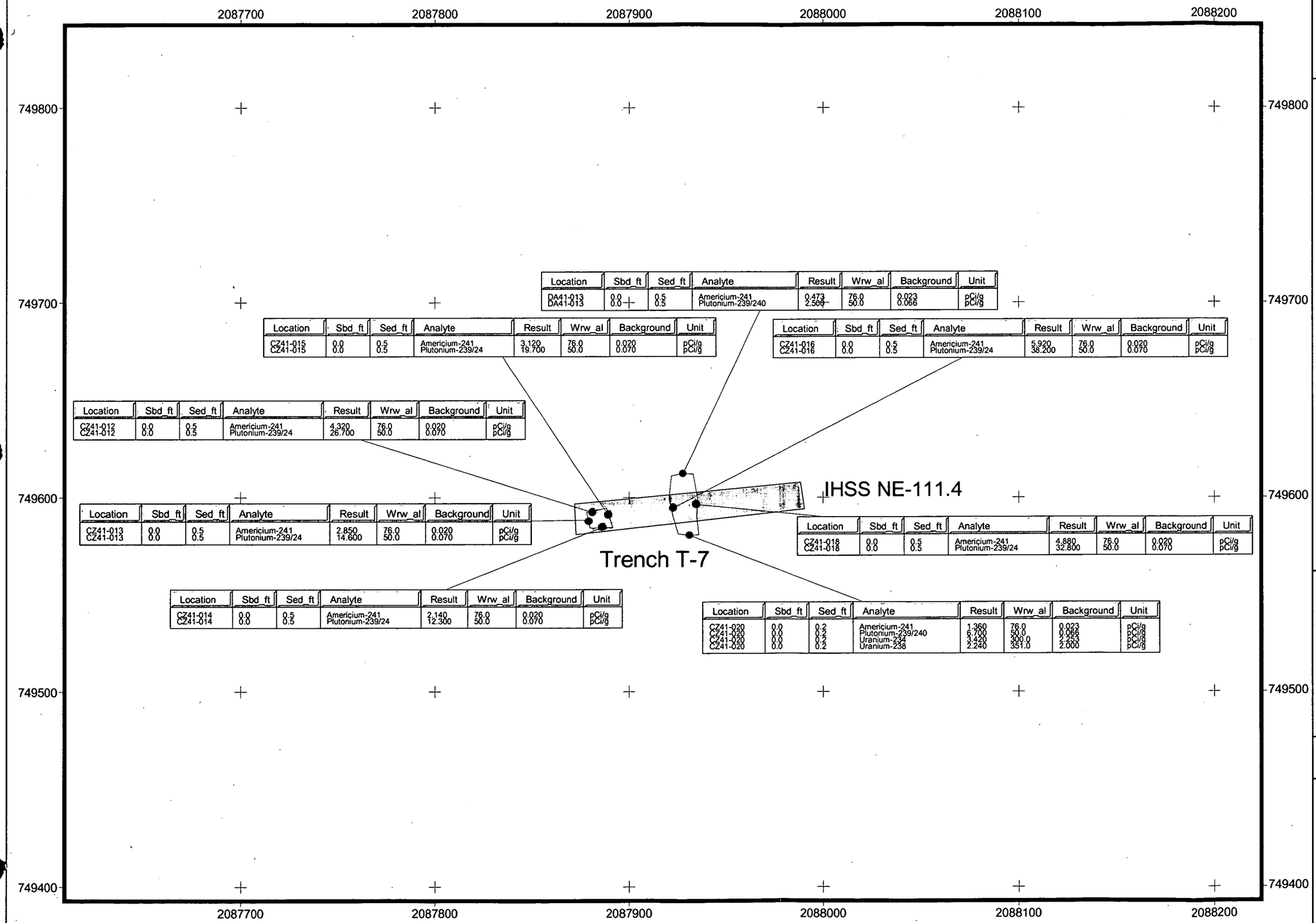
Figure 2
Trench T-7
Confirmation Sampling Results
Greater Than Background Means
Plus Two Standard Deviations



Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
DA41-013	0.0	0.5	Americium-241	0.473	76.0	0.023	pCi/g
DA41-013	0.0	0.5	Plutonium-239/240	2.560	50.0	0.066	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-015	0.0	0.5	Americium-241	3.120	76.0	0.020	pCi/g
CZ41-015	0.0	0.5	Plutonium-239/24	19.700	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-016	0.0	0.5	Americium-241	5.920	76.0	0.020	pCi/g
CZ41-016	0.0	0.5	Plutonium-239/24	38.200	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-012	0.0	0.5	Americium-241	4.320	76.0	0.020	pCi/g
CZ41-012	0.0	0.5	Plutonium-239/24	26.700	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-013	0.0	0.5	Americium-241	2.850	76.0	0.020	pCi/g
CZ41-013	0.0	0.5	Plutonium-239/24	14.600	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-018	0.0	0.5	Americium-241	4.880	76.0	0.020	pCi/g
CZ41-018	0.0	0.5	Plutonium-239/24	32.800	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-014	0.0	0.5	Americium-241	2.140	76.0	0.020	pCi/g
CZ41-014	0.0	0.5	Plutonium-239/24	12.300	50.0	0.070	pCi/g

Location	Sbd_ft	Sed_ft	Analyte	Result	Wrw_al	Background	Unit
CZ41-020	0.0	0.2	Americium-241	1.360	76.0	0.023	pCi/g
CZ41-020	0.0	0.2	Plutonium-239/240	6.700	50.0	0.066	pCi/g
CZ41-020	0.0	0.2	Uranium-234	3.420	300.0	2.253	pCi/g
CZ41-020	0.0	0.2	Uranium-238	2.240	351.0	2.000	pCi/g

KEY

- Sampling location with radionuclide activities less than WRW ALs
- Trench
- Excavation boundary

N
W E
S

20 0 20 40 60 Feet

Scale = 1:600

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File:W:\Projects\Fy2004\900-12\
char_confrm_hist_120104.apr

Date: 01/25/05

5

References

DOE, 2003a, No Further Accelerated Action Justification For Trench T-7, Rocky Flats Environmental Technology Site, Golden, Colorado, May.

DOE, 2003b, Buffer Zone Sampling and Analysis Plan FY04 Addendum #BZ-04-02, Rocky Flats Environmental Technology Site, Golden, Colorado, November.

DOE, 2003c, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado. June.

DOE, CDPHE and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U.S. Department of Energy, Colorado Department of Public Health and Environment, and U.S. Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

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APPENDIX A

CORRRESPONDENCE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: 10/21/04

Site Contact(s): Karen Wiemelt/K-H and Norma Castaneda/DOE
Phone: 303.966.9883 and 303.966.4226

Regulatory Contact: Sam Garcia, Larry Kimmel, Harlen Ainscough, Dave Kruchek, Elizabeth Pottorff
Phone:

Agency: US EPA/ CDPHE

Purpose of Contact:

Discussion
Surface soil samples will be collected from Trench T-7 locations shown on the attached figure. The samples will be analyzed for Pu and Am. If results are greater than the WRW action level, a hot spot remediation will be conducted with confirmation samples collected as determined through the consultative process. Any hot spot remediation conducted will not extend into the contents of the trench.

Contact Record Prepared By: Karen Wiemelt/ER Project Manager

Required Distribution:		Additional Distribution:
M. Aguilar, USEPA	R. McCallister, DOE-RFFO	_____
S. Bell, DOE-RFFO	J. Mead, K-H ESS	_____
J. Berardini, K-H	S. Nesta, K-H RISS	_____
B. Birk, DOE-RFFO	L. Norland, K-H RISS	_____
L. Brooks, K-H ESS	K. North, K-H ESS	_____
L. Butler, K-H RISS	E. Pottorff, CDPHE	_____
G. Carnival, K-H RISS	A. Primrose, K-H RISS	_____
N. Castaneda, DOE-RFFO	R. Schassburger, DOE-RFFO	_____
C. Deck, K-H Legal	S. Serreze, K-H RISS	_____
S. Garcia, EPA	D. Shelton, K-H ESS	_____
S. Gunderson, CDPHE	C. Spreng, CDPHE	_____
M. Keating, K-H RISS	S. Surovchak, DOE-RFFO	_____
L. Kimmel, USEPA	K. Wiemelt, K-H RISS	_____
D. Kruchek, CDPHE	C. Zahm, K-H Legal	_____
D. Mayo, K-H RISS		

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	11/10/04 1:00 (corrected)	
Site Contact(s,:	Norma Castaneda	Annette Primrose
Phone:	303 966-4226	303 966-4385
Regulatory Contact:	Sam Garcia	Harlen Ainscough
Phone:	303 312-6659	303 692-3337
Agency:	EPA	CDPHE

Purpose of Contact: Agreement to remediate the fill material overlying Trench 7

Discussion

As agreed to in the meeting on November 10, 2004, the fill material that covers Trench 7 is contaminated with very low levels of radionuclides that are above action levels at two locations. Therefore, the fill material at each hotspot will be remediated as required to meet the action levels.

Confirmation samples will be collected in accordance with the IABZSAP. One sample will be collected from each of the four excavation walls and one from the bottom of the trench. Side wall samples will be representative of the entire interval where contamination was detected.

The contents of Trench 7 will not be disturbed. The remedial action is only for the material that was used to cover the contents of the trench.

Contact Record Prepared by: Annette Primrose

Required Distribution:

M. Aguilar, USEPA
H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
L. Brooks, K-H ESS
L. Butler, K-H RISS
G. Carnival, K-H RISS
N. Castaneda, DOE-RFPO
C. Deck, K-H Legal
N. Demos, SSOC
S. Gunderson, CDPHE
M. Keating, K-H RISS
L. Kimmel, USEPA
D. Kruchek, CDPHE
J. Legare, DOE-RFPO
D. Mayo, K-H RISS
J. Mead, K-H ESS
S. Nesta, K-H RISS
L. Norland, K-H RISS
K. North, K-H ESS
E. Pottorff, CDPHE
A. Primrose, K-H RISS
R. Schassburger, DOE-RFPO
S. Serreze, K-H RISS
D. Shelton, K-H ESS
C. Spreng, CDPHE
S. Surovchak, DOE-RFPO
J. Walstrom, K-H RISS
K. Wiemelt, K-H RISS
C. Zahm, K-H Legal

Additional Distribution:

9

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	November 24, 2004/3:00	
Site Contact(s):	Annette Primrose	Norma Castaneda
Phone:	303 966-4385	303 966-4226
Regulatory Contact:	Sam Garcia	Harlen Ainscough
Phone:	303 312-6247	303 692-3337
Agency:	EPA	CDPHE

Purpose of Contact: Backfill of Trench 7 hotspot at IHSS Group 900-12

Discussion

Field screen samples from all four sides of the excavation boundary for both the CZ41-010 and CZ41-011 hotspots were below action levels and samples have been submitted for offsite analyses. The western, deeper excavation associated with CZ41-010 was immediately backfilled. The more shallow excavation of the eastern hotspot (CZ41-011) will be backfilled within the next few working days. Backfill was performed at risk pending the results of the offsite analyses. Additional excavation may be required based on the final results.

Contact Record Prepared By: Annette Primrose

Required Distribution:

Additional Distribution:

Required Distribution:

M. Aguilar, USEPA	D. Mayo, K-H RISS	
H. Ainscough, CDPHE	J. Mead, K-H ESS	
S. Bell, DOE-RFPO	S. Nesta, K-H RISS	
J. Berardini, K-H	L. Norland, K-H RISS	
B. Birk, DOE-RFPO	K. North, K-H ESS	
L. Brooks, K-H ESS	E. Pottorff, CDPHE	
L. Butler, K-H RISS	A. Primrose, K-H RISS	
G. Carnival, K-H RISS	R. Schassburger, DOE-RFPO	
N. Castaneda, DOE-RFPO	S. Serreze, K-H RISS	
C. Deck, K-H Legal	D. Shelton, K-H ESS	
N. Demos, SSOC	C. Spreng, CDPHE	
S. Gunderson, CDPHE	S. Surovchak, DOE-RFPO	
M. Keating, K-H RISS	J. Walstrom, K-H RISS	
L. Kimmel, USEPA	K. Wiemelt, K-H RISS	
D. Kruchek, CDPHE	C. Zahm, K-H Legal	
J. Legare, DOE-RFPO		

Additional Distribution:

S. Garcia, USEPA
G. Kelly, K-H RISS
_____
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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	January 12, 2005 / 0900	
Site Contact(s):	Annette Primrose	
Phone:	303 966-4385	
Regulatory Contact:	Sam Garcia	Harlen Ainscough
Phone:	303 312-6247	303 692-3337
Agency:	EPA	CDPHE

Purpose of Contact: Backfill of Trench 7 hotspot at IHSS Group 900-12

Discussion

The northern and southern confirmation samples collected at the excavation boundaries for the eastern hotspot at Trench 7 (original sample location CZ41-011) came back above action levels. Additional soils were removed to the north and south of the original excavation on January 6th and 10th. Field screen samples came back at very low levels. The excavation was immediately backfilled because of the approaching weather. Backfill was performed at risk pending the results of the offsite analyses. Additional excavation may be required based on the final results.

Contact Record Prepared By: Annette Primrose

Required Distribution:

M. Aguilar, USEPA
H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
L. Brooks, K-H ESS
L. Butler, K-H RISS
G. Carnival, K-H RISS
N. Castaneda, DOE-RFPO
C. Deck, K-H Legal
N. Demos, SSOC
S. Gunderson, CDPHE
M. Keating, K-H RISS
L. Kimmel, USEPA
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D. Mayo, K-H RISS
J. Mead, K-H ESS
S. Nesta, K-H RISS
L. Norland, K-H RISS
K. North, K-H ESS
E. Pottorff, CDPHE
A. Primrose, K-H RISS
R. Schassburger, DOE-RFPO
S. Serreze, K-H RISS
D. Shelton, K-H ESS
C. Spreng, CDPHE
S. Surovchak, DOE-RFPO
J. Walstrom, K-H RISS
K. Wiemelt, K-H RISS
C. Zahm, K-H Legal

Additional Distribution:

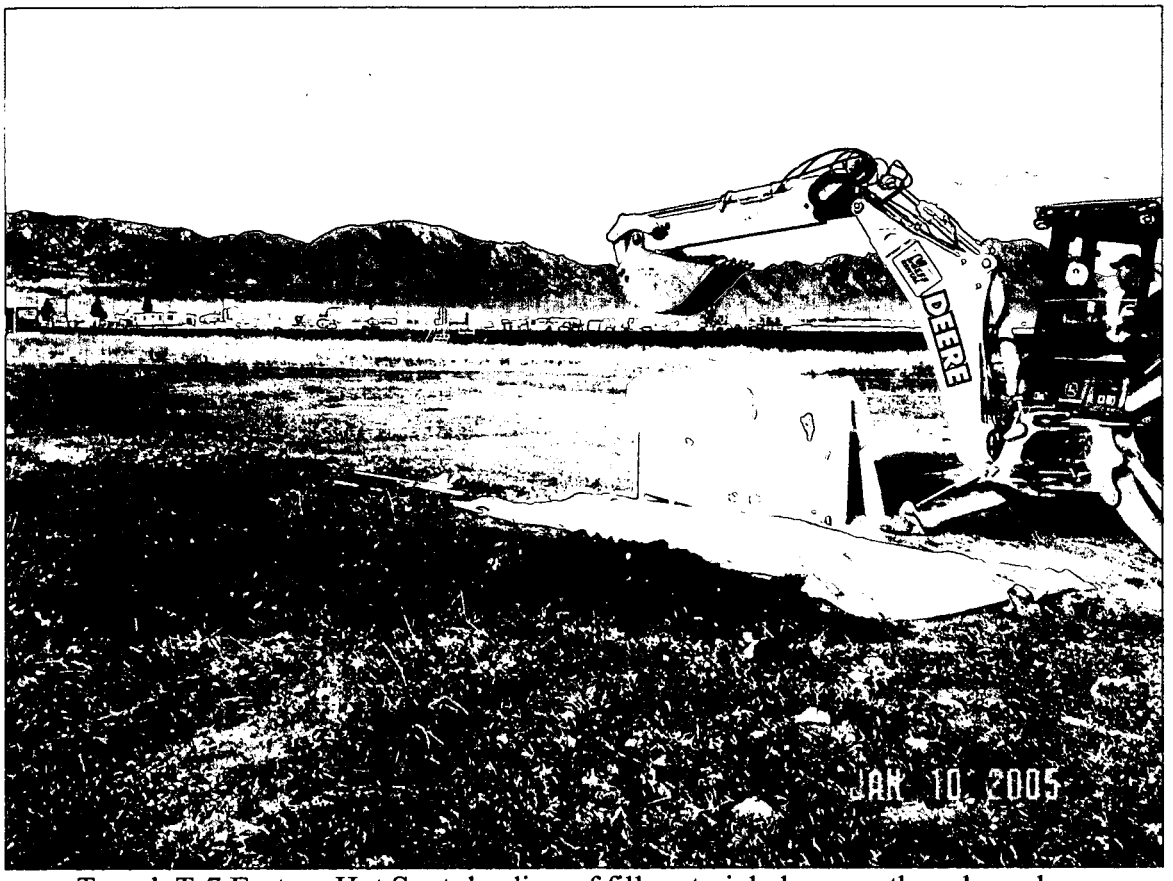
S. Garcia, USEPA
G. Kelly, K-H RISS

APPENDIX B

PHOTOGRAPHS

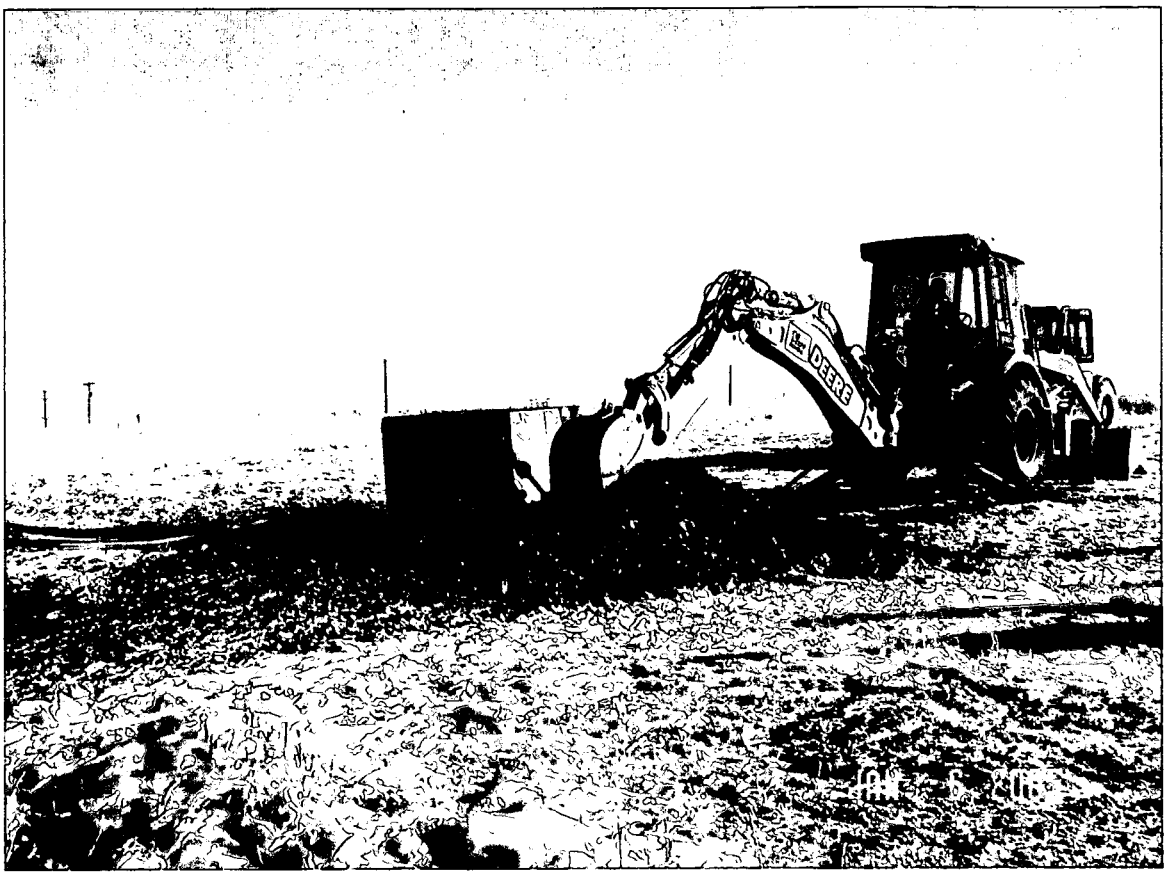
Trench T-7 Eastern Hot Spot, showing locations at the northern and southern boundaries that required additional removal.

Trench T-7 Eastern Hot Spot, excavation along northern boundary.



Trench T-7 Eastern Hot Spot, loading of fill material along northern boundary.

Trench T-7 Eastern Hot Spot, nearing completion of excavation along northern boundary.



Trench T-7 Eastern Hot Spot, excavation along southern boundary.