APPENDICES

APPENDIX A

PREVIOUS WORK

APPENDIX A1

BORING AND TEST PIT LOGS

REMOVAL SITE EVALUATION

MWH, 2007A

BORING LOGS

PIEZOMETER NUMBER: **POND1/2-SB-71** SHEET 1 of 2

LOCATION COORDINATES: N: *3948695.7* **E:** *725413.9* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/17/2006* **DATE/TIME FINISHED:** *11/17/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *20.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	silty SAND, angular frags of sandstone, yellowish-brn	*SM*	*2*	*7/12/14*	6		
	same as above	*SM*	*3*	*10/8/20*	10		
	silty SAND, yellowish brn, ROCK at 15.5', able to drill beyond	*SM*	*4*	*50*	14 16 18		

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **POND1/2-SB-71** SHEET 2 of 2

LOCATION COORDINATES: N: *3948695.7* **E:** *725413.9* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/17/2006* **DATE/TIME FINISHED:** *11/17/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *20.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	sandstone bedrock, TD=20.0'	*ROCK*		*50*	20, 22, 24, 26, 28, 30, 32		

Project No.: *1004896*	**Design By:** *H. Hoffman*	**Scale:** *24:1*
File: *NECR Borelogs*	**Drawn By:** *H. Hoffman*	**Date:** *4/7/2007*

MONTGOMERY WATSON

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PIEZOMETER NUMBER: **POND1/2-SB-82** SHEET 1 of 2

LOCATION COORDINATES: N: *3948738.2* **E:** *725389.9* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/17/2006* **DATE/TIME FINISHED:** *11/17/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): *19.0* **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *22.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	silty SAND, brown, low plasticity, moist, fine, wood	*SM*	*1*	*5/10/12*	6		
	same as above, with wood	*SM*	*2*	*6/9/8*	10		
	wx SANDSTONE, yellowish brown, silty fine sand	*ROCK*	*3*	*13/28/50*	16		
					18		

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Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

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PIEZOMETER NUMBER: **POND1/2-SB-82** SHEET 2 of 2

LOCATION COORDINATES: N: *3948738.2* **E:** *725389.9* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/17/2006* **DATE/TIME FINISHED:** *11/17/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): *19.0* **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *22.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	wx SANDSTONE, brown silty sand, drilling in bedrock	*ROCK*	*4*	*25/50*	20		
	TD=22.0'	*ROCK*			22		
					24		
					26		
					28		
					30		
					32		

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

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PIEZOMETER NUMBER: # NECR1-SB-131

LOCATION COORDINATES: N: *3949056.6* **E:** *725570.2*

LOGGED BY: *H. Hoffman/T. Leeson*

GROUND ELEVATION (FAMSL):

TOC ELEVATION (FAMSL): *NECR*

DRILLING COMPANY: *WDC*

DRILL RIG:

DRILLING START DATE/TIME: *11/16/2006 10:10*

DATE/TIME FINISHED: *11/16/2006 11:00*

DEPTH TO WATER DURING DRILLING (ft bgs):

DATE/TIME of WATER DEPTH (ft TOC):

TOTAL DEPTH: *23.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	SAND, reddish grey, low plasticity, moist	*SP*	*1*	*3/2/4*	6		
	SAND, clayey silt, brown, mod plasticity, moist to wet	*SP*	*2*	*4/5/10*	8, 10, 12		
	clayey SILT, crumbled sandstone, brown, moist, mod to high plasticity	*CL-ML*	*3*	*16/8/6*	14, 16, 18		

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: # NECR1-SB-131

LOCATION COORDINATES: N: *3949056.6* **E:** *725570.2*

LOGGED BY: *H. Hoffman/T. Leeson*

GROUND ELEVATION (FAMSL):

TOC ELEVATION (FAMSL): *NECR*

DRILLING COMPANY: *WDC*

DRILL RIG:

DRILLING START DATE/TIME: *11/16/2006 10:10*

DATE/TIME FINISHED: *11/16/2006 11:00*

DEPTH TO WATER DURING DRILLING (ft bgs):

DATE/TIME of WATER DEPTH (ft TOC):

TOTAL DEPTH: *23.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	clayey SILT, black, mod plasticity, wx mancos, sampled mancos separate, petroleum smell	*CL-ML*	*4*	*22/25/26*	20		
	SILT, black to brown, med plasticity, moist, mancos at top of sample, petroleum smell, bedrock at 22', TD=23.0'	*ML*	*5*	*50/48/R*	22		
					24		
					26		
					28		
					30		
					32		

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: # NECR1-SB-90

LOCATION COORDINATES: N: *3949015.1* **E:** *725434.4* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/15/06 14:30* **DATE/TIME FINISHED:** *11/15/06 16:30*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *45.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	gravely SAND, brown, moist, some pieces of rock, minor silt	*SP*	*1*	*11/13/17*	6		
	silty SAND, fine grained, moist, yellowish brown	*SM*	*2*	*15/14/19*	10		
	silty SAND, grey, fine graineds, moist, well sorted	*SM*	*3*	*9/12/12*	16		

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **NECR1-SB-90** SHEET 2 of 3

LOCATION COORDINATES: N: *3949015.1* **E:** *725434.4* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/15/06 14:30* **DATE/TIME FINISHED:** *11/15/06 16:30*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *45.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	same as above, with some angular pieces of red brick	*SM*	*4*	*5/8/24*	20		
					22		
	same as above	*SM*	*5*	*4/6/8*	24		
					26		
					28		
	silty SAND, yellowish brown, v fine grained, moist, piece of wire	*SM*	*6*	*4/9/8*	30		
					32		

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **NECR1-SB-90** SHEET 3 of 3

LOCATION COORDINATES: N: *3949015.1* **E:** *725434.4* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/15/06 14:30* **DATE/TIME FINISHED:** *11/15/06 16:30*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *45.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	same as above	*SM*	*7*	*4/5/8*	34, 36		
	same as above	*SM*	*8*	*4/5/8*	38, 40		
	same as above, increasing clay TD=45.0'	*SM*	*9*	*3/3/6*	42, 44, 46		

Project No.: *1004896*	**Design By:** *H. Hoffman*	**Scale:** *24:1*
File: *NECR Borelogs*	**Drawn By:** *H. Hoffman*	**Date:** *4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **NECR1-SB-046** SHEET 1 of 2

LOCATION COORDINATES: N: *3948933.0* **E:** *725424.0* **LOGGED BY:** *H. Hoffman*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/16/2006 13:50* **DATE/TIME FINISHED:** *11/16/2006 14:50*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *30.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	SAND, grey-lt brn, low plasticity, moist	*SW*	*1*	*3/3/4*	6		
	SAND, grey-lt brn, low plasticity, moist	*SW*	*2*	*8/10/6*	10		
	clayey SILT, with some sand, dk brn, mod plasticity, moist	*SC-SM*	*3*	*4/5/7*	16		

8 12 14 18

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: # NECR1-SB-046

SHEET 2 of 2

LOCATION COORDINATES: N: *3948933.0* **E:** *725424.0*

LOGGED BY: *H. Hoffman*

GROUND ELEVATION (FAMSL):

TOC ELEVATION (FAMSL): *NECR*

DRILLING COMPANY: *WDC*

DRILL RIG:

DRILLING START DATE/TIME: *11/16/2006 13:50*

DATE/TIME FINISHED: *11/16/2006 14:50*

DEPTH TO WATER DURING DRILLING (ft bgs):

DATE/TIME of WATER DEPTH (ft TOC):

TOTAL DEPTH: *30.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	SILT, brn, mod-low plasticity, moist, native at 24'	*ML*	*4*	*6/11/12*	20		
					22		
					24		
					26		
					28		
	SILT, brn, mod plasticity, moist, native, TD=30.0'	*ML*	*5*	*4/11/11*	30		
					32		

Project No.: *1004896*	**Design By:** *H. Hoffman*	**Scale:** *24:1*
File: *NECR Borelogs*	**Drawn By:** *H. Hoffman*	**Date:** *4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **NECR1-SB-095** SHEET 1 of 1

LOCATION COORDINATES: N: *3949017.9* **E:** *725546.1* **LOGGED BY:** *T. Leeson*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/16/2006 9:15* **DATE/TIME FINISHED:** *11/16/2006 9:45*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *15.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	poorly graded SAND, greyish brn, moist, low plasticity	*SP*	*1*	*5/6/5*	6		
	sandy SILT, brn, moist, mod plasticity	*SM*	*2*	*3/7/13*	8, 10		
	clayey SILT, lt brn, moist, mod-high plasticity, bedrock at 15', TD=15.0'	*ML*	*3*	*13/R/R*	12, 14, 16, 18		

Project No.: *1004896*	**Design By:** *H. Hoffman*	**Scale:** *24:1*
File: *NECR Borelogs*	**Drawn By:** *H. Hoffman*	**Date:** *4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **POND3/3a-SB-061** SHEET 1 of 2

LOCATION COORDINATES: N: *3948850.4* **E:** *725323.6* **LOGGED BY:** *H. Hoffman*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/16/2006* **DATE/TIME FINISHED:** *11/16/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *25.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	silty SAND, brown w/ some red streaks, moist, low plasticity	*SM*	*1*	*16/18/19*	6		
	silty SAND, brown, moist low plasticity	*SM*	*2*	*12/19/22*	10		
	same as above	*SM*	*3*	*15/17/18*	14		
					16		
					18		

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Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **POND3/3a-SB-061** SHEET 2 of 2

LOCATION COORDINATES: N: *3948850.4* E: *725323.6* LOGGED BY: *H. Hoffman*

GROUND ELEVATION (FAMSL): TOC ELEVATION (FAMSL): *NECR* DRILLING COMPANY: *WDC* DRILL RIG:

DRILLING START DATE/TIME: *11/16/2006* DATE/TIME FINISHED: *11/16/2006*

DEPTH TO WATER DURING DRILLING (ft bgs): DATE/TIME of WATER DEPTH (ft TOC):

TOTAL DEPTH: *25.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	same as above	*SM*	*4*	*17/18/16*	20		
					22		
					24		
	same as above, TD=25.0	*SM*	*5*	*9/13/18*	26		
					28		
					30		
					32		

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: **NECR1-SB-016** SHEET 1 of 2

LOCATION COORDINATES: N: *3948869.8* **E:** *725366.1* **LOGGED BY:** *H. Hoffman*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/16/2006 15:15* **DATE/TIME FINISHED:** *11/16/2006 16:00*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *20.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SPLIT SPOON NO.	Blow Count/6"	DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	SAND, rock frags, lt brn to grey, moist, low plasticity	*SP*	*1*	*10/19/32*	6		
					8		
	Same as above	*SP*	*2*	*2/2/3*	10		
					12		
	same as above	*SP*	*3*	*3/4/8*	14		
					16		
					18		

Continued Next Page

Project No.:	Design By:	Scale:
1004896	*H. Hoffman*	*24:1*
File:	**Drawn By:**	**Date:**
NECR Borelogs	*H. Hoffman*	*4/7/2007*

MONTGOMERY WATSON

NECR

UNC

PIEZOMETER NUMBER: # NECR1-SB-016

LOCATION COORDINATES: N: *3948869.8* **E:** *725366.1* **LOGGED BY:** *H. Hoffman*

GROUND ELEVATION (FAMSL): **TOC ELEVATION (FAMSL):** *NECR* **DRILLING COMPANY:** *WDC* **DRILL RIG:**

DRILLING START DATE/TIME: *11/16/2006 15:15* **DATE/TIME FINISHED:** *11/16/2006 16:00*

DEPTH TO WATER DURING DRILLING (ft bgs): **DATE/TIME of WATER DEPTH (ft TOC):**

TOTAL DEPTH: *20.0*

ELEV. ELEVATION (FT)	SOIL PROFILE: SOIL DESCRIPTION	SAMPLES: USCS CLASS	SAMPLES: SPLIT SPOON NO.	SAMPLES: Blow Count/6"	SAMPLES: DEPTH (Feet)	GRAPHIC LOG	WELL SCHEMATIC
	SILT, brn, low-mod plasticity, moist, native, TD=20.0'	*ML*	*4*	*6/8/8*	20, 22, 24, 26, 28, 30, 32		

Project No.: *1004896*	**Design By:** *H. Hoffman*	**Scale:** *24:1*
File: *NECR Borelogs*	**Drawn By:** *H. Hoffman*	**Date:** *4/7/2007*

MONTGOMERY WATSON

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KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Silty sand
	Basalt (or generic rock)
	Poorly graded sand
	Silty low plasticity clay
	Silt
	Well graded sand
	Poorly graded clayey silty sand
Misc. Symbols	
	Boring continues
	Water table during drilling

Notes:

1. These logs are subject to the limitations, conclusions, and recommendations in this report.

1. Results of tests conducted on samples recovered are reported on the logs.

TEST PIT LOGS

TEST PIT LOG
Test Pit No.: NECR1-TP-138

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 15:55
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 4.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SP	SAND, reworked native soil
2				as above, 1" broken plastic pipe
			SP	SAND and weathered SANDSTONE
		1		as above, sample collected
4				SANSTONE, end of TP
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NECR1-TP-138		UNC

TEST PIT LOG
Test Pit No.: NECR2-TP-015

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 16:35
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, native soil, >6" pieces of angular competent sandstone, 20% rock, 80% sand
		1		as above, sample collected
2				SANDSTONE, end of TP
4				
6				
8				

Project no:	1004896	Design By:	H.	Scale:	2	NECR
			NECR2-TP-015			UNC

TEST PIT LOG
Test Pit No.: NECR2-TP-020

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 16:15
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	SAND, white-lt grey, <5% cobbles, 95% f.-med grained sand, dry, loose, no strat, no cement
			SP	SAND, brn, dry, loose, 10% angular cobbles, native soil
		1		as above, sample collected
			SP	as above, end of TP
2				
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NECR2-TP-020		UNC

TEST PIT LOG
Test Pit No.: NECR2-TP-035

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 14:55
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SP	SAND, brn, dry, loose, 10% angular cobbles, native soil
		1		as above, sample collected
2				SANDSTONE, end of TP
4				
6				
8				

Project no:	1004896	Design By:	H.	Scale:	2	NECR
			NECR2-TP-035			UNC

TEST PIT LOG
Test Pit No.: NECR2-TP-039

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 16:20
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, native, dry, loose, brn, no cement, no strat, 50% angular weathered sandstone, 1-4" angular fragments
		1		as above, sample collected
2				SANDSTONE, competent, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NECR2-TP-039		UNC

TEST PIT LOG
Test Pit No.: NECR2-TP-052

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 na
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 5.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, reworked native
2		1		silty SAND, reworked native, cloth, popcan, Mancos fragments, plastic, sample collected
			SM	silty SAND, no debris, clean native
4		2		as above, sample collected
				as above, end of TP
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NECR2-TP-052		UNC

TEST PIT LOG
Test Pit No.: POND 1/2-TP-030

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 11:25
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 7.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	SILT, grey/brn, med plasticity, some clay and sand
2		1		SILT, grey/brn, med plasticity, some clay and sand, sample collected
4				
		2		SANDSTONE, native, highly weathered, sample collected
6				
				SANDSTONE, native, highly weathered, end of TP
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND 1/2-TP-030		UNC

TEST PIT LOG
Test Pit No.: POND1/2-TP-035

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 9:40
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD	Test Pit Width (ft):	Total Depth (ft): 9.5
backhoe		

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			CL-ML	silty CLAY, grey
		1		as above, sample collected
2		2	SP	SAND, minor silt and clay, fine sand layer, sample collected
4			FILL	alternating layers of pond sediments
6				
8		3		as above, sample collected
				end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND1/2-TP-035		UNC

TEST PIT LOG
Test Pit No.: POND1/2-TP-058

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 10:15
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 9.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	grey pond sediments
2				
			VS	sandy SILT, some layered clays
4				
		1		as above, sample collected
6				
8				
		2		as above, not sure if native, sample collected
			VS	end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND1/2-TP-058		UNC

TEST PIT LOG
Test Pit No.: POND3/3A-TP-007

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/05/2006 11:35
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 9.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SW	SAND, grey
2			SM	silty SAND, brown, dense
				SAND, fine
4				
		1		as above, sample collected
6				
8				
		2		as above, sample collected
			SW	end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND3/3A-TP-007		UNC

TEST PIT LOG
Test Pit No.: POND3/3A-TP-014

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/05/2006 10:45
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 9.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND
2				
4				
6		1		silty SAND, brn, low plasticity, some small cobbles
8				
		2	GP-SP	gravely SAND, light brown, cobbles, ss fragments, very hard to distinguish native from pond sediments
				end of TP

Project no:	Design By:	Scale:	
1004896	H.	2	NECR
	POND3/3A-TP-014		UNC

TEST PIT LOG
Test Pit No.: POND3/3A-TP-029

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/05/2006 9:50
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 9.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND
2				
		1		silty SAND, f.-med grained sand, <1" cobbles, micro-r readings dropped with increased depth, sample colelcted
4				
6		2	GP-SP	gravely SAND, brn, cobbles, low plasticity, ?native?, sample collected
8				
		3	SC	clayey SAND, grey clayey chunks, oxidation, no cobbles, sample collected
			SC	end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND3/3A-TP-029		UNC

TEST PIT LOG
Test Pit No.: POND3/3A-TP-037

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/05/2006 9:30
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD	Test Pit Width (ft):	Total Depth (ft): 9.0
backhoe		

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	silty SAND, brown, sample collected
2				
			CH	silty CLAY, brn, med-high plasticity
4				
		2		as above, sample collected
6				
8				
		3	ML	sandy SILT, brn, moist, low plasticity
				as above, end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	POND3/3A-TP-037		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-006

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 16:02
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 4.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	FILL, sandy, grey, buried pipes
		1		as above, sample collected
2				
		2	ML	clayey SILT, brn, low plasticity, moist, dense
4				as above, end of TP
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-006		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-012

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 15:42
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL, grey, moist
		1		as above, sample collected
		2	ML	SILT, native, brown, minor clay, sample collected
2				
				SANDSTONE AND SILT, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-012		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-014

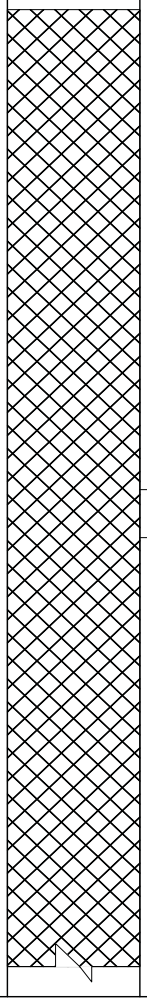
PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 15:20
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SP	SAND, gray, loose
		1		as above, sample collected
		2	ML	SILT, native, brn, no cobbles, minor clay, loose, low-med plasticity, sample collected
2				as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-014		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-021

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 9:55
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 11.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0			FILL	sand FILL, 80% sand, 20% fines, grey/green, loose, slightly moist
2				
4				
		1		as above, sample collected
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-021		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-021

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 9:55
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 11.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
10		2	FILL	sand FILL, grey/green, unable to reach native soil due to limitations of backhoe
			FILL	as above, end of TP
12				
14				
16				
18				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-021		UNC

TEST PIT LOG
Test Pit No.: SEDPAD-TP-026

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/28/2006 16:20
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 3.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	clayey SILT, native
		1		as above, sample collected
2				
			ML	as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SEDPAD-TP-026		UNC

TEST PIT LOG
Test Pit No.: SAND1-TP-030

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 14:50
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 4.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	sandy SILT, brn
		1	SW	SAND, grey, sample collected
2				SANDSTONE, weathered
		2		as above, sample collected
4				SANDSTONE, more competent, can't dig in, leave teethmarks from hoeend of TP
6				
8				

Project no:	*1004896*	Design By:	H.	Scale:	2	NECR
			SAND1-TP-030			UNC

TEST PIT LOG
Test Pit No.: SAND1-TP-043

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 14:00
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL, lt brn
		1		SANDSTONE, grey and tan, crumbly, platy, bedded, weathered to sandy soil, sample collected
2				end of TP
4				
6				
8				

Project no:	Design By:	Scale:	
1004896	H.	2	NECR
	SAND1-TP-043		UNC

TEST PIT LOG
Test Pit No.: SAND1-TP-049

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 13:40
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 3.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL
		1		as above, sample collected
2				SANDSTONE, native, weathered, fragemented
		2		as above, sample collected
4				end of TP
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND1-TP-049		UNC

TEST PIT LOG
Test Pit No.: SAND1-TP-063

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL, grey, med to crs, moist
		1		as above, sample collected
				SANDSTONE, weathered, tan gray, sandy soil
		2		as above, sample collected
2				as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND1-TP-063		UNC

TEST PIT LOG
Test Pit No.: SAND1-TP-068

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/02/2006 14:35
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL, gry, med-crs grained
		1		as above, sample collected
				SANDSTONE, weathered, tan
		2		as above, sample collected
2				as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND1-TP-068		UNC

TEST PIT LOG
Test Pit No.: SAND2-TP-008

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 16:00
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.2

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND mixed with SANDSTONE fragments, highly weathered, dry, loose, 1-3" angular frags
		1		as above, sample collected
				SANDSTONE, end of TP
2				
4				
6				
8				

Project no:	1004896	Design By:	H.	Scale:	2	NECR
			SAND2-TP-008			UNC

TEST PIT LOG
Test Pit No.: SAND2-TP-011

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 14:00
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, 80% f. sand, low plasticity silt, 5% ang cobbles, dry, loose, brn
		1		as above, sample collected
				SANDSTONE, bedding, white to light grey, brittle, crumbly
2				as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND2-TP-011		UNC

TEST PIT LOG
Test Pit No.: SAND2-TP-012

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 14:30
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 3.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, native soil, 80% f. sand, 20% silt, lt brn to brn, loose, roots, <5% ang cobbles
		1		as above, collect sample
2				
				SANDSTONE, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND2-TP-012		UNC

TEST PIT LOG
Test Pit No.: SAND2-TP-017

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 14:45
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, native soil, 25% angular cobbles
		1		as above, sample collected
2				SANDSTONE, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND2-TP-017		UNC

TEST PIT LOG
Test Pit No.: SAND2-TP-019

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 15:30
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			SM	silty SAND, native, 10% lrg cobbles, 15% <6" cobbles
		1		silty SAND, native, 10% lrg cobbles, 15% <6" cobbles, sample collected
2				SANDSTONE, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND2-TP-019		UNC

TEST PIT LOG
Test Pit No.: SAND3-TP-005

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 10:20
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL
		1		as above, sample collected
		2	ML	SILT, native, sample collected
2			ML	as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND3-TP-005		UNC

TEST PIT LOG
Test Pit No.: SAND3-TP-006

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 10:10
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	SILT, native
		1		as above, sample collected
2				as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND3-TP-006		UNC

TEST PIT LOG
Test Pit No.: SAND3-TP-009

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 10:05
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	SILT, native
		1		as above, sample collected
2			ML	as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND3-TP-009		UNC

TEST PIT LOG
Test Pit No.: SAND3-TP-014

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 9:50
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 2.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			FILL	sand FILL
		1		as above, sample collected
		2	ML	SILT, native, sample collected
2			ML	as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND3-TP-014		UNC

TEST PIT LOG
Test Pit No.: SAND3-TP-025

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 9:40
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
			ML	SILT, native
		1		as above, sample collected
			ML	as above, end of TP
2				
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	SAND3-TP-025		UNC

TEST PIT LOG
Test Pit No.: NEMSA-TP-001

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/14/2006 10:50
LOCATION		LOGGER
NECR		L.W. Martin
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 6.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	silty SAND, light brown, low plasticity, dry soil cap/cover, sample collected
		2	FILL	gray coarse non economic material, sample collected
2				
4		3		as above, sample collected
		4	SW	native SAND, sample collected
6			SW	as above, end of TP
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NEMSA-TP-001		UNC

TEST PIT LOG
Test Pit No.: NEMSA-TP-002

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 10:40
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 7.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	soil cap/cover, sample collected
		2	FILL	gray coaarse, non economic material, sample collected
2				
4				
		3		as above, sample collected
6				
		4	SW	native SAND, minor silty clay, sample collected
			SW	as above, end of TP
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NEMSA-TP-002		UNC

TEST PIT LOG
Test Pit No.: NEMSA-TP-003

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 11:20
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 4.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	soil cap/cover, sample collected
		2	FILL	gray coarse non economic material, sample collected
2				
			ML	native SILT
4		3		as above, sample collected
			ML	as above, end of TP
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NEMSA-TP-003		UNC

TEST PIT LOG
Test Pit No.: NEMSA-TP-004

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/01/2006 15:35
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD	Test Pit Width (ft):	Total Depth (ft): 9.0
backhoe		

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	soil cap/cover, sample collected
		2	FILL	gray coarse, non economic material, sample collected
2				
4				
6		3		as above, sample collected
8		4		as above, sample collected
			FILL	native soil not reached, end of TP

missed pre-cap and mid-depth samples, re-excavated on 12/05/2206

Project no:	Design By:	Scale:	
1004896	H.	2	NECR
	NEMSA-TP-004		UNC

TEST PIT LOG
Test Pit No.: NEMSA-TP-005

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/01/2006 16:00
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 8.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	silty SAND, sample collected
			FILL	sand FILL, and debris, rock bolts, cable
2				
4		2		as above, collected sample
6				
8		3	SW	native SAND, collected sample
			SW	as above, end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	NEMSA-TP-005		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-001

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 14:00
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SW	SAND, native, no visible cap/cover surface, sample collected
		2		as above, sample collected
			SW	as above, end of TP
2				
4				
6				
8				

Project no:	Design By:	Scale:	
1004896	H.	2	NECR
	YARD-TP-001		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-002

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 14:30
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 10.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SP	SAND, reworked native, sample collected, no visible pre cap surface
		2		as above, refusal at rock at 2 ft
2				
4				
6				
8				
		3	SW	SAND, native, excavated past rock on second attempt (12/1/2006), sample

Project no: 1004896	Design By: H.	Scale: 2	NECR
	YARD-TP-002		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-002

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		11/30/2006 14:30
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 10.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
10			SW	collected as above, end of TP
12				
14				
16				
18				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	YARD-TP-002		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-003

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/1/2006 10:00
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 1.5

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SW	SAND, native, sample collected
		2		as above, sample collected
2			SW	as above, end of TP
4				
6				
8				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	YARD-TP-003		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-004

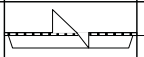
PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/1/2006 10:30
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 10.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	silty SAND, soil cap/cover, sample collected
		2	FILL	sand FILL and debris, buried cable, rubber, misc. metal, sample collected
2				
4				
		3		as above, collect sample
6				
		4		sand fill and debris, inner tube, fencing, rock bolts, misc garbage, sample collected
8				
		5	SW	native SAND, no debris, sample collected

Project no:	1004896	Design By:	H.	Scale:	2	NECR
			YARD-TP-004			UNC

TEST PIT LOG
Test Pit No.: YARD-TP-004

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/1/2006 10:30
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 10.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
10			SW	native SAND, end of TP
12				
14				
16				
18				

Project no: 1004896	Design By: H.	Scale: 2	NECR
	YARD-TP-004		UNC

TEST PIT LOG
Test Pit No.: YARD-TP-005

PROJECT		PROJECT NO.
NECR		1004896
CLIENT		DATE
UNC		12/1/2006 11:50
LOCATION		LOGGER
NECR		H. Hoffman
EXCAVATION METHOD		
backhoe	Test Pit Width (ft):	Total Depth (ft): 9.0

DEPTH (FT)	GRAPHIC	Sample Number	USCS	DESCRIPTION
0				
		1	SM	silty SAND
2		2	FILL	sand FILL and debris, sample collected
4		3		as above, sample collected
6				
8		4	SW-SP	native SAND with gravel, sample collected
			SW-SP	as above, end of TP

Project no: 1004896	Design By: H.	Scale: 2	NECR
	YARD-TP-005		UNC

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Poorly graded sand
	Sandstone
	Silty sand
	Fill
	Silt
	Silty low plasticity clay
	Variable sand and silt mix
	Well graded sand
	Poorly graded gravel and sand
	Clayey sand
	High plasticity clay
	Interlayered well/poorly graded sand
Misc. Symbols	
	Boring continues

Notes:

1. These logs are subject to the limitations, conclusions, and recommendations in this report.

1. Results of tests conducted on samples recovered are reported on the logs.

APPENDIX A2

ANALYTICAL DATA

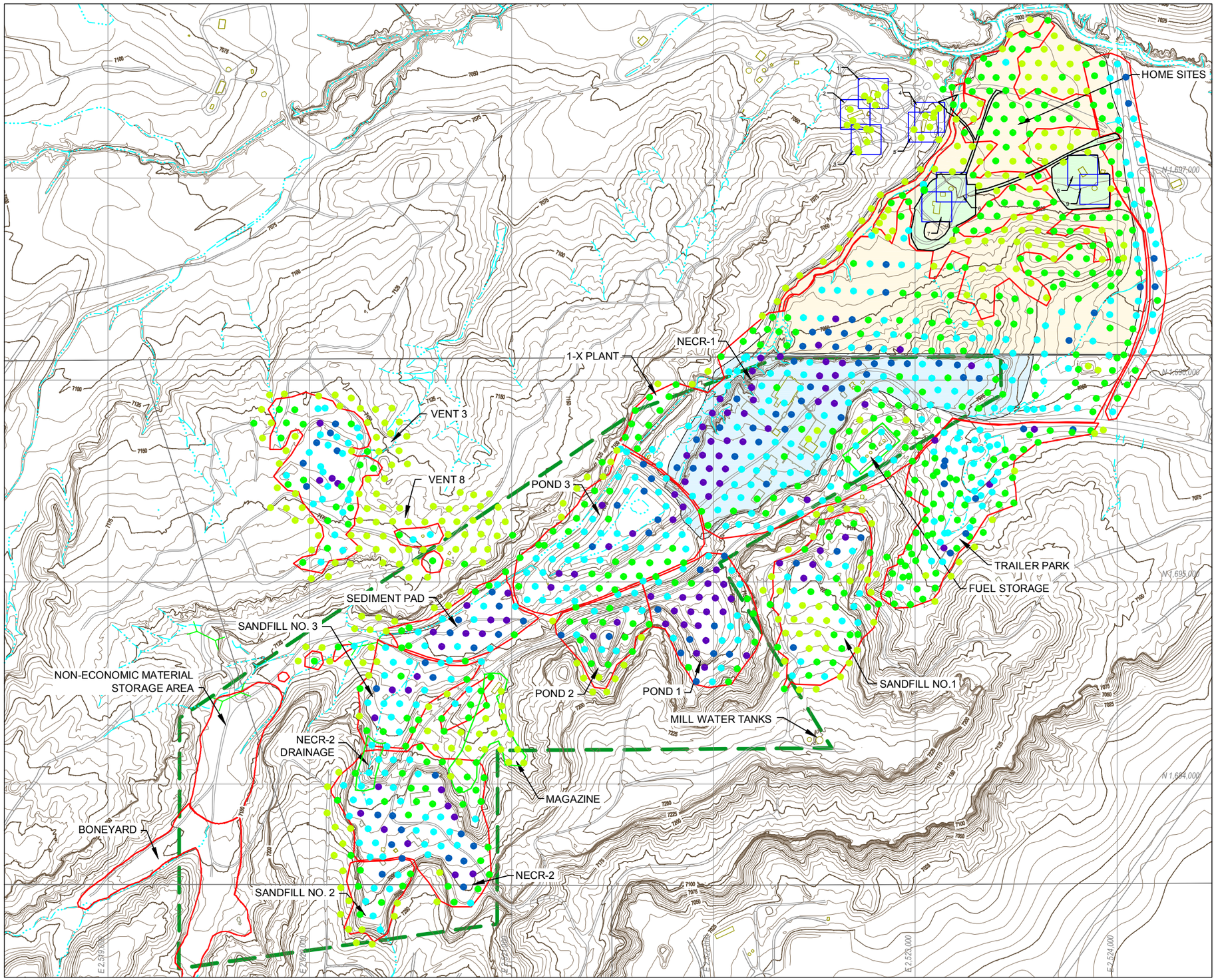
REMOVAL SITE EVALUATION

MWH, 2007A

Summary Figures

Combined Removal Site Evaluation and

Supplemental Removal Site Evaluation



LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
- MINE FEATURE BOUNDARY
- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
- AREAS ABOVE FIELD SCREENING LEVEL
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

STATIC GAMMA MEASUREMENT LOCATIONS SHOWING EQUIVALENT Ra-226 (pCi/g) CONCENTRATION

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
1	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
0	ISSUE FOR INTERNAL REVIEW	01/08	T.Leeson	E.Marks	T.Leeson

P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

DRAWING TITLE: **RESULTS OF FIELD GAMMA RADIATION SURVEY**

MWH

SCALE: As Shown

FIGURE No. 3-1

N:\design-drafting\clients q-z\united nuclear corporation\1005146 necr supplemental rse rev1\021-sheet set\1005146F020-0

N

E 2,522,000

E 2,523,000

E 2,524,000

N 1,697,000

HO1-005 (1.5)(1)
HO1-004 (1.3)(1)
HO1-003 (1)(1)
HO1-001 (1.2)(1)
HO1-002 (0.9)(1)
HO2-003 (0.9)(1)
HO2-001 (0.9)(1)
HO2-002 (0.9)(1)
HO2-004 (0.9)(1)
HO3-005 (1.1)(1)
HO3-004 (1.2)(1)
HO2-005 (0.9)(1)
HO3-003 (1.1)(1)
HO3-001 (0.9)(1)
HO3-002 (1.1)(1)
HO4-003 (1.6)(1.5)
HO4-002 (2.1)(1.5)
HO4-001 (1.3)(1.1)
HO5-005 (2.1)(2.4)
HO5-004 (1.3)(1.4)
HO5-001 (1)(0.8)
HO5-002 (1.4)(1.1)
HO5-003 (0.9)(0.9)
HO6-004 (8.9)(10.2)
HO7-005 (7.4)(9.2)
CB-01 (11.9)(NA)
CB-02 (10.6)(NA)
CB-03 (9.7)(0)
CB-04 (11.4)(NA)
CB-05 (15.8)(NA)
CB-06 (15.7)(NA)
CB-07 (14.9)(NA)
CB-08 (14.4)(NA)
CB-09 (18.9)(NA)
CB-10 (21.2)(NA)
CB-11 (19.6)(NA)
CB-12 (21.4)(NA)
CB-13 (19.2)(NA)
CB-14 (21)(NA)
CB-15 (26.4)(NA)
HO-441 (0.7)(1)
HO-438 (1.3)(13)
HO-463 (4.8)(6)
HO-459 (2.5)(3)
HO-457 (4.4)(4)
HO-455 (9.5)(12)
HO-454 (26.6)(15)
HO-462 (1.7)(3)
HO-461 (1.2)(2)
HO-460 (1.9)(4)
HO-458 (1.4)(4)
HO-456 (1.8)(2)
HO-433 (28.5)(36)
HO-432 (3.4)(50)
HO-453 (3.2)(3)
HO-431 (18.7)(18)
HO-452 (4.1)(5)
HO-451 (1.1)(1)
HO-450 (0.9)(2)
HO-430 (2.9)(5)
HO-448 (17.1)(23)
HO-447 (2.5)(4)
HO-445 (1.3)(2)
HO-446 (1.7)(4)
HO-448 (17.1)(23)
HO-444 (2.9)(3)
HO-429 (4.6)(6)
HO-442 (1.5)(3)
HO-443 (2)(7)
HO-439 (0.9)(2)
HO-440 (2.5)(5)
N1-262 (1.4)(2)
N1-265 (1.6)(2)
HO-437 (5.4)(21)
N1-307 (3.8)(7)
HO-436 (2)(9)
N1-238 (1.6)(3)
N1-240 (1.5)(4)
HO-435 (2.5)(7)
HO-428 (9.2)(24)
N1-293 (7)(21)
N1-289 (1.8)(3)
N1-207 (3.1)(8)
N1-184 (1.2)(3)
N1-173 (4.6)(6)
N1-164 (35.7)(22)
N1-281 (80.5)(83)
HO-434 (5.3)(5)
N1-126 (50.9)(99)
N1-127 (93.3)(177)
N1-129 (7)(8)
N1-131 (41.5)(59)
N1-133 (54.7)(53)
N1-135 (63.2)(81)
N1-137 (52.6)(99)
N1-138 (48.6)(20)
N1-140 (15.8)(21)
NECR-1

1
2
3
4
5
6
7
8
9

7025
7050
7075
7000

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT.

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
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- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
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- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

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1	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
0	ISSUE FOR INTERNAL REVIEW	01/08	T.Leeson	E.Marks	T.Leeson

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Gallup, New Mexico 87305-3077

PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

DRAWING TITLE: **SURFACE SOIL ANALYTICAL RESULTS**

MWH

SCALE: As Shown

FIGURE No. 3-2.1

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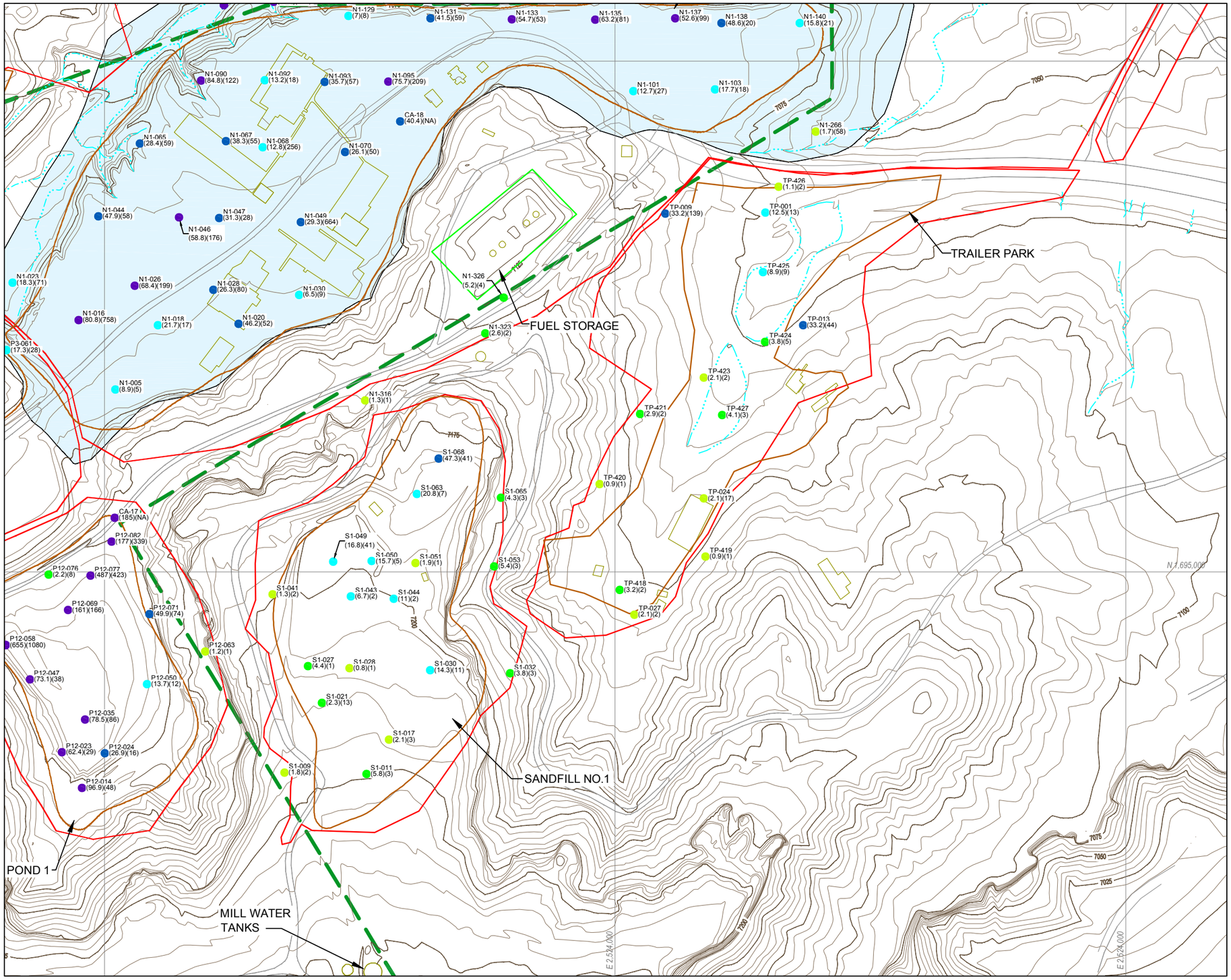

LEGEND

- CONTOURS
- STREAMS
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- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

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PROJECT: ***SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT***

DRAWING TITLE: ***SURFACE SOIL ANALYTICAL RESULTS***

MWH

SCALE: As Shown

FIGURE No. 3-2.2

N:\design-drafting\clients q-z\united nuclear corporation\1005146 necr supplemental rse rev1\021-sheet set\1005146F022-0

N

E 2,520,000

E 2,521,000

N 1,695,000

VENT 8

VENT 3

1-X PLANT

POND 3

POND 2

POND 1

SEDIMENT PAD

SANDFILL NO. 3

NECR-2 DRAINAGE

7150 7125 7175 7100 7075 7200 7225

V38-417 (1.1)(1)
V38-416 (0.6)(1)
V38-415 (0.8)(1)
V38-414 (1)(119)
V38-413 (1.8)(3)
V38-412 (1.4)(2)
V38-006 (13.2)(19)
V38-411 (0.5)(1)
V38-031 (2.2)(2)
V38-019 (137)(358)
V38-410 (3.1)(3)
V38-002 (3.6)(5)
V38-409 (1.9)(2)
V38-407 (1.1)(1)
V38-408 (0.6)(1)
V38-406 (0.3)(1)
V38-404 (1.4)(1)
V38-034 (1.4)(1)
V38-405 (1.2)(2)
V38-402 (2.9)(7)
V38-403 (0.8)(1)
V38-400 (0.6)(1)
V38-401 (0.9)(2)

P3-063 (3.8)(9)
P3-065 (39.6)(68)
P3-057 (2.8)(5)
P3-059 (26.9)(63)
P3-061 (17.3)(28)
P3-042 (1.4)(2)
P3-046 (19.5)(34)
P3-037 (7.7)(10)
P3-038 (20.9)(35)
P3-027 (4.7)(19)
P3-029 (312)(1240)
P3-014 (875)(3970)
P3-015 (18.8)(11)
P3-007 (259)(1020)
CA-16 (6.2)(NA)
P3-001 (18.1)(42)

N1-044 (47.9)(58)
N1-023 (18.3)(71)
N1-016 (80.8)(758)
N1-005 (8.9)(5)
CA-17 (185)(NA)
P12-082 (177)(339)
P12-076 (2.2)(8)
P12-077 (487)(423)
P12-069 (161)(166)
P12-056 (11.2)(10)
P12-058 (655)(1080)
P12-047 (73.1)(38)
P12-041 (3)(4)
P12-042 (1)(2)
P12-032 (1.6)(2)
P12-035 (78.5)(86)
P12-019 (4.7)(8)
P12-020 (2.2)(2)
P12-023 (62.4)(29)
P12-024 (26.9)(16)
P12-009 (1.7)(2)
P12-011 (1.1)(1)
P12-012 (1.5)(2)
P12-014 (96.9)(48)

SP-025 (36.7)(22)
SP-026 (27.1)(33)
SP-018 (1.5)(2)
SP-020 (12.8)(18)
SP-022 (104)(86)
SP-021 (85.6)(1640)
CA-09 (6.6)(NA)
SP-011 (3.8)(27)
SP-012 (118)(363)
SP-014 (236)(366)
SP-015 (33.4)(35)
CA-07 (1.5)(NA)
CA-06 (1.1)(NA)
CA-08 (3.5)(NA)
CA-01 (1.9)(NA)
S3-027 (4.5)(3)
SP-005 (17.7)(14)
SP-006 (38.8)(22)
SP-007 (106)(92)
SP-008 (25.8)(20)
CA-03 (4.5)(NA)
CA-02 (5.4)(NA)
CA-10 (31.6)(NA)
S3-024 (27.4)(7)
S3-025 (26.9)(11)
S3-026 (19.6)(7)
CA-04 (1.8)(NA)
CA-05 (3.7)(NA)
S3-022 (1.2)(1)
NE-005 (2.6)(2)
S3-017 (1)(1)
S3-012 (1.4)(2)
S3-014 (123)(396)
NF-004 (1.3)(5)
S3-008 (1.4)(3)
S3-009 (31.9)(41)
S3-010 (33.4)(136)
S3-004 (1.4)(4)
S3-005 (66.9)(86)
S3-006 (17.4)(119)
S3-002 (15.3)(43)
CA-11 (1.9)(NA)
N2-096 (1.4)(4)
N2-109 (1.6)(2)

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT.

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
- MINE FEATURE BOUNDARY
- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
- AREAS ABOVE FIELD SCREENING LEVEL
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- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

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PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

DRAWING TITLE: **SURFACE SOIL ANALYTICAL RESULTS**

MWH

SCALE: As Shown

FIGURE No. 3-2.3

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N

NON-ECONOMIC MATERIAL STORAGE AREA

SANDFILL NO. 3

NECR-2 DRAINAGE

MAGAZINE

BONEYARD

SANDFILL NO. 2

NECR-2

NE-005 (2.6)(2)
NE-004 (1.3)(5)
NE-001 (1.2)(1)
NF-002 (1.7)(5)
BY-003 (1.1)(2)
NF-003 (0.9)(1)
BY-004 (1.6)(1)
BY-002 (2.2)(2)
BY-001 (45.9)(17)

CA-02 (5.4)(NA)
CA-05 (3.7)(NA)
CA-04 (1.8)(NA)
CA-10 (31.6)(NA)
S3-022 (1.2)(1)
S3-024 (27.4)(7)
S3-025 (26.9)(11)
S3-026 (19.6)(7)
S3-017 (1)(1)
S3-012 (1.4)(2)
S3-014 (123)(396)
S3-008 (1.4)(3)
S3-009 (31.9)(41)
S3-010 (33.4)(136)
S3-004 (1.4)(4)
S3-005 (66.9)(86)
S3-006 (17.4)(119)
S3-002 (15.3)(43)
N2-109 (1.6)(2)
N2-096 (1.4)(4)
CA-11 (1.9)(NA)
N2-083 (3.1)(3)
N2-103 (1.5)(2)
N2-069 (8.9)(10)
N2-071 (40)(46)
CA-14 (10.3)(NA)
CA-13 (8.9)(NA)
CA-12 (6.8)(NA)
N2-050 (1.2)(2)
N2-052 (23)(44)
N2-056 (11.9)(4)
CA-15 (9.2)(NA)
N2-033 (2)(5)
N2-035 (160)(370)
N2-037 (4.6)(7)
N2-039 (35.4)(30)
N2-027 (35.3)(12)
N2-018 (3.6)(2)
N2-015 (97.2)(107)
N2-017 (55.3)(49)
N2-020 (38.1)(66)
S2-019 (21.6)(28)
S2-020 (27.7)(41)
N2-004 (1.2)(2)
S2-014 (0.8)(1)
S2-015 (4.4)(3)
S2-016 (6.1)(3)
S2-017 (36)(9)
S2-010 (1.2)(1)
S2-011 (6.2)(5)
S2-012 (6.2)(26)
S2-006 (1.2)(1)
S2-007 (16.1)(7)
S2-003 (3.3)(4)
S2-004 (2)(2)

7200
7400
7600
7800

N 1,694,000
N 1,693,000
E 2,519,000
E 2,520,000
E 2,521,000

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT.

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
- MINE FEATURE BOUNDARY
- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
- AREAS ABOVE FIELD SCREENING LEVEL

SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
1	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
0	ISSUE FOR INTERNAL REVIEW	01/08	T.Leeson	E.Marks	T.Leeson

P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

DRAWING TITLE: **SURFACE SOIL ANALYTICAL RESULTS**

MWH

SCALE: As Shown

FIGURE No. 3-2.4

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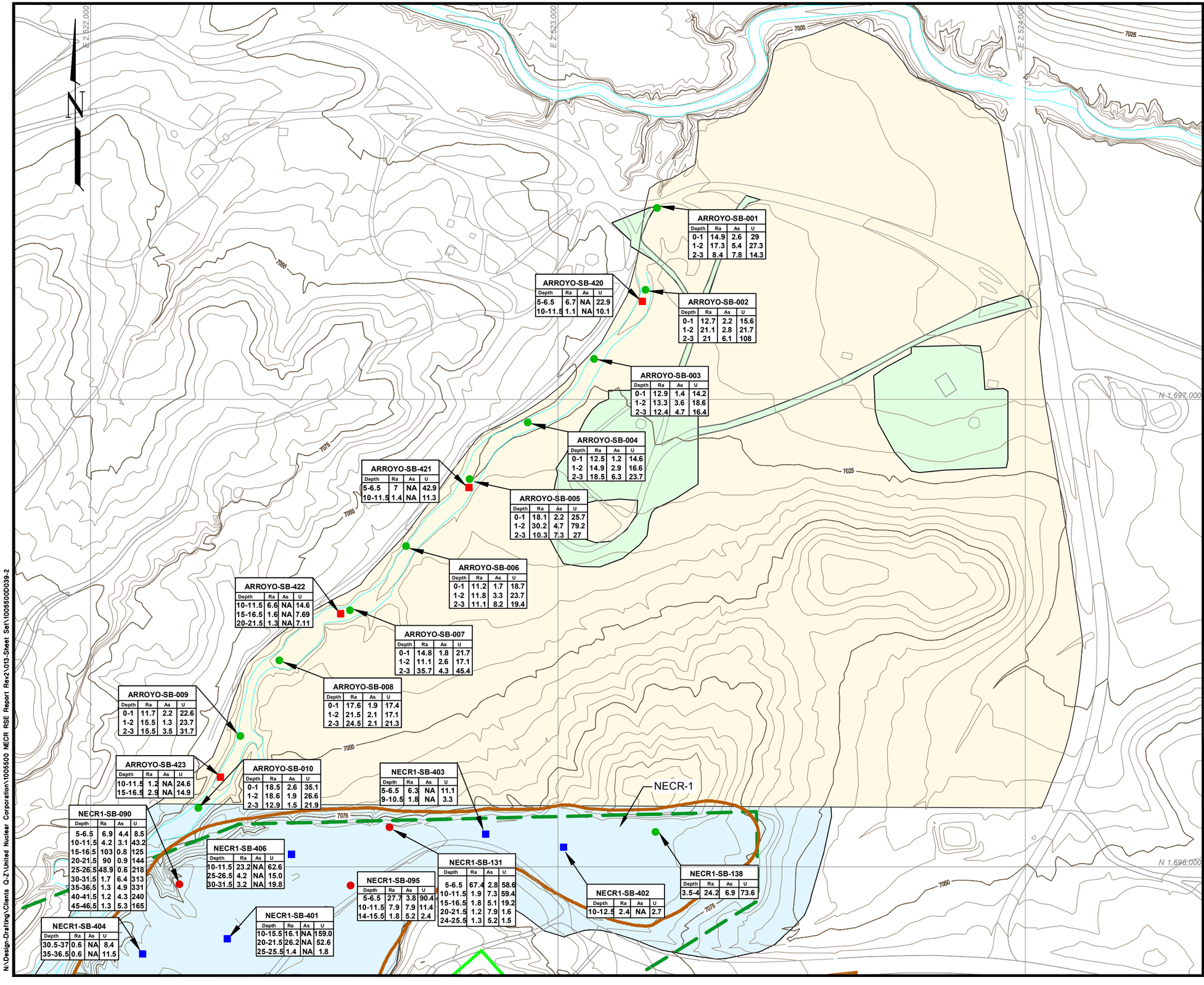

LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- TEST PIT LOCATION
- SOIL BORING LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY. 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

NOTES:
1. 1. Ra-226 CONCENTRATIONS ARE IN pCi/g; AS AND U ARE IN mg/Kg.
2. RSE SAMPLES COLLECTED NOV.2006; SRSE SAMPLES COLLECTED FEBRUARY 2008 (ID# 400-413); SRSE PHASE 2 SAMPLES COLLECTED APRIL 2008 (ID# 414-423).
3. DEPTH IN FEET bgs.
4. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
2	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
1	Issued For Supplemental Draft	04/08	T.Leeson	C.Fowler	T.Leeson
0	Issued For Final	09/07	T.Leeson	C.Fowler	T.Leeson

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Gallup, New Mexico 87305-3077

PROJECT:
REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:
SUBSURFACE SOIL ANALYTICAL RESULTS

MWH

Sheet 1 Of 3 Sheets
SCALE: As Shown
FIGURE No. 3-4

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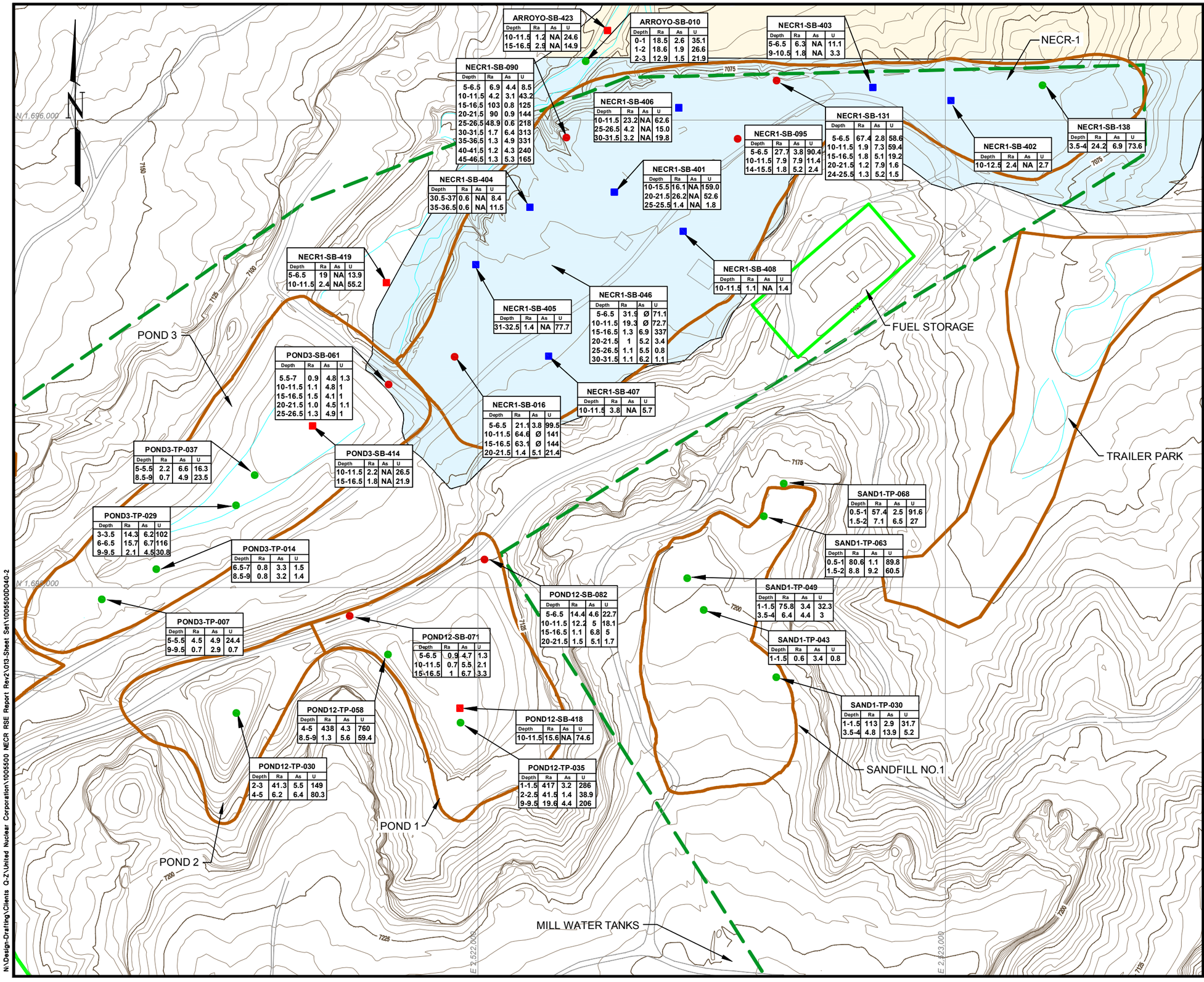

LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- MINE FEATURE BOUNDARY
- ARROYO
- TEST PIT LOCATION
- SOIL BORING LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

NOTES:

1. 1. Ra-226 CONCENTRATIONS ARE IN pCi/g; AS AND U ARE IN mg/Kg.
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3. DEPTH IN FEET bgs.
4. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT

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PROJECT:
REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:
SUBSURFACE SOIL ANALYTICAL RESULTS

MWH

Sheet 2 Of 3 Sheets
SCALE: As Shown
FIGURE No. 3-4

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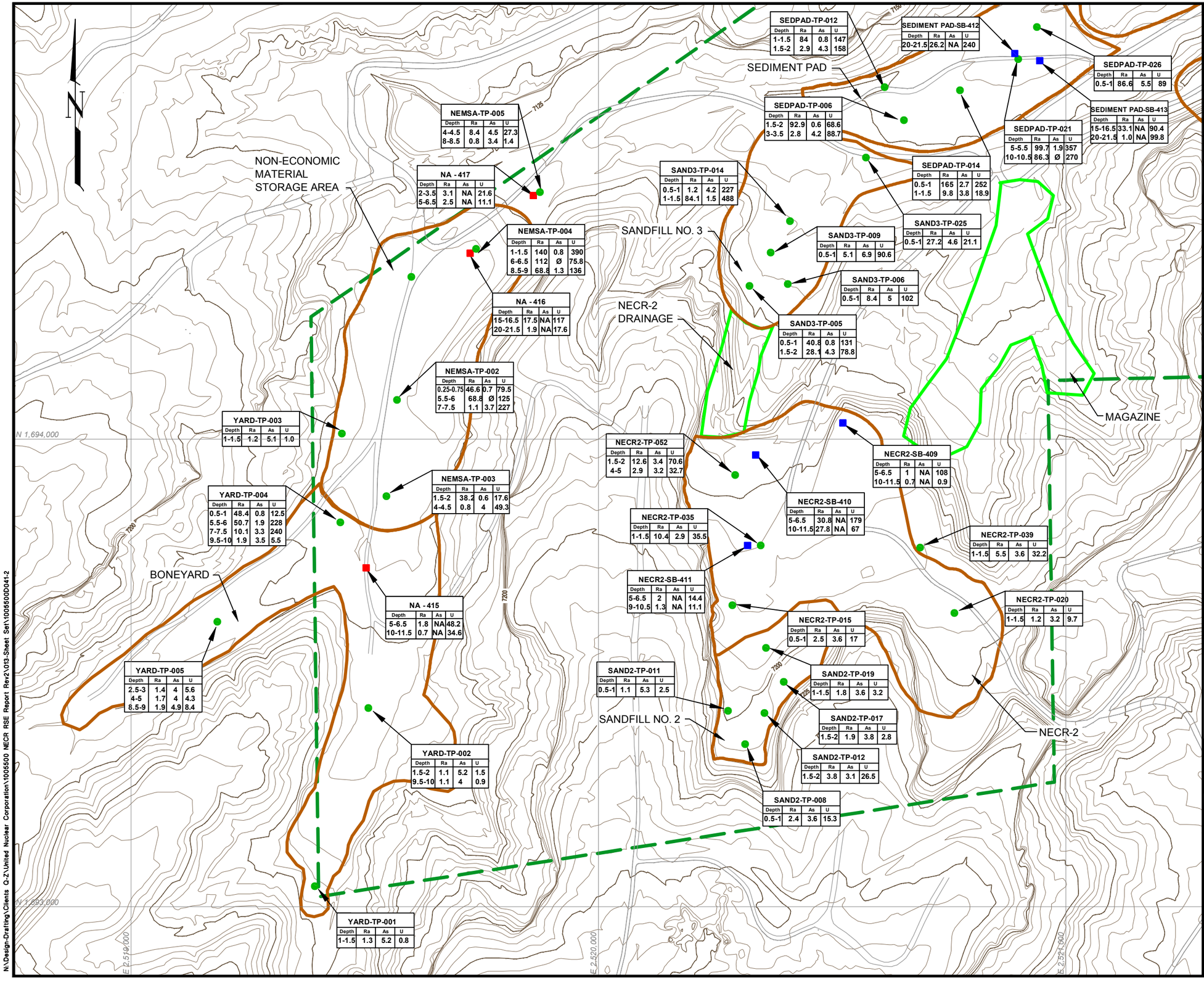

LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- MINE FEATURE BOUNDARY
- TEST PIT LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)

NOTES:

1. 1. Ra-226 CONCENTRATIONS ARE IN pCi/g; AS AND U ARE IN mg/Kg.
2. RSE SAMPLES COLLECTED NOV.2006; SRSE SAMPLES COLLECTED FEBRUARY 2008 (ID# 400-413); SRSE PHASE 2 SAMPLES COLLECTED APRIL 2008 (ID# 414-423).
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SCALE
200' 0 200'
CONTOUR INTERVAL 5FT

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PROJECT:
REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:
SUBSURFACE SOIL ANALYTICAL RESULTS

MWH

Sheet 3 Of 3 Sheets
SCALE: As Shown
FIGURE No. 3-4

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Soil Analytical Summary Tables

Removal Site Evaluation 2006

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs
Removal Site Evaluation 2007

Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
NECR-1	NECR-COR-A-18	C06081547-020	**40.4**	na	na	na	na	na
	NECR1-SS-005	C06111057-013	**8.9**	3.7	nd	2.6	5.1	28.6
	NECR1-SB-016 [0-0.25]	C06111057-012	**80.8**	nd	nd	59.5	**758.0**	62.4
	NECR1-SS-018	C06111057-011	**21.7**	2.1	nd	5.4	17.0	27.1
	NECR1-SS-020	C06111057-010	**46.2**	1.9	nd	54.1	52.0	38.3
	NECR1-SS-023	C06111057-009	**18.3**	**4.5**	nd	11.2	71.2	42.8
	NECR1-SS-026	C06111057-008	**68.4**	nd	nd	69.4	199.0	42.5
	NECR1-SS-028	C06111057-007	**26.3**	**7.4**	63.8	6.6	79.9	35.4
	NECR1-SS-030	C06111057-006	**6.5**	**5.3**	nd	2.1	8.5	32.5
	NECR1-SS-044	C06111057-004	**47.9**	1.3	nd	27.3	57.7	48.4
	NECR1-SB-046 [0-0.5]	C06111057-003	**58.8**	nd	nd	54.2	176.0	52.5
	NECR1-SS-047	C06111057-002	**31.3**	2.3	nd	19.2	27.7	33.8
	NECR1-SS-049	C06111057-001	**29.3**	**8.3**	214.0	5.1	**664.0**	22.9
	NECR1-SS-065	C06111057-097	**28.4**	**5.7**	nd	16.0	59.1	56.9
	NECR1-SS-067	C06111057-096	**38.3**	2.9	nd	21.2	55.1	39.1
	NECR1-SS-068	C06111057-095	**12.8**	1.9	nd	5.7	**256.0**	21.6
	NECR1-SS-070	C06111057-094	**26.1**	2.5	nd	9.4	49.6	32.8
	NECR1-SS-090	C06111057-093	**84.8**	2.3	nd	29.0	122.0	47.1
	NECR1-SS-092	C06111057-092	**13.2**	3.1	nd	8.2	18.1	28.3
	NECR1-SS-093	C06111057-091	**35.7**	2.0	nd	12.8	56.9	29.6
	NECR1-SB-095 [0-0.5]	C06111057-078	**75.7**	3.0	nd	30.6	**209.0**	45.1
	NECR1-SS-101	C06111057-090	**12.7**	**4.4**	nd	4.1	27.2	30.2
	NECR1-SS-103	C06111057-089	**17.7**	**5.6**	nd	7.9	17.7	41.6
	NECR1-SS-126	C06111057-087	**50.9**	**5.9**	10.8	14.1	99.3	48.6
	NECR1-SS-127	C06111057-086	**93.3**	**6.9**	15.2	21.6	177.0	75.9
	NECR1-SS-129	C06111057-085	**7.0**	**4.4**	nd	2.4	7.7	31.9
	NECR1-SS-131	C06111057-084	**41.5**	1.6	nd	14.7	58.7	34.3
	NECR1-SS-133	C06111057-083	**54.7**	2.1	nd	12.6	52.6	35.8
	NECR1-SS-135	C06111057-082	**63.2**	**4.6**	nd	16.5	81.0	61.3
	NECR1-SS-137	C06111057-081	**52.6**	**5.4**	nd	17.6	98.5	64.2
	NECR1-SS-138	C06111057-080	**48.6**	2.2	nd	13.5	19.9	26.8
	NECR1-SS-140	C06111057-079	**15.8**	**4.8**	nd	4.2	21.2	34.7
		Average	**39.3**	**3.9**	76.0	18.7	116.2	40.4
		Standard Deviation	24.2	2.1	39.1	17.8	172.1	13.2
NECR-1 Stepouts	NECR1-SS-164	C06120235-037	**35.7**	**4.3**	nd	11.4	22.0	43.2
	NECR1-SS-173	C06120235-038	**4.6**	**4.5**	nd	1.4	5.6	32.3
	NECR1-SS-184	C06120235-039	1.2	2.7	nd	1.0	2.9	35.9
	NECR1-SS-207	C06120235-040	**3.1**	**4.9**	nd	1.4	7.6	30.5
	NECR1-SS-238	C06120235-041	1.6	**7.9**	nd	1.4J-	3.4	42.9
	NECR1-SS-240	C06120235-042	1.5	**14.9**	nd	0.5J-	3.6	50.2
	NECR1-SS-262	C06120235-044	1.4	**5.2**	nd	1.1J-	2.2	30.4
	NECR1-SS-265	C06120235-045	1.6	**4.9**	nd	0.4J-	2.4	30.6
	NECR1-SS-266	C06120235-046	1.7	**5.1**	nd	0.6J-	57.7	34.6
	NECR1-SS-281	C06120235-047	**80.5**	**4.0**	nd	53.1J-	83.4	69.7
	NECR1-SS-289	C06120235-048	1.8	**5.7**	nd	1.0J-	3.1	30.6
	NECR1-SS-293	C06120235-049	**7.0**	**9.0**	nd	3.2J-	21.4	32.9

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs
Removal Site Evaluation 2007

Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
	NECR1-SS-307	C06120235-050	**3.8**	**13.3**	nd	1.1J-	6.8	41.0
	NECR1-SS-316	C06120235-009	1.3	2.7	nd	nd	1.2	19.3
	NECR1-SS-323	C06120235-007	**2.6**	3.7	nd	0.9	2.2	32.3
	NECR1-SS-326	C06120235-008	**5.2**	2.8	nd	1.6	4.3	28.5
		Average	**9.7**	**6.0**	nd	4.9	14.4	36.6
		Standard Deviation	20.7	3.6	nd	13.1	23.3	11.4
NECR-2	NECR-COR-A-11	C06081547-012	1.9	na	na	na	na	na
	NECR-COR-A-12	C06081547-013	**6.8**	na	na	na	na	na
	NECR-COR-A-13	C06081547-014	**8.9**	na	na	na	na	na
	NECR-COR-A-14	C06081547-015	**10.3**	na	na	na	na	na
	NECR-COR-A-15	C06081547-016	**9.2**	na	na	na	na	na
	NECR 2-SS-004	C06110906-046	1.2	**4.0**	nd	nd	1.5	28.9
	NECR 2-SS-015	C06110906-032	**97.2**	3.5	nd	11.9	107.0	46.7
	NECR 2-SS-017	C06110906-033	**55.3**	2.8	nd	13.3	48.9	39.9
	NECR 2-SS-018	C06110906-034	**3.6**	3.4	nd	1.2	2.2	29.4
	NECR 2-SS-020	C06110906-042	**38.1**	1.3	nd	15.7	66.2	26.8
	NECR 2-SS-027	C06110906-047	**35.3**	3.4	nd	6.6	12.3	34.9
	NECR 2-SS-033	C06110906-035	2.0	3.3	nd	1.2	5.2	16.0
	NECR 2-SS-035	C06110906-037	**160.0**	1.9	nd	26.7	**370.0**	67.3
	NECR 2-SS-037	C06110906-036	**4.6**	**4.8**	nd	1.2	7.1	33.0
	NECR 2-SS-039	C06110906-038	**35.4**	2.3	nd	6.5	29.5	26.7
	NECR 2-SS-050	C06110906-040	1.2J	**6.4**	nd	nd	2.0	24.7
	NECR 2-SS-052	C06110906-045	**23.0**	2.5	nd	5.6	43.5	31.0
	NECR 2-SS-056	C06110906-041	**11.9**	3.4	nd	2.6	3.9	33.0
	NECR 2-SS-069	C06110906-043	**8.9**	**4.7**	nd	2.6	9.6	34.2
	NECR 2-SS-071	C06110906-044	**40.0**	**5.0**	nd	14.5	45.7	58.9
		Average	**27.7**	3.5	2.5	7.3	50.3	35.4
		Standard Deviation	39.3	1.3	0.0	7.7	93.5	13.3
NECR-2 Stepouts	NECR2-SS-083	C06120235-017	**3.1**	3.3	nd	0.4	3.2	26.5
	NECR2-SS-096	C06120235-018	1.4	**8.1**	nd	nd	3.7	39.0
	NECR2-SS-103	C06120235-019	1.5	**4.9**	nd	0.6	2.1	35.6
	NECR2-SS-109	C06120235-020	1.6	**6.4**	nd	nd	1.7	37.2
		Average	1.9	**5.7**	2.5	0.3	2.7	34.6
		Standard Deviation	0.8	2.1	0.0	0.2	0.9	5.6
Sandfill 1	SAND1-SS-009	C06110737-028	1.8	**5.1**	nd	0.3B	1.9	20.2
	SAND1-SS-011	C06110737-024	**5.8**	3.2	nd	0.9B	2.5	22.8
	SAND1-SS-017	C06110737-022	2.1	2.0	nd	0.3B	2.8	11.8
	SAND1-SS-021	C06110737-026	**2.3**	2.6	nd	0.7B	12.6	13.4
	SAND1-SS-027	C06110737-027	**4.4**	2.8	nd	0.6B	1.0	14.1
	SAND1-SS-028	C06110737-029	0.8	3.0	nd	0.2B	0.7	15.6
	SAND1-SS-030	C06110737-023	**14.3**	**4.1**	nd	2.5	10.6	33.9
	SAND1-SS-041	C06110737-025	1.3	**5.6**	nd	0.4B	2.1	23.2
	SAND1-SS-043	C06110737-030	**6.7**	3.4	nd	1.7J	1.8	18.8
	SAND1-SS-044	C06110737-015	**11.0**	**6.7**	nd	1.6	1.7	31.9
	SAND1-SS-049	C06110737-016	**16.8**	**4.9**	nd	3.0	41.0	81.3
	SAND1-SS-050	C06110737-018	**15.7**	**5.0**	nd	8.1	4.5	26.1
	SAND1-SS-051	C06110737-019	1.9	**4.6**	nd	0.5B	1.0	32.6
	SAND1-SS-063	C06110737-020	**20.8**	3.3	nd	3.5J	6.9	28.5
	SAND1-SS-068	C06110737-021	**47.3**	2.3	nd	19.2	41.3	42.1
		Average	**10.2**	**3.9**	nd	2.9	8.8	27.8
		Standard Deviation	12.2	1.4	nd	5.0	13.6	17.2

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs
Removal Site Evaluation 2007

Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
Sandfill 1 Boundary	SAND1-SS-032	C06120235-014	**3.8**	**4.6**	nd	1.3	2.5	34.4
	SAND1-SS-053	C06120235-015	**5.4**	**7.0**	nd	1.4	2.5	32.0
	SAND1-SS-065	C06120235-016	**4.3**	**4.6**	nd	1.0	3.0	30.1
		Average	**4.5**	**5.4**	nd	1.2	2.7	32.2
		Standard Deviation	0.8	1.4	nd	0.2	0.3	2.2
Sandfill 2	SAND2-SS-003	C06110737-001	**3.3**	**8.0**	nd	0.9B	4.2	22.6
	SAND2-SS-004	C06110737-002	2.0	**7.3**	nd	0.8B	2.2	29.1
	SAND2-SS-006	C06110737-003	1.2	**7.8**	nd	0.2B	1.0	30.9
	SAND2-SS-007	C06110737-004	**16.1**	**4.0**	nd	2.8	7.0	37.6
	SAND2-SS-010	C06110737-005	1.2	**9.0**	nd	0.3B	1.2	42.6
	SAND2-SS-011	C06110737-006	**6.2**	**4.7**	nd	1.0	5.4	29.6
	SAND2-SS-012	C06110737-008	**6.2**	3.3	nd	0.9B	26.3	54.2
	SAND2-SS-014	C06110737-009	0.8	3.5	nd	nd	0.7	12.4
	SAND2-SS-015	C06110737-010	**4.4**	**5.5**	nd	0.8B	2.7	38.1
	SAND2-SS-016	C06110737-011	**6.1**	**4.5**	nd	1.3	2.5	34.3
	SAND2-SS-017	C06110737-012	**36.0**	3.2	nd	6.3	9.0	41.5
	SAND2-SS-019	C06110737-013	**21.6**	3.3	nd	3.6	27.5	49.7
	SAND2-SS-020	C06110737-014	**27.7**	**4.1**	nd	5.0	41.4	49.0
		Average	**10.2**	**5.2**	nd	1.8	10.1	36.3
		Standard Deviation	11.5	2.1	nd	2.0	13.0	11.6
Sandfill 3	NECR-COR-A-10	C06081547-010	**31.6**	na	na	na	na	na
	SAND3-SS-002	C06110906-013	**15.3**	3.4	nd	4.2	42.6	43.7
	SAND3-SS-005	C06110906-009	**66.9**	1.5	nd	32.2	86.4	54.5
	SAND3-SS-006	C06110906-012	**17.4**	**4.7**	nd	3.5	119.0	39.6
	SAND3-SS-008	C06110906-014	1.4	3.7	nd	0.5	2.9	34.1
	SAND3-SS-009	C06110906-008	**31.9**	3.7	nd	14.0	41.4	41.0
	SAND3-SS-010	C06110906-010	**33.4**	**3.8**	nd	7.2	136.0	45.0
	SAND3-SS-014	C06110906-005	**123.0**	1.7	nd	33.5	**396.0**	51.5
	SAND3-SS-017	C06110906-011	1.0	**5.3**	nd	0.7	1.4	26.0
	SAND3-SS-022	C06110906-004	1.2	2.9	nd	nd	0.9	22.7
	SAND3-SS-024	C06110906-003	**27.4**	**4.3**	nd	5.8	7.4	33.2
	SAND3-SS-025	C06110906-002	**26.9**	2.7	nd	5.5	10.9	28.6
	SAND3-SS-026	C06110906-001	**19.6**	2.5	nd	5.3	7.3	20.6
	SAND3-SS-027	C06110906-007	**4.5**	**4.7**	nd	1.4	3.2	28.7
		Average	**28.7**	3.5	nd	8.8	65.8	36.1
		Standard Deviation	32.4	1.2	nd	11.3	109.7	10.8
Sandfill 3 Boundary	SAND3-SS-004	C06120235-064	1.4	2.1	nd	1.0	3.5	34.9
	SAND3-SS-012	C06120235-065	1.4	**4.3**	nd	nd	2.3	38.8
		Average	1.4	3.2	nd	0.6	2.9	36.9
		Standard Deviation	0.0	1.6	nd	0.6	0.8	2.8
Correlation Samples	NECR-COR-A-01	C06081547-001	1.9	na	na	na	na	na
	NECR-COR-A-02	C06081547-002	**5.4**	na	na	na	na	na
(outside & NW of Sandfill 3)	NECR-COR-A-03	C06081547-003	**4.5**	na	na	na	na	na
	NECR-COR-A-04	C06081547-004	1.8	na	na	na	na	na
	NECR-COR-A-05	C06081547-005	**3.7**	na	na	na	na	na
	NECR-COR-A-06	C06081547-006	1.1	na	na	na	na	na
	NECR-COR-A-07	C06081547-007	1.5	na	na	na	na	na
	NECR-COR-A-08	C06081547-008	**3.5**	na	na	na	na	na
	NECR-COR-A-09	C06081547-009	**6.6**	na	na	na	na	na
	NECR-COR-A-19	C06081541-028	1.0	na	na	na	na	na
		Average	**3.1**	na	na	na	na	na
		Standard Deviation	1.9	na	na	na	na	na

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs
Removal Site Evaluation 2007

Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
Ponds 1 and 2	NECR-COR-A-17	C06081547-019	**185.0**	na	na	na	na	na
	POND12-SS-011	C06111057-050	1.1	**5.0**	nd	nd	1.0	35.3
	POND12-SS-014	C06111057-051	**96.9**	3.2	nd	36.3	47.5	56.2
	POND12-SS-019	C06111057-052	**4.7**	**4.9**	nd	0.9	7.8	34.9
	POND12-SS-020	C06111057-054	2.2	**5.0**	nd	0.5	2.0	35.6
	POND12-SS-023	C06111057-055	**62.4**	2.5	nd	22.8	28.6	38.5
	POND12-SS-024	C06111057-056	**26.9**	2.5	nd	7.1	16.2	28.7
	POND12-SS-035	C06111057-057	**78.5**	**8.8**	nd	30.6	85.5	83.7
	POND12-SS-041	C06111057-059	**3.0**	**4.2**	nd	1.5	4.1	26.8
	POND12-SS-042	C06111057-060	1.0	**5.6**	nd	nd	1.5	35.5
	POND12-SS-047	C06111057-061	**73.1**	3.7	nd	24.3	37.7	49.6
	POND12-SS-050	C06111057-062	**13.7**	**5.3**	nd	5.3	11.9	35.8
	POND12-SS-056	C06111057-063	**11.2**	**5.3**	nd	3.2	10.1	35.9
	POND12-SS-058	C06111057-064	**655.0**	**5.5**	nd	159.0	**1080.0**	198.0
	POND12-SS-061	C06111057-065	**26.5**	**4.4**	nd	5.2	36.6	35.8
	POND12-SS-069	C06111057-066	**161.0**	**3.8**	nd	33.0	166.0	79.6
	POND12-SB-071 [0-0.5]	C06111057-069	**49.9**	3.1	nd	11.3	73.9	34.9
	POND12-SS-076	C06111057-067	2.2	**5.2**	nd	0.2	8.0	40.8
	POND12-SS-077	C06111057-068	**487.0**	**5.1**	nd	83.7	**423.0**	123.0
	1/2-SB-82 [0-0.5]	C06111057-073	**177.0**	2.7	nd	56.3	**339.0**	75.6
		Average	**105.9**	**4.5**	nd	25.3	125.3	57.1
		Standard Deviation	172.0	1.5	nd	39.4	**259.1**	42.1
Ponds 1 and 2 Boundary	POND12-SS-009	C06120235-010	1.7	2.2	nd	1.2	1.6	24.6
	POND12-SS-012	C06120235-011	1.5	**4.5**	nd	0.8	1.7	35.2
	POND12-SS-032	C06120235-012	1.6	**4.4**	nd	0.8	2.0	33.5
	POND12-SS-063	C06120235-013	1.2	3.0	nd	0.6	1.3	40.1
		Average	1.5	3.5	nd	0.9	1.7	33.4
		Standard Deviation	0.2	1.1	nd	0.3	0.3	6.5
Pond 3/3a	NECR-COR-A-16	C06081547-018	**6.2**	na	na	na	na	na
	POND3-SS-001	C06111057-110	**18.1**	**6.1**	nd	5.2	42.0	50.4
	POND3-SS-007	C06111057-109	**259.0**	**5.5**	nd	22.3	**1020.0**	64.1
	POND3-SS-014	C06111057-122	**875.0**	**5.7**	nd	71.9	**3970.0**	118.0
	POND3-SS-015	C06111057-108	**18.8**	**3.9**	nd	8.6	11.1	32.4
	POND3-SS-027	C06111057-107	**4.7**	**4.0**	nd	0.9	19.1	26.9
	POND3-SS-029	C06111057-106	**312.0**	**5.0**	nd	24.5	**1240.0**	79.3
	POND3-TP-037 [0-0.5]	C06120336-049	**7.7**	2.7	nd	1.0	9.8	19.2
	POND3-SS-038	C06111057-105	**20.9**	**6.1**	nd	4.2	34.9	34.1
	POND3-SS-042	C06111057-103	1.4	**5.1**	nd	0.7	1.9	28.8
	POND3-SS-046	C06111057-099	**19.5**	**6.7**	nd	3.3	34.3	42.5
	POND3-SS-057	C06111057-098	**2.8**	**8.1**	nd	0.7	4.5	39.9
	POND3-SS-059	C06111057-100	**26.9**	**5.5**	nd	5.2	62.9	39.5
	3/3a-SB-61 [0-0.5]	C06111057-111	**17.3**	3.7	nd	6.8	28.4	30.3
	POND3-SS-063	C06111057-102	**3.8**	**6.4**	nd	2.9	8.8	38.9
	POND3-SS-065	C06111057-101	**39.6**	**5.7**	nd	5.2	68.4	46.8
		Average	**102.1**	**5.3**	2.5	10.9	**437.1**	46.1
		Standard Deviation	226.2	1.4	0.0	18.4	**1051.8**	25.0
Sediment Pad	SEDPAD-SS-005	C06111057-030	**17.7**	3.1	nd	3.7	14.1	25.5
	SEDPAD-SS-006	C06111057-031	**38.8**	3.0	nd	14.2	21.7	39.5
	SEDPAD-SS-07	C06111057-032	**106.0**	1.1	nd	45.5	92.4	63.4
	SEDPAD-SS-008	C06111057-034	**25.8**	3.0	nd	7.9	19.8	35.5
	SEDPAD-SS-011	C06111057-033	**3.8**	**11.6**	nd	2.7	27.3	502.0
	SEDPAD-SS-12	C06111057-035	**118.0**	0.9	nd	37.8	**363.0**	52.9

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Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
	SEDPAD-SS-014	C06111057-036	**236.0**	2.7	nd	78.8	**366.0**	106.0
	SEDPAD-SS-015	C06111057-037	**33.4**	1.5	nd	12.9	34.7	31.5
	SEDPAD-SS-018	C06111057-038	1.5	nd	nd	nd	1.9	46.8
	SEDPAD-SS-020	C06111057-039	**12.8**	**6.0**	nd	3.8	17.7	22.2
	SEDPAD-SS-021	C06111057-040	**85.6**	1.3	nd	45.4	**1640.0**	59.1
	SEDPAD-SS-022	C06111057-041	**104.0**	1.3	nd	44.5	85.9	60.7
	SEDPAD-SS-025	C06111057-042	**36.7**	1.5	nd	7.5	21.9	29.9
	SEDPAD-SS-026	C06111057-043	**27.1**	3.0	nd	9.0	33.1	32.1
		Average	**60.5**	2.9	nd	22.4	195.7	79.1
		Standard Deviation	64.2	2.9	nd	23.7	**433.2**	123.6
NEMSA	NEMSA-TP-001 [0-0.5]	C06110906-027	1.2	3.6	nd	0.6	1.0	28.6
	NEMSA-TP-002 [0-0.25]	C06120336-030	1.7	**4.2**	nd	1.0	4.8	32.4
	NEMSA-TP-003 [0-0.5]	C06120336-034	0.9	3.2	nd	1.7	0.9	18.0
	NEMSA-TP-004 [0-0.5]	C06120336-037	1.3	**4.3**	nd	1.2	4.8	29.2
	NEMSA-TP-005 [0-0.5]	C06120336-039	**2.6**	**4.3**	nd	nd	2.2	28.9
		Average	1.5	**3.9**	nd	0.9	2.7	27.4
		Standard Deviation	0.7	0.5	nd	0.6	1.9	5.5
Boneyard	YARD-TP-001 [0-0.5]	C06110906-031	**45.9**	1.3	nd	16.7	17.4	41.3
	YARD-TP-002 [0-0.5]	C06120235-023	2.2	**5.5**	nd	0.6	2.1	32.0
	YARD-TP-003 [0-0.5]	C06120235-026	1.1	**5.1**	nd	0.8	1.5	31.6
	YARD-TP-004 [0-0.5]	C06120235-022	1.6	3.7	nd	0.4	0.8	29.0
	YARD-TP-005 [0-0.5]	C06120235-033	1.2	**4.0**	nd	nd	1.0	26.0
		Average	**10.4**	**3.9**	nd	3.7	4.6	32.0
		Standard Deviation	19.8	1.6	nd	7.3	7.2	5.7
Vents 3 & 8	VENT3-SS-034	C06120235-005	1.4	2.3	nd	0.2	1.1	9.0
	VENT8-SS-002	C06120235-001	**3.6**	**5.1**	nd	2.9	5.2	35.3
	VENT8-SS-006	C06120235-003	**13.2**	3.3	nd	5.0	19.4	30.3
	VENT8-SS-019	C06120235-006	**137.0**	3.3	nd	27.4	**358.0**	55.4
	VENT8-SS-031	C06120235-004	2.2	2.6	nd	0.9	2.1	21.6
		Average	**31.5**	3.3	nd	7.3	77.2	30.3
		Standard Deviation	59.2	1.1	nd	11.4	157.2	17.2
Trailer Park	TP-SS-001	C06120235-051	**12.5**	3.7	nd	6.6J-	12.7	43.7
	TP-SS-009	C06120235-053	**33.2**	**6.1**	nd	39.8J-	139.0	61.3
	TP-SS-013	C06120235-052	**33.2**	nd	nd	101.0J-	44.0	78.4
	TP-SS-024	C06120235-054	2.1	**5.4**	nd	1.7J-	16.7	32.8
	TP-SS-027	C06120235-056	2.1	**5.3**	nd	0.8J-	1.7	31.7
		Average	**16.6**	**4.2**	nd	30.0	42.8	49.6
		Standard Deviation	15.7	2.4	nd	42.8	56.0	20.0
Home Sites	HOME 1-SS-001	C06110906-048	1.2	2.9	nd	nd	0.8	21.5
	HOME 1-SS-002	C06110906-049	0.9	2.7	nd	0.3	1.0	28.9
	HOME 1-SS-003	C06110906-050	1.0	3.2	nd	0.2	1.0	27.8
	HOME 1-SS-004	C06110906-051	1.3	2.3	nd	nd	1.0	31.2
	HOME 1-SS-005	C06110906-052	1.5	**5.7**	nd	nd	1.4	32.3
	HOME 2-SS-001	C06110906-053	0.9	**5.9**	nd	0.7	1.0	35.9
	HOME 2-SS-002	C06110906-054	0.9	**5.1**	nd	0.3	0.7	37.5
	HOME 2-SS-003	C06110906-055	0.9	**4.1**	nd	0.6	1.0	36.1
	HOME 2-SS-004	C06110906-056	0.9	3.6	nd	1.2	0.8	33.4
	HOME 2-SS-005	C06110906-058	0.9	**4.5**	nd	0.3	1.0	35.5
	HOME 3-SS-001	C06110906-059	0.9	3.3	nd	nd	1.4	32.8
	HOME 3-SS-002	C06110906-060	1.1	3.3	nd	nd	0.9	31.2
	HOME 3-SS-003	C06110906-061	1.1	3.7	nd	0.6	0.7	28.5

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		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
	HOME 3-SS-004	C06110906-062	1.2	**4.5**	nd	0.7	1.0	37.4
	HOME 3-SS-005	C06110906-063	1.1	**6.4**	nd	nd	1.1	42.6
	HOME 4-SS-001	C06110906-064	1.3	**3.9**	nd	nd	1.1	33.5
	HOME 4-SS-002	C06110906-065	2.1	3.0	nd	0.8	1.5	26.6
	HOME 4-SS-003	C06110906-067	1.6	3.2	nd	0.7	1.5	25.8
	HOME 4-SS-004	C06110906-068	**3.6**	**6.0**	nd	1.6	3.5	28.8
	HOME 4-SS-005	C06110906-069	**3.0**	**4.3**	nd	1.1	2.7	28.2
	HOME 5-SS-001	C06110906-070	1.0	3.0	nd	0.9	0.8	30.1
	HOME 5-SS-002	C06110906-071	1.4	**5.2**	nd	1.2	1.1	31.9
	HOME 5-SS-003	C06110906-072	0.9	**4.4**	nd	1.0	0.9	30.0
	HOME 5-SS-004	C06110906-073	1.3	**7.2**	nd	0.8	1.4	31.2
	HOME 5-SS-005	C06110906-074	2.1	3.3	nd	0.7	2.4	23.8
	HOME 6-SS-001	C06110906-075	**6.1**	**4.2**	nd	1.5	9.3	33.9
	HOME 6-SS-002	C06110906-076	**11.4**	**4.4**	nd	2.0	11.1	38.4
	HOME 6-SS-003	C06110906-077	**5.6**	**4.5**	nd	2.0	5.7	34.8
	HOME 6-SS-004	C06110906-078	**8.9**	**4.5**	nd	1.7	10.2	36.8
	HOME 6-SS-005	C06110906-079	**14.9**	**4.2**	nd	2.7	12.7	37.3
	HOME 7-SS-001	C06110906-080	**3.4**	**4.9**	nd	1.2	2.3	31.0
	HOME 7-SS-002	C06110906-081	**5.5**	**4.4**	nd	1.5	6.3	34.1
	HOME 7-SS-003	C06110906-082	**29.6**	**5.2**	nd	6.3	20.5	49.7
	HOME 7-SS-004	C06110906-083	**9.4**	**5.5**	nd	2.0	11.8	43.3
	HOME 7-SS-005	C06110906-084	**7.4**	3.4	nd	1.3	9.2	28.4
	HOME 8-SS-001	C06110906-085	**2.3**	3.5	nd	0.2	2.1	30.9
	HOME 8-SS-002	C06110906-086	**2.5**	3.0	nd	0.5	2.7	33.2
	HOME 8-SS-003	C06110906-087	**3.2**	2.7	nd	0.5	5.3	34.0
	HOME 8-SS-004	C06110906-088	**5.6**	**4.1**	nd	1.2	6.4	34.0
	HOME 8-SS-005	C06110906-089	**3.3**	**5.3**	nd	nd	4.9	38.8
	HOME 9-SS-001	C06110906-090	**3.4**	**5.0**	nd	1.0	7.9	29.8
	HOME 9-SS-002	C06110906-091	**3.3**	3.6	nd	0.7	8.1	27.8
	HOME 9-SS-003	C06110906-092	**6.7**	**4.1**	nd	1.8	19.1	33.1
	HOME 9-SS-004	C06110906-093	**5.4**	2.8	nd	1.2	12.4	26.1
	HOME 9-SS-005	C06110906-094	**2.6**	**4.5**	nd	0.4	3.3	29.4
		Average	**3.9**	**4.2**	nd	1.0	4.5	32.6
		Standard Deviation	5.0	1.1	nd	1.0	5.0	5.2
Unnamed Arroyo (correlation samples)	NECR-COR-B-01	C06081542-001	**11.9**	na	na	na	na	na
	NECR-COR-B-02	C06081542-002	**10.6**	na	na	na	na	na
	NECR-COR-B-03	C06081542-003	**9.7**	na	na	na	na	na
	NECR-COR-B-04	C06081542-004	**11.4**	na	na	na	na	na
	NECR-COR-B-05	C06081542-005	**15.8**	na	na	na	na	na
	NECR-COR-B-06	C06081542-006	**15.7**	na	na	na	na	na
	NECR-COR-B-07	C06081542-007	**14.9**	na	na	na	na	na
	NECR-COR-B-08	C06081542-008	**14.4**	na	na	na	na	na
	NECR-COR-B-09	C06081542-009	**18.9**	na	na	na	na	na
	NECR-COR-B-10	C06081542-010	**21.2**	na	na	na	na	na
	NECR-COR-B-11	C06081542-012	**19.6**	na	na	na	na	na
	NECR-COR-B-12	C06081542-013	**21.4**	na	na	na	na	na
	NECR-COR-B-13	C06081542-014	**19.2**	na	na	na	na	na
	NECR-COR-B-14	C06081542-015	**21.0**	na	na	na	na	na
	NECR-COR-B-15	C06081542-016	**26.4**	na	na	na	na	na
		Average	**16.8**	na	na	na	na	na
		Standard Deviation	4.8	na	na	na	na	na

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs
Removal Site Evaluation 2007

Area	Sample ID	Lab ID	Analyte					
			Ra-226[1]	As[2]	Mo	Se	U	V
		Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		Residential PRG	0.0124	0.39	390	390	16	78
		Industrial PRG	--	1.6	5,100	5,100	200	1,000
		Outdoor Worker	0.0258	--	--	--	--	--
		Background Mean	1.0	3.7	nd	0.4	1.1	26.7
		Screening Level	2.24	3.7	5,100	5,100	200	1,000
Site-Wide Statistical Summary								
		Number of Samples	263	229	229	229	229	229
		Minimum	0.8	<0.5	<5.0	<0.2	0.7	9.0
		Average	30.6	4.2	3.8	9.5	79.7	40.2
		Maximum	875.0	14.9	214	159	3970	502
		Standard Deviation	82.0	2.0	14.6	18.9	319.1	36.0

Notes:

nd = not detected above reporting limint; na = not analyzed.

-- = not applicable

Data Qualifier Flags

J = Datum is estimated, bias unknown.

J- = Datum is estimated, potentially biased low.

J+ = Datum is estimated, potentially biased high.

B = Analyte detected in associated method blank. Sample concentration greater than five time method blank concentration.

1. Published EPA Region 9 PRGs are based on a 10^{-6} risk level. The FSL shown for Ra-226 is based on a 10^{-4} risk level.
2. The PRGs shown for arsenic are the cancer PRGs; The residential non-cancer PRG for arsenic is 22 mg/kg, and the industrial non-cancer PRG is 260 mg/kg.
3. Bolded and shaded values indicate exceedances of the field screening levels.
4. Statistical values based on one-half the reporting limits for "nd" results.
5. This table includes surface samples (<0.5 feet bgs) from the soil borings and test pits; depth are shown in square brackets.
6. Correlation samples collected in August 2006 are included in this table.

Soil Analytical Summary Tables

Supplemental Removal Site Evaluation 2007

Table 3.2 Summary of Surface Soil Analytical Results Supplemental Removal Site Evaluation 2007		
Samp ID	**Ra-226 (pCi/g)**	**Uranium (mg/kg)**
Reporting Limit	0.1	0.2
Screening Level	2.24	200
NECR-1 Step-Out/Home Sites		
Home-SS-428	9.2	24.00
Home-SS-429	4.6	5.66
Home-SS-430	2.9	4.48
Home-SS-530	3.5	4.58
Home-SS-431	18.7	18.20
Home-SS-432	3.4	49.90
Home-SS-433	28.5	36.00
Home-SS-434	5.3	4.54
Home-SS-435	2.5	7.26
Home-SS-436	2.0	8.84
Home-SS-536	2.0	7.30
Home-SS-437	5.4	20.60
Home-SS-438	1.3	13.30
Home-SS-439	0.9	2.10
Home-SS-440	2.5	5.44
Home-SS-540	2.1	6.10
Home-SS-441	0.7	0.81
Home-SS-442	1.5	3.05
Home-SS-443	2.0	6.88
Home-SS-444	2.9	3.15
Home-SS-445	1.3	2.42
Home-SS-446	1.7	3.56
Home-SS-447	2.5	3.99
Home-SS-448	17.1	22.60
Home-SS-449	1.1	3.07
Home-SS-450	0.9	1.59
Home-SS-550	1.2	1.78
Home-SS-451	1.1	1.42
Home-SS-452	4.1	4.58
Home-SS-453	3.2	2.93
Home-SS-454	26.6	14.50
Home-SS-455	9.5	11.70
Home-SS-456	1.8	2.37
Home-SS-457	4.4	4.17
Home-SS-458	1.4	3.90
Home-SS-459	2.5	2.57
Home-SS-460	1.9	4.10
Home-SS-560	2.6	4.40
Home-SS-461	1.2	1.76
Home-SS-462	1.7	3.07
Home-SS-463	4.8	6.24
Average	4.7	8.30
Standard Deviation	6.5	9.98

Table 3.2 Summary of Surface Soil Analytical Results Supplemental Removal Site Evaluation 2007		
Samp ID	**Ra-226 (pCi/g)**	**Uranium (mg/kg)**
Reporting Limit	0.1	0.2
Screening Level	2.24	200
Trailer Park		
TP-SS-418	3.2	1.94
TP-SS-419	0.9	1.07
TP-SS-420	0.9	1.36
TP-SS-520	1.4	1.49
TP-SS-421	2.9	2.44
TP-SS-423	2.1	2.30
TP-SS-424	3.8	4.73
TP-SS-425	8.9	8.55
TP-SS-426	1.1	1.80
TP-SS-427	4.1	2.55
Average	2.9	2.80
Standard Deviation	2.4	2.25
Vents 3 & 8		
Vent38-SS-400	0.6	1.00
Vent38-SS-401	0.9	2.09
Vent38-SS-402	2.9	7.41
Vent38-SS-403	0.8	0.98
Vent38-SS-404	1.4	1.36
Vent38-SS-405	1.2	1.65
Vent38-SS-406	0.3	0.51
Vent38-SS-407	1.1	1.30
Vent38-SS-408	0.6	0.64
Vent38-SS-409	1.9	2.11
Vent38-SS-410	3.1	2.87
Vent38-SS-510	2.9	2.87
Vent38-SS-411	0.5	0.60
Vent38-SS-412	1.4	2.32
Vent38-SS-413	1.8	2.69
Vent38-SS-414	1.0	119.00
Vent38-SS-415	0.8	1.07
Vent38-SS-416	0.6	0.48
Vent38-SS-417	1.1	1.19
Average	1.3	8.00
Standard Deviation	0.8	26.92

Notes:
1. Split samples are indicated by ID numbers in the 500s and are listed below their corresponding primary sample.
2. Shaded cells indicate exceedance of the screening level.

Soil Analytical Summary Tables

Subsurface Supplemental Removal Site Evaluation Phase 1 2008

Summary of Subsurface Soil Analytical Results Supplemental Removal Site Evaluation 2008							
Loc ID	**Sample ID**	**Depth** **ft bgs**	**Background γ** **CPM**	**Sample γ** **CPM**	**Radium 226** **pCi/g**	**Uranium** **mg/kg**	**Comments**
NECR-1							
N1-SB401	N1-SB401 (10')	10	51,904	54,548	16.1	159.0	
	N1-SB401 (20')	20		53,847	26.2	52.6	Weathered bedrock at 20.5 ft bgs
	N1-SB401 (25')	25		--	1.4	1.8	
N1-SB402	--	5	57,127	55,312	--	--	
	N1-SB402 (10')	10		55,566	2.4	2.7	Bedrock at 11 ft bgs.
N1-SB403	N1-SB403 (5')	5	25,408	27,059	6.3	11.1	Weathered bedrock at 5 ft bgs
	N1-SB403 (9')	9		--	1.8	3.3	
N1-SB404	N1-SB404 (30')	30	47,470	49,050	0.6	8.4	Sample recovery too low to measure gamma at 25 ft bgs.
	N1-SB404 (35')	35		--	0.6	11.5	
N1-SB405	--	15	70,378	82,250	--	--	
	--	20		79,393	--	--	
	--	25		80,543	--	--	
	N1-SB405 (30.5')	30.5		69,851	1.4	77.7	Native at 30.5 ft bgs
N1-SB406	N1-SB406 (10')	10	46,910	53,972	23.2	62.6	
	--	16		52,596	--	--	
	--	22		51,880	--	--	
	N1-SB406 (25')	25		48,854	4.2	15.0	
	N1-SB406 (30')	30		48,055	3.2	19.8	
N1-SB407	N1-SB407 (10')	10	31,991	27,653	3.8	5.7	Bedrock at 14 ft bgs.
N1-SB408	--	5	36,798	36,433	--	--	Sample recovery too low for sample.
	N1-SB408 (10')	10		--	1.1	1.4	Possible bedrock at 11.5 ft bgs.
NECR-2							
N2-SB409	N2-SB409 (5')	5	16,067	16,560	1.0	108.0	Native fill all the way.
	N2-SB409 (10')	10		--	0.7	0.9	Bedrock at 20 ft bgs.
N2-SB410	N2-SB410 (5')	5	75,665	78,173	30.8	179.0	
	N2-SB410 (10')	10		75,264	27.8	67.0	Gamma level inconsistent with lab results.
	--	13		--	--	--	Native at 13 ft bgs.
N2-SB411	N2-SB411 (5')	5	24,680	25,117	2.0	14.4	Native all the way.
	N2-SB411 (9')	9		--	1.3	11.1	
Sediment Pad							
SP-SB412	--	15	72,170	90,490	--	--	
	SP-SB412 (20')	20		72,173	26.2	240.0	Native at 20.5 ft bgs. Gamma level inconsistent with lab results.
SP-SB413	--	5	103,344	117,041	--	--	
	--	10		118,953	--	--	
	SP-SB413 (15')	15		107,193	33.1	90.4	Native at 16 ft bgs.
	SP-SB413 (20')	20		100,752	1.0	99.8	

Notes:

-- = not sampled or measured.

1. Depths shown for samples indicated the top of the 1.5-foot sample intervals.
2. Based on previous samples results, the FSL is approximately equal to 5,200 CPM above background.

Soil Analytical Summary Tables

Subsurface Soil Removal Site Evaluation Phase 2 2008

Summary of Subsurface Soil Analytical Results Supplemental Removal Site Evaluation #2 2008					
Location ID	**Depth (ft bgs)**	**Ra-226 (pCi/g)**	**Uranium (mg/kg)**	**Gamma (cpm)**	**Comments**
Unnamed Arroyo					
Boneyard					
BY-415	5	1.8	48.2	18,852	
	10	0.7	34.6	17,938	
	15	n/a		17,863	Possible bedrock
NECR-1					
N1-419	2	n/a		84,000	
	5	19	13.9	75,326	
	10	2.4	55.2	72,758	
	15	n/a		n/a	
NEMSA					
NA-416	5	n/a		50,573	
	10	n/a		37,417	
	15	17.5	117.0	44,685	
	20	1.9	17.6	31,452	
NA-417	2	3.1	21.6	23,570	
	5	2.5	11.1	23,531	
Pond 1					
P1-418	2	n/a		226,493	
	5	n/a		226,202	
	10	15.6	74.6	229,405	
	15.5	n/a		n/a	Bedrock
Pond 3					
P3-414	2	n/a		74,081	
	5	n/a		73,993	
	10	2.4	26.5	66,348	
	15	1.8	21.9	65,897	
	20	n/a		n/a	Weathered bedrock

Notes:
n/a = not applicable

APPENDIX A3

RESULTS OF GEOPHYSICAL SURVEY

MWH, 2007B

M E M O R A N D U M

MWH

Date: **June 11, 2007**

To: Andy Bain, US Environmental Protection Agency, Region 9

From: **Toby Leeson**

Subject: **Results of Geophysical Survey, Northeast Church Rock Mine Site, United Nuclear Corporation**

A geophysical survey was conducted at the Northeast Church Rock Mine Site (the Site), as per Field Change Request FCR#5, dated 12/1/06 (MWH), which was approved by the Environmental Protection Agency (EPA), Region 9. The survey was conducted in accordance with the Work Plan, *Geophysical Survey Work Plan, Removal Site Evaluation, Northeast Church Rock Mine Site* (MWH, 2007). The work plan was prepared as an addendum to the Removal Site Evaluation (RSE) Work Plan, dated August 30, 2006 (MWH).

The objective of the geophysical survey was to non-invasively identify the presence of process lines that could contain radium scale, or buried metallic objects that suggest the presence of refuse piles (areas of apparent landfill activity) containing objects, such as drums or piping. Therefore, the selected geophysical methods provided data that assisted in laterally locating large metallic anomalies that may require further assessment.

The geophysical survey was conducted within seven survey areas at the Site, as listed below and shown on Figure 1 of Attachment 1, which contains the *Geophysical Survey Report* (HGI, 2007) prepared by the geophysical contractor.

- Fuel Storage Area
- Magazine
- NECR 2 Drainage
- NEMSA
- Pond 1
- Trailer Park
- Vents 3 & 8

Additionally, the Boneyard was used as a pilot test area. The Boneyard is known to contain buried metallic objects based on institutional knowledge, as well as observations made during the excavation of test pits during the RSE field work conducted in 2006. As such, the geophysical survey conducted at the Boneyard was used only to evaluate whether the chosen geophysical survey instruments were appropriate.

The two surface geophysical techniques selected for the investigation at the Site were magnetic and electromagnetic induction (EM). The magnetic and EM surveys were conducted to provide rapid reconnaissance coverage to detect the presence of shallow, electrically-conductive material (metallic), and ferrous metallic material associated with historic septic systems installed in the 1940's. The calibration tests showed the expected responses over various types of metallic objects, and helped to

differentiate scrap metal from more substantial objects such as metallic containers. Overall, the EM method provided the best characterization and delineation of suspected buried metallic objects. The magnetic results augmented the EM interpretation and in some instances provided additional locations for possible buried metallic objects.

The results are presented, including color coded maps, in Attachment 1, which contains the report prepared by the geophysical contractor that conducted the survey. The results indicated that all seven survey areas contain anomalies, as summarized below:

1. The results for the Fuel Storage Area indicated that there are five locations containing metallic anomalies that may require further assessment (see Figures 2 and 3 in Attachment 1).

2. The results for the Magazine Area indicated that there are 5 locations (points) with observed buried anomalies. In addition to point source anomalies, a linear response indicative of a buried metal pipe that may correspond to an old sewer line was also observed (see 4 and 5).

3. The results for the NECR Drainage Area indicated that there are 5 locations with observed buried anomalies (see Figures 6 and 7).

4. The results for the NEMSA indicated that there are 12 locations with observed buried anomalies (see Figures 8 and 9). In addition, there was an area of multiple anomalies within northwest portion of the NEMSA indicative of a larger refuse pile.

5. The results for Pond 1 Area indicated that there are 11 locations with observed buried anomalies (see Figures 10 and 11). In addition, there was an area of multiple anomalies within Pond 1, indicative of a larger refuse pile.

6. The results for the Trailer Park Area indicated that there are 7 locations with observed buried anomalies (see Figures 12 and 13).

7. The results for Vents 3 and 8 indicated that there are 11 locations with observed buried anomalies (see Figures 14 and 15). In addition to point source anomalies, a linear response indicative of a buried metal pipe was also observed

In total there are 57 point locations where buried objects exist that caused anomalous EM and/or magnetic responses sufficient to warrant additional assessments. In addition to these 57 point locations, linear features were identified in the Magazine area and the Vents 3 & 8 area. Additionally, due to the density of individual anomalies over a larger area than just one point location, two anomalous areas were identified: one in the northwest corner of the NEMSA (see Figures 8 and 9) and the other in Pond 1 (see Figures 10 and 11).

In addition, the surveying conducted in the Boneyard for testing the selected geophysical tools confirmed that there is a large area containing buried metallic debris, as shown on Figures 8 and 9.

Based on these results, it is recommended that up to two selected anomalies from each survey area be invasively investigated, not including the Boneyard. The anomaly locations recommended for the initial evaluation are shown in Attachment 2 which contains the figure, *Recommended Locations for Excavation of Geophysical Anomalies*. Evaluation of these anomalies will be conducted in a phased manner. If the first two to three anomalies turn out to be false positives (i.e., the evaluation indicates no potential impacts), then additional anomalies of a similar or lesser nature will not be further evaluated. Investigation of additional anomalies will only be conducted, if buried containers or other objects of concern are observed in the initial excavations, based on a consensus between UNC and USEPA Region 9.

The anomalies will be investigated with a backhoe, by excavating a test pit over the object(s) to determine what they are. Only enough excavating will be conducted initially to determine the nature

of the object(s). If containers are found, they will be assessed as to their integrity and former or current contents. If liquids or solids other than the containers themselves are observed or thought to be present in any of the objects found during excavation, they will be characterized, by collecting samples for analysis, as possible, using standard acceptable hazardous materials handling procedures.

The results of this geophysical survey will be incorporated into the final Removal Site Evaluation Report, pending comments from the U.S. Environmental Protection Agency.

ATTACHMENT 1

GEOPHYSICAL SURVEY FIELD REPORT

Final Report

Northeast Church Rock Mine, NM

C. Baldyga
hydroGEOPHYSICS, Inc.

2302 North Forbes Boulevard, Tucson, Arizona 85745 USA

Date Published
June 2007

Prepared for MWH Americas, Inc.
Church Rock, New Mexico

EXECUTIVE SUMMARY

hydroGEOPHYSICS, Inc. (HGI) was contracted by the MWH Americas, Inc. (MWH) to conduct a geophysical investigation within seven survey areas on a former uranium mine in Church Rock, New Mexico. The purpose of the investigation was to apply two surface geophysical techniques in order to locate buried metal drums that could be present underground.

The two surface geophysical techniques selected for the investigation at the Northeast Church Rock Mine site are magnetics (mag) and electromagnetic induction (EM). The magnetic and EM surveys were conducted to provide rapid reconnaissance coverage to detect the presence of shallow, electrically-conductive material (metallic), and ferrous metallic material associated with historic septic systems installed in the 1940's. Below is an overview of the investigation results.

1. Overall, the EM method provided the best characterization and delineation of suspected septic components. Magnetic results augmented the EM interpretation and in some instances provided additional locations for possible buried metallic objects.

2. All seven survey areas showed anomalies.

3. The results for the Magazine Area show in addition to point source anomalies, a linear response indicative of a buried metal pipe. According to UNC personnel, the anomaly may correspond to an old sewer line.

4. A suite of calibration tests showed the expected responses over various types of metallic objects. The results of these tests helped to differentiate scrap metal from more substantial objects such as metallic containers.

5. The results for Fuel Storage Area indicate that there are 5 anomalies that may require additional assessment.

6. The results for Magazine Area indicate that there are 5 anomalies that may require additional assessment.

7. The results for NECR Drainage Area indicate that there are 5 anomalies that may require additional assessment.

8. The results for NEMSA Area indicate that there are 12 anomalies that may require additional assessment.

9. The results for Pond 1 Area indicate that there are 11 anomalies that may require additional assessment.

10. The results for Trailer Park Area indicate that there are 8 anomalies that may require additional assessment.

11. The results for Vents 3 and 8 Area indicate that there are 11 anomalies that may require additional assessment.

12. In total there are 56 locations where buried objects exist that caused anomalous EM and/or mag responses. In addition to these 56 point locations, three areas were defined because the high density of anomalous areas within said area made it difficult to asses their location.

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APPENDIX

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ADD TABLE 1, RENUMBER

LIST OF TERMS

Terms

Dual-Sensor Magnetometers: called gradiometers and measure gradient of the magnetic field.

Magnetometry: the study of the Earth's magnetic field and is the oldest branch of geophysics.

Single-Sensor Magnetometers: measure total field.

Abbreviations and Acronyms

ATV	All-Terrain Vehicle
EM	electromagnetic induction
G.O. Cart	Geophysical Operations Cart
HGI	hydroGEOPHYSICS, Inc.
k	magnetic susceptibility
Log S/m	log Siemens per meter
MWH	MWH Americas, Inc.
ppm	parts per million
ski	sensor housing

1.0 INTRODUCTION

1.1. SITE LOCATIONS

The survey areas are located within the town of Church Rock, New Mexico. The survey areas are interspersed, but are generally located within a 1 mile radius of each other. The survey areas have been decommissioned and no current mining takes place today, only remediation efforts. Refer to Figure 1 for a general base map of the site locations.

1.2. OBJECTIVE OF INVESTIGATION

The geophysical objective of this investigation is to non-invasively identify the presence and extent of possible buried metal objects, including containers such as drums. Therefore, the selected geophysical methods will provide data that will assist MWH's project management to laterally locate buried metallic components causing anomalous responses in the EM and/or mag results.

2.0 GEOPHYSICAL TECHNIQUES

2.1. MAGNETOMETRY

Magnetometry is the study of the Earth's magnetic field and is the oldest branch of geophysics. The Earth's field is composed of three main parts:

1. Main field is internal (i.e., from a source within the Earth that varies slowly in time and space)
2. Secondary field is external to the Earth and varies rapidly in time
3. Small internal fields constant in time and space are caused by local magnetic anomalies in the near-surface crust.

Of interest to the geophysicist are the localized anomalies. These anomalies are either caused by magnetic minerals, mainly magnetite or pyrrhotite, or buried steel and are the result of contrasts in the magnetic susceptibility (k) with respect to the background sediments. The average values for k are typically less than 1 for sedimentary formations and upwards to 20,000 for magnetite minerals.

The magnetic field is measured with a magnetometer. Magnetometers permit rapid, non-contact surveys to locate buried metallic objects and features. A one person portable field unit can be used virtually anywhere a person can walk; although, they maybe sensitive to local interferences, such as fences and overhead wires. Airborne magnetometers are towed by aircraft and are used to measure regional anomalies. Field-portable magnetometers maybe single- or dual-sensor. Single-sensor magnetometers measure total field. Dual-sensor magnetometers are called gradiometers and measure gradient of the magnetic field.

Magnetic surveys are typically conducted with two separate magnetometers. The first magnetometer is used as a base station to record the Earth's primary field and the diurnally changing secondary field. The second magnetometer is used as a rover to measure the spatial variation of the Earth's field and may include various components (e.g., inclination, declination, and total intensity). By removing the temporal variation and perhaps the static value of the base station from that of the rover, one is left with a residual magnetic field that is the result of local spatial variations only. The rover magnetometer is moved along a predetermined linear grid laid out at the site. Readings are virtually continuous and results can be monitored in the field as the survey proceeds.

The shortcoming with most magnetometers is that they only record the total magnetic field (**F**) and not the separate components of the vector field. This shortcoming can make the interpretation of magnetic anomalies difficult, especially since the strength of the field between the magnetometer and target is reduced as a function of the inverse of distance between the magnetometer and target, cubed. Additional complications can include the inclination and declination of the Earth's field, the presence of any remnant magnetization associated with the target, and the shape of the target.

2.2. ELECTROMAGNETIC INDUCTION

EM data is typically collected using portable ground conductivity instrumentation. Basically, a transmitting coil induces an electromagnetic field and a receiving coil at a fixed separation usually measures the amplitudes of the in-phase and quadrature components of the magnetic field. Various instruments have different coil spacings and operating frequencies. Spacing and frequency effect depth of signal penetration. Both single frequency and multi-frequency instruments have been developed for commercial use.

Earth materials have the capacity to transmit electrical currents over a wide range. Earth conductivity is a function of soil type, porosity, permeability, and dissolved salts. Terrain conductivity methods seek to identify various Earth materials by measuring their electrical

characteristics and interpreting results in terms of those characteristics. EM techniques are used to measure Earth conductivities of various soil, rock, and water components at individual survey areas employing portable, rapid, non-invasive equipment operating at various frequencies depending on range and depth desired.

The recorded electromagnetic field is separated into two sub-components: in-phase and conductivity (also referred to as quadrature). The in-phase component is the most sensitive to metallic objects and is measured in parts per million (ppm). The conductivity component is sensitive to soil condition variations and is measured in log Siemens per meter (log S/m) using the GEM-2 instrument.

The EM method was chosen due to the capability of mapping changes in soil conductivity that are caused by changes in soil moisture, disruption, or other conductivity changes, the ability to detect metallic objects (i.e., ferrous and non-ferrous), and the relatively rapid rate of data acquisition.

3.0 METHODOLOGY

3.1. SURVEY AREAS AND LOGISTICS

The EM and magnetic surveys were completed by Christopher Baldyga, Geophysicist for HGI, with the assistance of Toby Leeson of MWH. The seven survey areas were relatively clear of major vegetation, flat, and easily accessible. Appropriately sized grids were established within each survey area in accordance with historic maps of the site. Each specific grid is discussed in this report.

At the end of each day, data were downloaded, and processed at to a preliminary level in order to assure data quality.

Standard health and safety practices (e.g., Level D personal protective equipment) in accordance with OSHA Hazwoper regulations 1910.120 were followed.

3.2. EQUIPMENT

In order to fully maximize geophysical characterization, HGI deployed two different geophysical methods at the subject site. The specific instruments used are described below.

3.2.1. Magnetometry: G-858

A Geometrics G-858 cesium vapor gradiometer was used to acquire magnetic gradient and total field (single-sensor) data within each site. The G-858 was operated as a gradiometer (dual-sensor) with the sensors spaced vertically one meter apart with the lowest sensor being approximately one meter from the ground surface. Data were recorded continuously along survey line. Time, date, and magnetic data were stored within a data logger and downloaded to a laptop PC for processing. Magnetic data were processed using commercial software (e.g., MAGMAPPER and Surfer).

3.2.2. Electromagnetic Induction: GEM-2

Multi-frequency electromagnetic data were acquired using a shoulder carried portable Geophex GEM-2 electromagnetic conductivity and susceptibility instrument. The GEM-2 consists of a sensor housing (ski) and electronics console. The console logs the acquired data. The transmitting and receiving loops were separated 1.66 meters apart and operated in the vertical axis. Both in-phase (real) and quadrature (imaginary) data were acquired at 3 frequencies ranging from 5 kHz to 20 kHz. The electromagnetic data were converted to electrical conductivity using the WinGEM Software.

3.2.3. Geophysical Operations Cart

To acquire data for the magnetic and electromagnetic surveys, HGI's Geophysical Operations Cart (*G.O. Cart*) was used and towed behind an All-Terrain Vehicle (ATV). The G.O. Cart is constructed of fiberglass, nylon, and plastic materials so that no metallic noise or interference occurs with the geophysical equipment. An extended tongue of 15 feet is used to separate the ATV from the G.O. Cart in order to reduce metallic interference caused by the ATV. The G.O. Cart was equipped with two cesium-vapor magnetic sensors spaced one meter apart in a vertical orientation, a broadband electromagnetic conductivity meter, a differential GPS for geo-referencing of geophysical data, and a heads-up GPS display for navigation along the survey lines (ATV only). All data were stored within a data logger. The data logger also allowed parameter control of each instrument during data acquisition.

4.0 RESULTS

4.1. FIGURE DESCRIPTION

Interspersed within this report are 15 figures representing the EM and magnetic results for the seven survey areas. All 15 figures are included at the end of the report in Appendix A: Electromagnetic and Magnetic Figures.

For all plan plots, geographic coordinates are presented in meters using the UTM NAD83 Zone 12 datum. North is at the top of the page for all figures.

EM results are presented as the color contoured in-phase and conductivity results at approximately 10 kHz frequency. As mentioned above in the **"Methodology"** section the in-phase component is most susceptible to metallic objects, both ferrous and non-ferrous. Red and purple hues indicate anomalous areas, green hues represent background values, and yellow hues represent very subtle features that are unlikely to show large buried objects. Culture such as buried utilities, metal buildings, and posts can interfere with EM results. Many aboveground metallic objects existed within the survey areas that caused anomalous responses and are appropriately annotated in the figures.

Referring to the magnetic survey results, a large buried ferrous object typically causes a dipolar signature. The high will always occur south of the low in this region of the world. The superposition of buried and aboveground objects can cause the interpretation to be less intuitive than the EM results. Orientation of the instrument and survey line relative to aboveground ferrous objects can cause ambiguous results, as well as the amount of ferrous material within the target.

Referring to Figures 2 through 15, it is evident that the acquired data have in-phase and vertical gradient response patterns associated with existing culture on the surface. During acquisition, these surface features were surveyed using a handled GPS unit that is capable of 2 meter accuracy. No differentiation was made between the various types of metallic media encountered. The only metallic drums that were seen at the surface occurred at the NECR Drainage Area; otherwise, the remaining surface culture was metallic, but not in the form of a container. Surface culture locations are presented in the figures as black circles.

A summary of findings is presented for each of the seven survey areas including statistics regarding the data. Finally, the anomalous locations that may warrant additional assessment are presented in tabular form. The information in each of the tables for the seven survey areas

include the number of the anomaly (e.g. 1-56), the easting and northing of the anomaly, the value of the EM response at the 10 kHz frequency, and the factor greater than background to help further quantify the EM responses.

4.2. CALIBRATION

To gain a better understanding of the EM and magnetic signatures associated with various types of metal objects, an "ad hoc" target calibration test was performed. A small piece of sheet metal about 8.5 by 11 inches, a steel braided cable with a diameter of 1.5 inches, a 6 inch hollow steel pipe, and some wire mesh were used in the calibration. The baseline background for the in-phase EM method at the 10 kHz frequency is between 400 and 600 ppm. It was found that the response over the thin sheet metal did not exceed background values. The response over the steel braid showed an increase over background by a factor of four or approximately 2,000 ppm. The response over the steel pipe was very high compared to the background at approximately 18,000 ppm or 30 times greater than background. The EM response over the wire mesh was about 3 times larger than background. The polarity of the EM response can be either negative or positive, which can be caused by several factors. For the purposes of interpretation, credence is given to both positive and negative anomalies.

Table 1: Calibration Test Results

Object	EM - Value	Factor greater than background
8.5" X 11" Sheet metal	<600	0
1.5" Diameter Steel Cable	2,000	4
6" Hallow Steel Pipe	18,000	30
Wire mesh	1,500	3

The color scale chosen is the same for all figures. The scale is mapped to the range of negative 1500 ppm to positive 1500 ppm. Therefore, any values that were about 2 to 3 times or higher than the background value would be assigned a color of dark purple or brown. If surface culture was found in proximity to the anomaly, this was considered to represent likely interference. The potential exists, however, that more metallic debris could exist beneath any of the surface features that were noted during acquisition. It is difficult, if not impossible to delineate metallic debris in a vertical manner with any of the chosen methods.

The criteria used for determining anomalies were based on a few factors. The first step was based on the contoured results. Any response that showed contrast from the background color was digitized if the location was greater than 2 meters from a noted surface feature. The 2 meter criterion was based on the accuracy of the Lowrance GPS system mounted on the front G.O.

Cart. These digitized points were then quantified by determining the associated ppm value found in the EM results. The value was then referenced to the background value and a "factor greater than background" was calculated and reported in the seven tables. Until further assessment of the anomalies is completed, any locations with a factor greater than one were documented in this report.

4.3. FUEL STORAGE AREA

EM and mag data were collected in the Fuel Storage Area on Thursday, April 19th, 2007. The EM and mag results are shown in Figures 2 and 3. The total area covered was about 0.5 acres. Surface culture included cement pads. Within this survey area there some well casings that were present. No information regarding their status, abandoned or active, is known. In all cases they were intact and sticking out of the ground as opposed to laying flat on the surface. The area was relatively overgrown and the topography was challenging near the berms. Data were collected along the top of the berm encircling the area. Approximately 8,200 data points were collected for the EM portion and over 9,200 data points for the mag portion of the survey.

The following 5 locations listed in Table 2 are deemed anomalous.

Table 2: Anomalous Locations at Fuel Storage Area.

Number	Easting	Northing	EM - Value	Factor greater than background
1	725595	3948905	6469	12
2	725598	3948903	2066	3
3	725605	3948927	1876	3
4	725591	3948917	2173	3
5	725630	3948948	5182	9

Referring to Figure 3, the mag response patterns are in congruence with the EM results. In one instance there is an anomaly (#3) that does not have a mag response, but does have an EM in-phase response. Thus, it is inferred that the object is non-ferrous causing only a response in the EM data.

4.4. RESULTS FOR MAGAZINE AREA

EM and mag data was collected in the Magazine Area on Wednesday, April 18, and Friday, April 20th, 2007. The EM and mag results are shown in Figures 4 and 5. The initial day of data collection at this site produced corrupted mag data and therefore was recollected on April 20th, 2007. Surface culture included cement pads, buildings, culverts, and various pieces of scrap

metal. Within this survey area there some well casings that were present. No information regarding their status, abandoned or active, is known. In all cases they were intact and sticking out of the ground as opposed to laying flat on the surface. The area was relatively overgrown and the topography was relatively flat and unchallenging for G.O. Cart operations. Approximately 2.1 acres were collected in this survey area with a total of 55,000 data points collected for the EM portion and over 57,000 data points for the mag portion of the survey.

A linear feature persists through both sets of data. Through conversations with Larry Bush, it is possible that this could be an old metallic sewer line. It is annotated on both figures as Linear feature "A."

The following 5 locations listed in Table 3 are deemed anomalous.

Table 3: Anomalous Locations at Magazine Area

Number	Easting	Northing	EM - Value	Factor greater than background
6	725023	3948519	1152	1.3
7	725056	3948517	1157	1.3
8	725032	3948537	1493	2
9	725039	3948541	2216	3.4
10	725045	3948558	1129	1.3

4.5. RESULTS FOR NECR DRAINAGE AREA

EM and mag data were collected in the NECR Drainage Area on Friday April 20th, 2007. The EM and mag results are shown in Figures 6 and 7. Surface culture included large pieces of scrap metal and the only observed sighting of metallic drums. The area was relatively overgrown and the topography was challenging for G.O. Cart operations. Approximately 0.5 acres were collected at this area with a total of 11,000 data points collected for the EM portion and over 12,000 data points for the mag portion of the survey.

The following 5 locations listed in Table 4 are deemed anomalous. Locations 14 and 15 had anomalous values in only the vertical gradient component of the mag survey.

Table 4: Anomalous Locations at NECR Drainage Area.

Number	Easting	Northing	EM - Value	Factor greater than background
11	724903.3	3948467	2849	4.7
12	724904.9	3948464	1905	2.8
13	724905	3948475	2232	3.5
14*	724889	3948434	604	0.2
15*	724904.1	3948434	609	0.2

4.6. RESULTS NEMSA AREA

EM and mag data were collected in the NEMSA Area on Tuesday, April 17th, 2007. The EM and mag results are shown in Figures 8 and 9. Surface culture included buildings, culverts, and various pieces of scrap metal. The area was clear and the topography was relatively flat and unchallenging for G.O. Cart operations. Approximately 4.5 acres were surveyed in this area with a total of 96,000 data points collected for the EM portion and over 86,000 data points for the mag portion of the survey.

Per clients directive a few lines of EM and mag data were collected in the Boneyard area. The contoured results are shown in Figures 8 and 9; however no anomalous locations are annotated in Table 4 because this area contains significant metallic content.

An area in the northwest portion is outlined in yellow in Figure 8. The response over this entire area is much higher than background and could indicate an area with multiple buried items.

The following 12 locations listed in Table 5 are deemed anomalous.

Table 5: Anomalous Locations at NEMSA Area.

Number	Easting	Northing	EM - Value	Factor greater than background
16	724643.7	3948495	13013	25
17	724651.4	3948504	9158	17.3
18	724648.9	3948513	10724	20.4
19	724657.1	3948506	11881	22.8
20	724640.7	3948515	6123	11.2
21	724637.4	3948521	13252	25.5
22	724651.9	3948434	10072	19.1
23	724661.1	3948401	2623	4.2
24	724665	3948400	2018	3
25	724671.2	3948395	2606	4.2
26	724695	3948510	2777	4.6
27	724694.2	3948522	3110	5.2

4.7. RESULTS FOR POND 1 AREA

EM and mag data were collected in the Pond 1 Area on Wednesday, April 18 and Thursday, April 19th, 2007. The EM and mag results are shown in Figures 10 and 11. Surface culture included various pieces of scrap metal. The area was mixed between cleared and overgrown, and the topography was manageable for G.O. Cart operations. Approximately 3.7 acres were collected at this area with a total of 56,000 data points collected for the EM portion and over 56,000 data points for the mag portion of the survey.

An area in the central portion is outlined in a solid blue line and dashed blue line in Figures 10 and 11. The response over the area encircled by the solid blue line is much higher than background and could be an area of multiple buried items. The dashed blue line represents an area higher than background, but less concentrated in metallic material.

The following 11 locations listed in Table 6 are deemed anomalous and exist outside of the outlined areas listed in the paragraph above.

Table 6: Anomalous Locations at Pond 1 Area.

Number	Easting	Northing	EM - Value	Factor greater than background
28	725395	3948694	7329	13.7
29	725397	3948697	4347	7.7
30	725396.2	3948690	11084	21.2
31	725399.5	3948693	5804	10.6
32	725401.1	3948689	9470	17.9
33	725389	3948676	8025	15.1
34	725389	3948667	6706	12.4
35	725398.9	3948648	5719	10.4
36	725411.2	3948655	12986	25
37	725406.7	3948657	5281	9.6
38	725330.4	3948681	1219	1.4

4.8. RESULTS FOR TRAILER PARK AREA

EM and mag data were collected in the Trailer Park Area on Thursday, April 19th, 2007. The EM and mag results are shown in Figures 12 and 13. Surface culture included various pieces of scrap metal, culverts, and cement pads. Within this survey area there some well casings that

were present. No information regarding their status, abandoned or active, is known. In all cases they were intact and sticking out of the ground as opposed to laying flat on the surface. The area was mixed between cleared and overgrown, and the topography was manageable for G.O. Cart operations. Approximately 4.5 acres were collected at this area with a total of 58,000 data points collected for the EM portion and over 75,000 data points for the mag portion of the survey.

The following 7 locations listed in Table 7 are deemed anomalous. Two locations, 39 and 40, are significantly higher than background.

Table 7: Anomalous Locations at Trailer Park Area.

Number	Easting	Northing	EM - Value	Factor greater than background
39	725731	3948739	23969	46.9
40	725725	3948752	14230	27.5
41	725729	3948781	3513	6
42	725740	3948880	4283	7.6
43	725688	3948657	2014	3
44	725691	3948646	1515	2
45	725758	3948942	1850	2.7

4.9. RESULTS FOR VENTS 3 AND 8

EM and mag data were collected in the Vents 3 and 8 Area on Thursday, April 19th, 2007. The EM and mag results are shown in Figures 14 and 15. Surface culture included various pieces of scrap metal, culverts, and cement pads. Within this survey area there some well casings that were present. No information regarding their status, abandoned or active, is known. In all cases they were intact and sticking out of the ground as opposed to laying flat on the surface. The area was mixed between cleared and overgrown, and the topography was manageable for G.O. Cart operations. Approximately 10.1 acres were collected at this area with a total of 84,000 data points collected for the EM portion and over 105,000 data points for the mag portion of the survey.

The following 10 locations listed in Table 8 are deemed anomalous. Two locations, 46 and 47, are significantly higher than background. One location, 56, shows only a strong response in the vertical gradient data, but not in the EM data. A linear feature annotated in Figure 14 is present and could be an old utility corridor.

Table 8: Anomalous Locations at Vents 3 and 8 Area.

Number	Easting	Northing	EM - Value	Factor greater than background
46	724921	3948773	18910	36.8
47	724981	3948770	9516	18
48	724845	3948817	3304	5.6
49	724774	3948850	4488	8
50	724916	3948772	2542	4.1
51	724977	3948798	2081	3.2
52	724943	3948792	1571	2.1
53	724866	3948865	1322	1.6
54	724925	3948814	2047	3.1
55	724968	3948755	1057	1.1
56	725042	3948800	298	-0.4

5.0 CONCLUSIONS

Seven survey areas were geophysically characterized using magnetometry and electromagnetics.

The results for the seven survey areas indicate the presence of 56 locations with anomalies that suggest the presence of metallic object or objects. Any future efforts, such as selective excavation, will help calibrate the results presented in this report.

In addition to 56 locations listed in Tables 1-7, there were also two survey areas, Pond 1 and NEMSA, that showed EM and mag values that were greater than background. The high density of anomalies in these areas made it difficult to differentiate one from another. Therefore, polygons outlining these areas are presented instead of point locations.

The results reported herein are valid within the limits of the coverage and the resolution of the methods used. HGI would like to thank everyone involved in this investigative effort.

Respectfully,

CHRISTOPHER A. BALDYGA, MSC.
GEOPHYSICIST/PROJECT MANAGER

APPENDIX A

ELECTROMAGNETIC AND MAGNETIC FIGURES

Figure 1 - Base Map

hydroGEOPHYSICS, Inc.

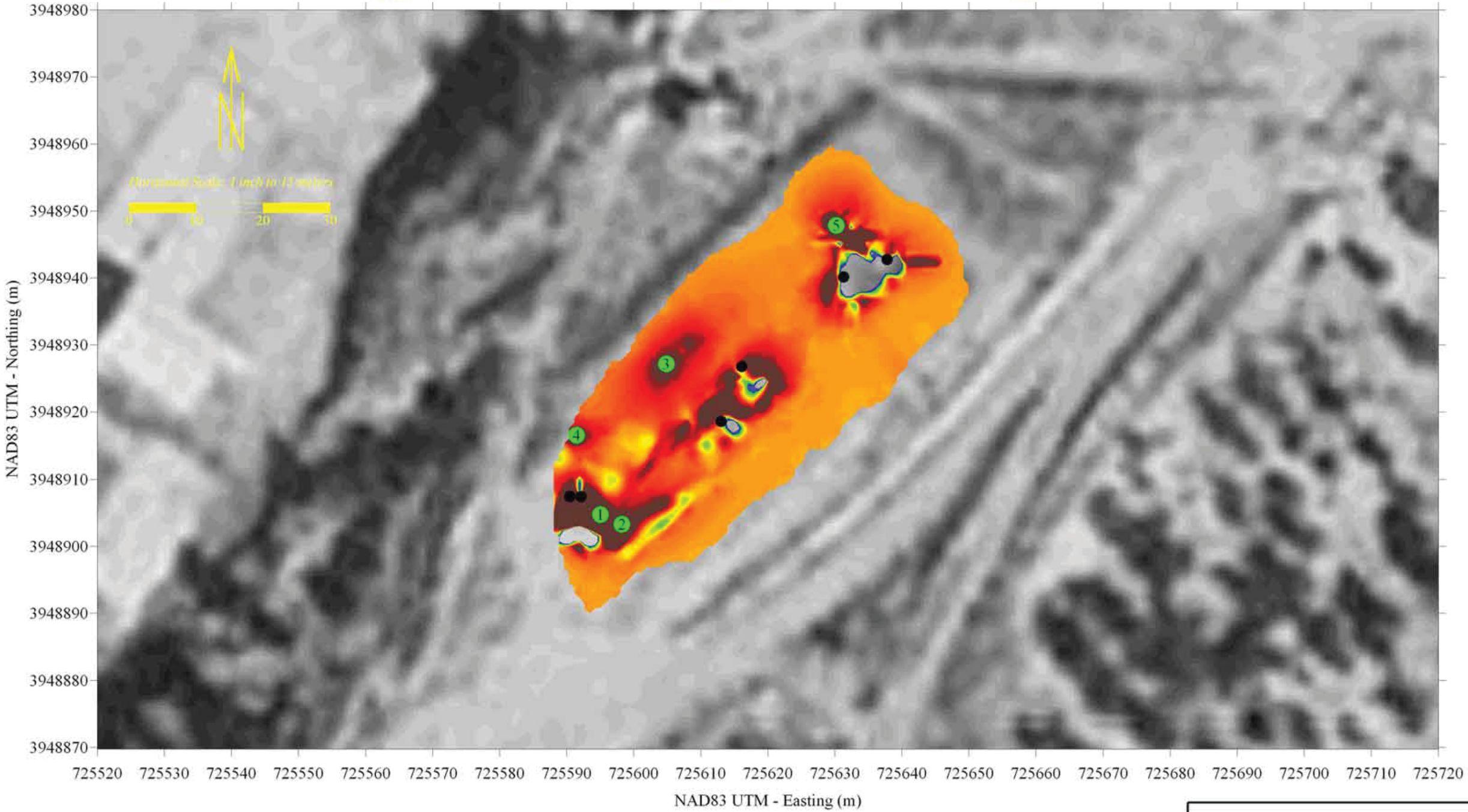
MWH
Church Rock

Date: *May 2007* | **Fig:** *1*

FILE: Figure 1 - Base Map.srf | 2007-017 | 05/31/07 14:38:32

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-3315

Figure 2 - Fuel Storage Area - EM Response



In-phase EM Results (ppm)

-1500 -1300 -1100 -900 -700 -500 -300 -100 100 300 500 700 900 1100 1300 1500

anomalous areas

surface culture

hydroGEOPHYSICS, Inc.

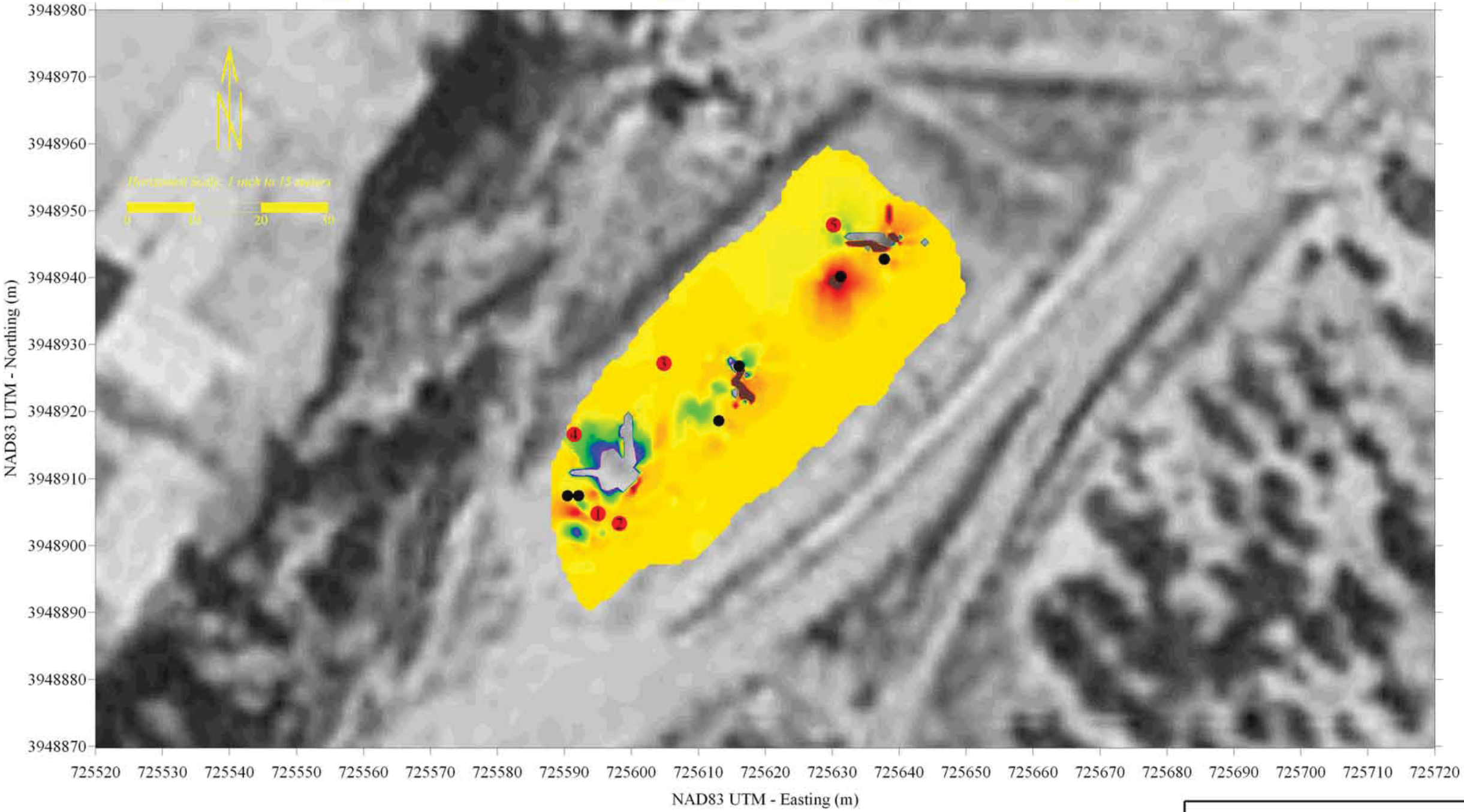
MWH
Church Rock

Date: *May 2007* | **Fig:** *2*

FILE: Figure - 2 - Fuel Storage - EM Response.srf | 2007-017 | 05/31/07 15:58:02

2302 N. Forbes Blvd. • Tucson, AZ 85745 • (520) 647-3315

Figure 3 - Fuel Storage Area - Magnetic Response



hydroGEOPHYSICS, Inc.

MWH
Church Rock

Date: *May 2007* | **Fig:** *3*

FILE: Figure - 3 - Fuel Storage - Magnetic Response.srf | 2007-017 | 05/31/07 15:59:21

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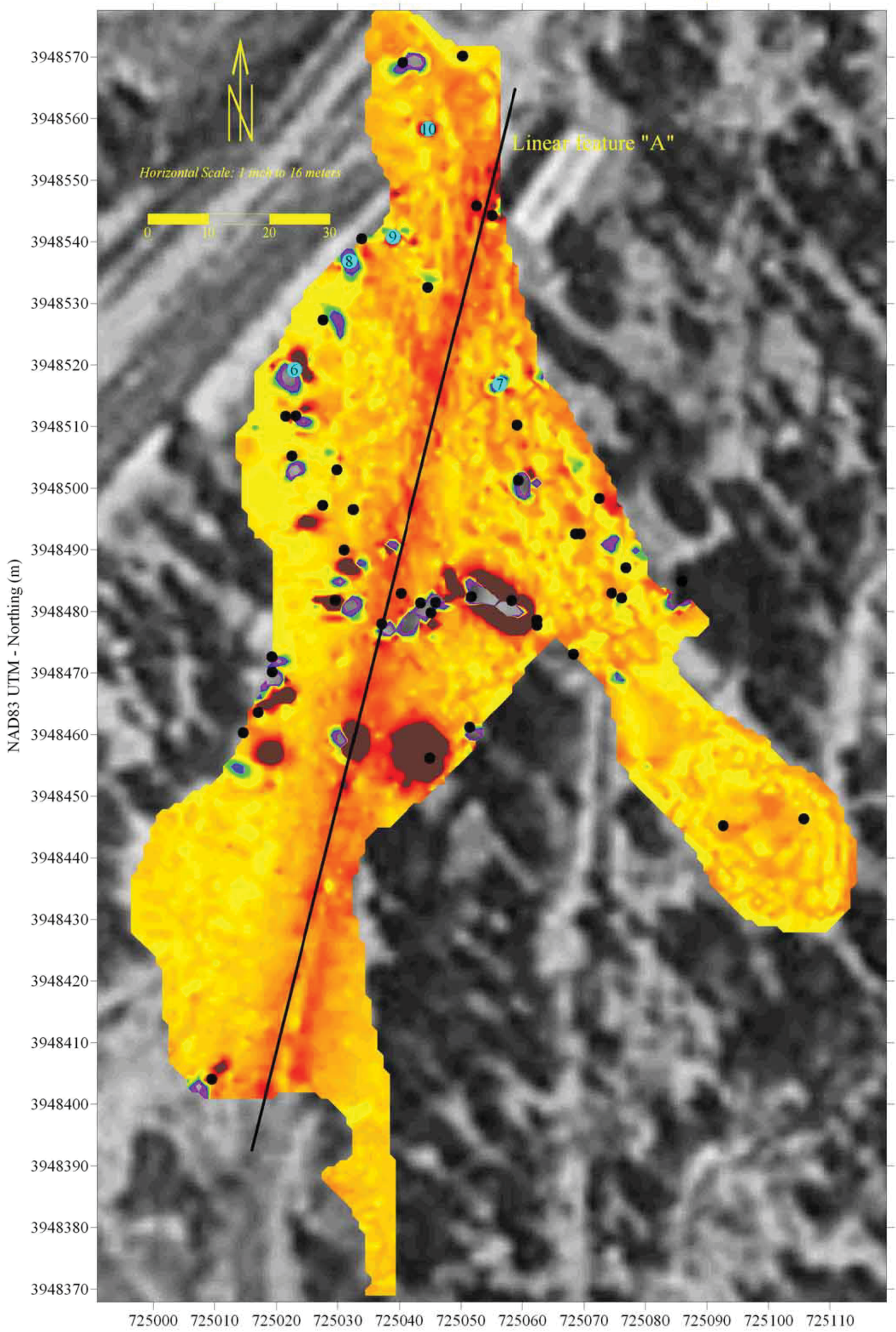
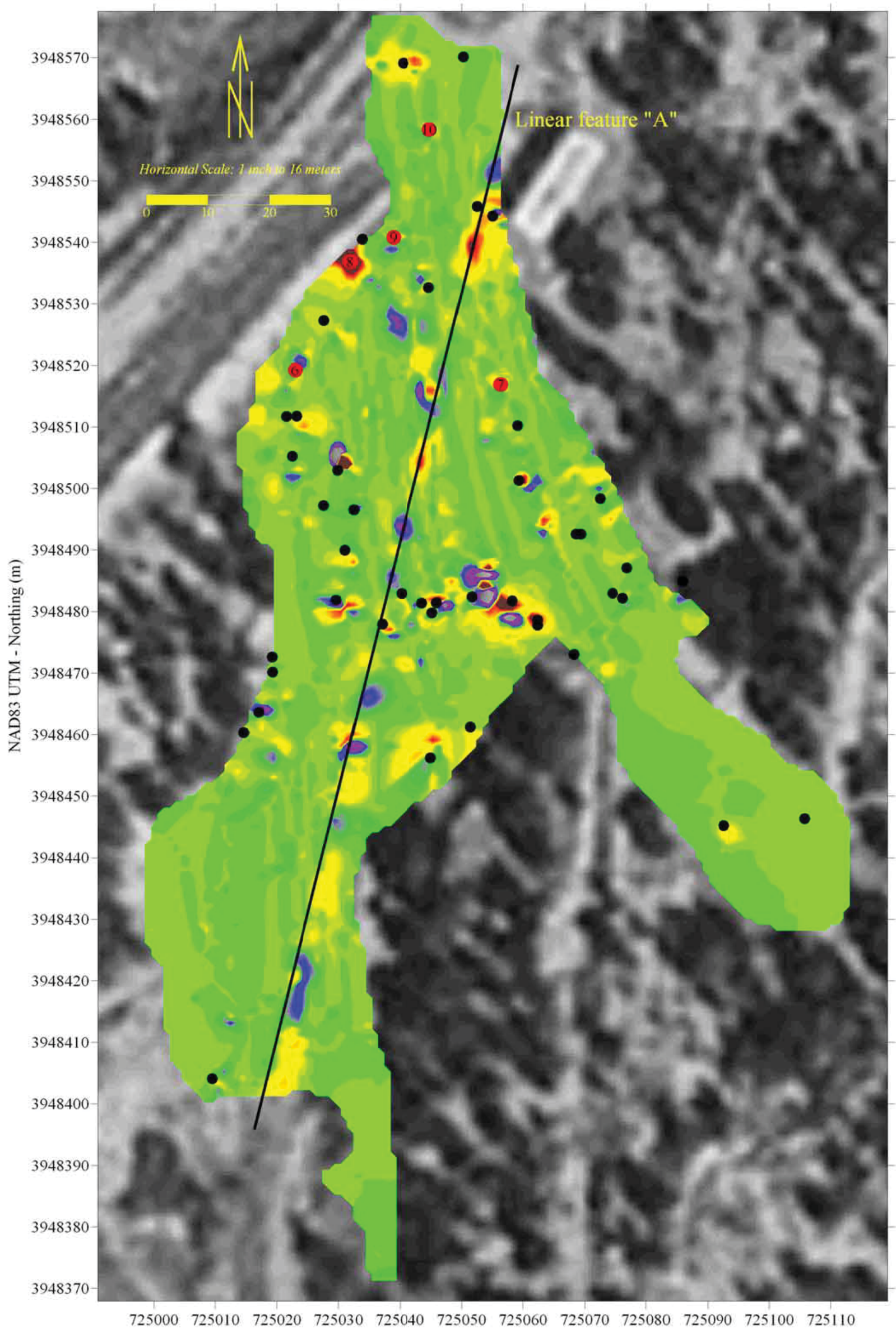
Figure 4 - Magazine Area - EM Response



In-phase EM Results (ppm)

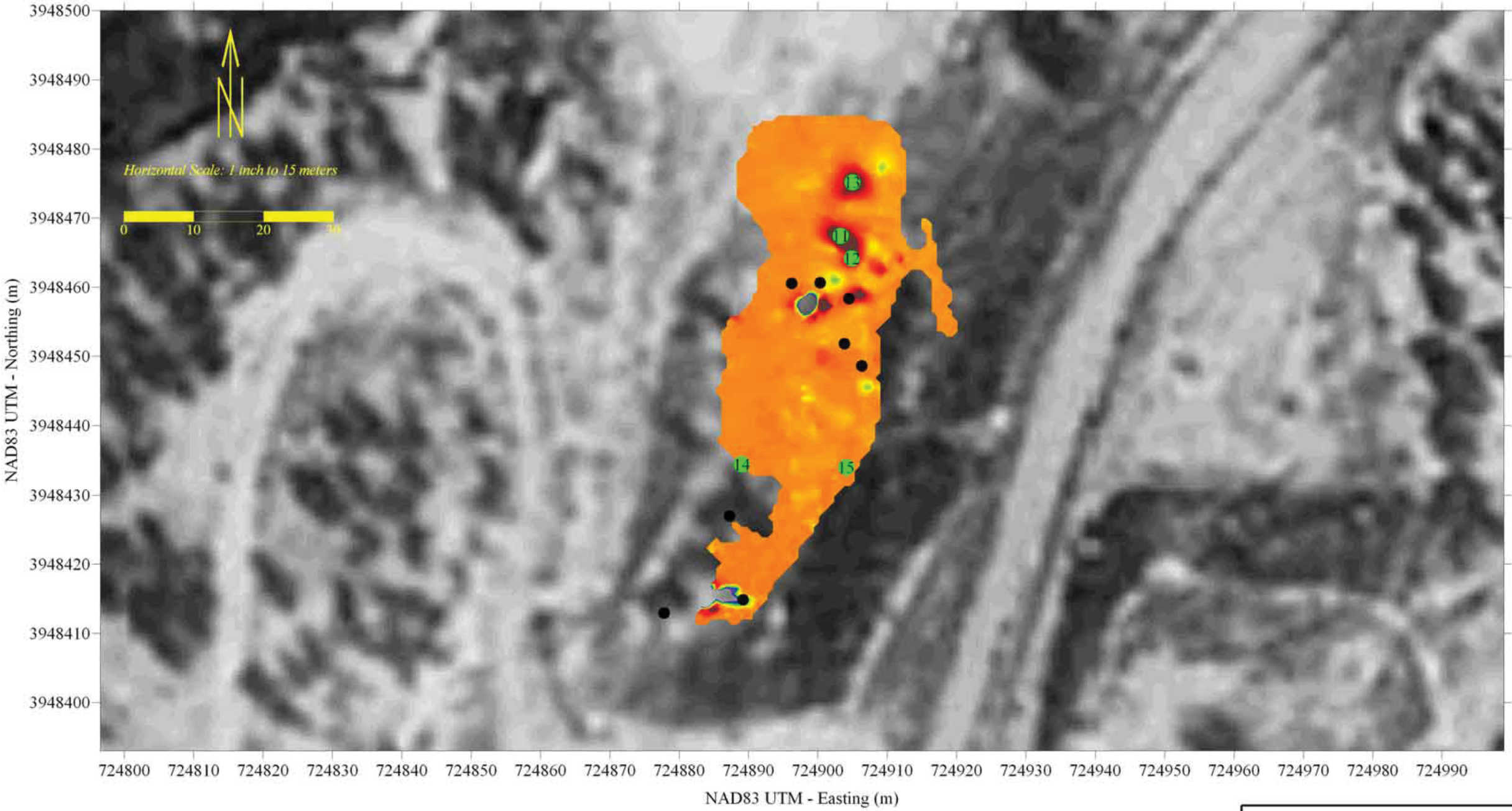
MWH
Church Rock

Figure 5 - Magazine Area - Magnetic Response



MWH
Church Rock

Figure 6 - NECR Drainage Area - EM Response



In-phase EM Results (ppm)

-1500 -1300 -1100 -900 -700 -500 -300 -100 100 300 500 700 900 1100 1300 1500

anomalous areas

surface culture

hydroGEOPHYSICS, Inc.

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Date: *May 2007* | **Fig:** *6*

FILE: Figure - 6 - NECR Drainage - EM Response.srf | 2007-017 | 05/31/07 16:37:20

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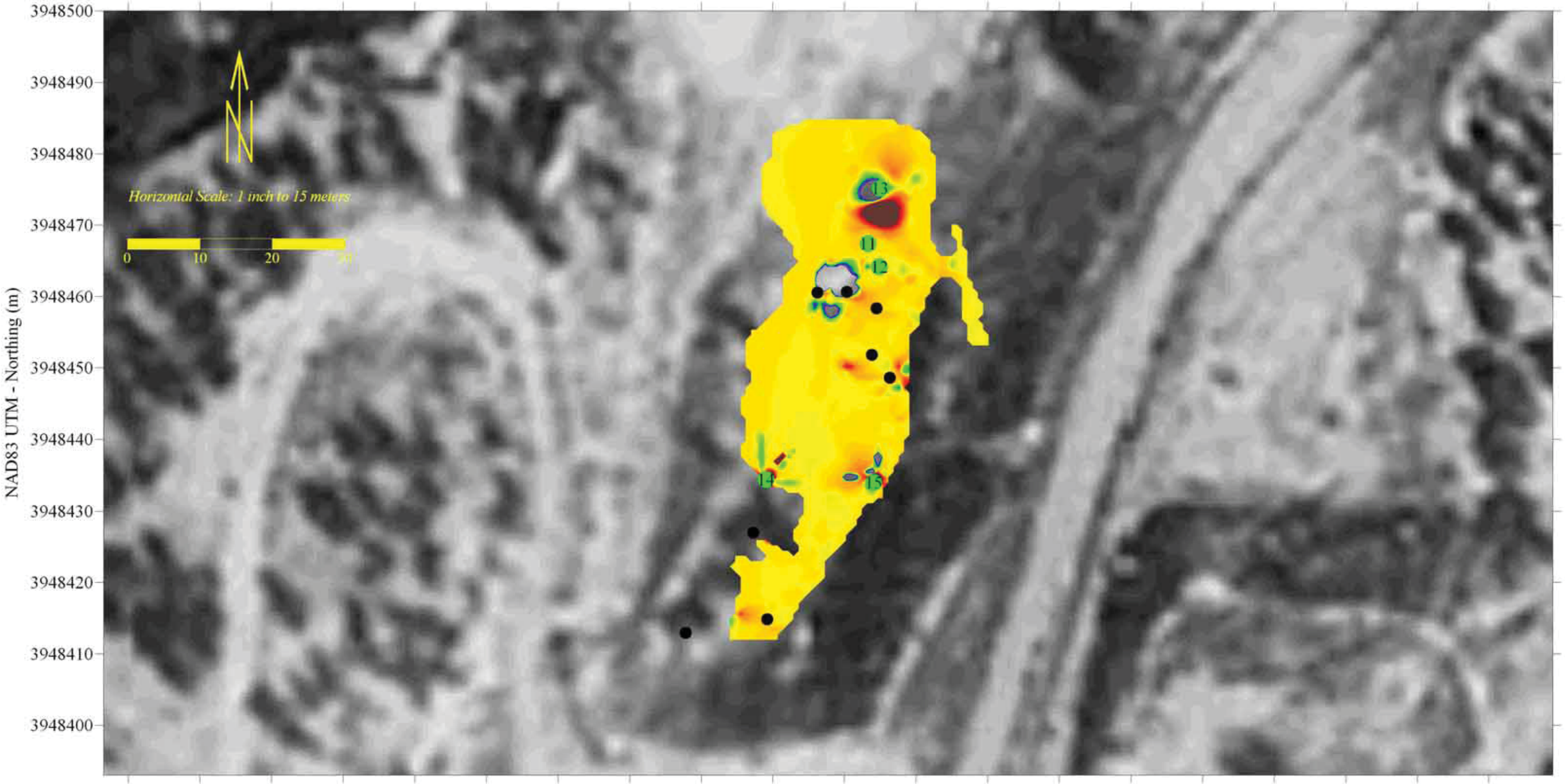
Figure 7 - NECR Drainage Area - Magnetic Response



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Date: *May 2007* | **Fig:** *7*

FILE: Figure - 7 - NECR Drainage - Magnetic Response.srf | 2007-017 | 05/31/07 16:38:01

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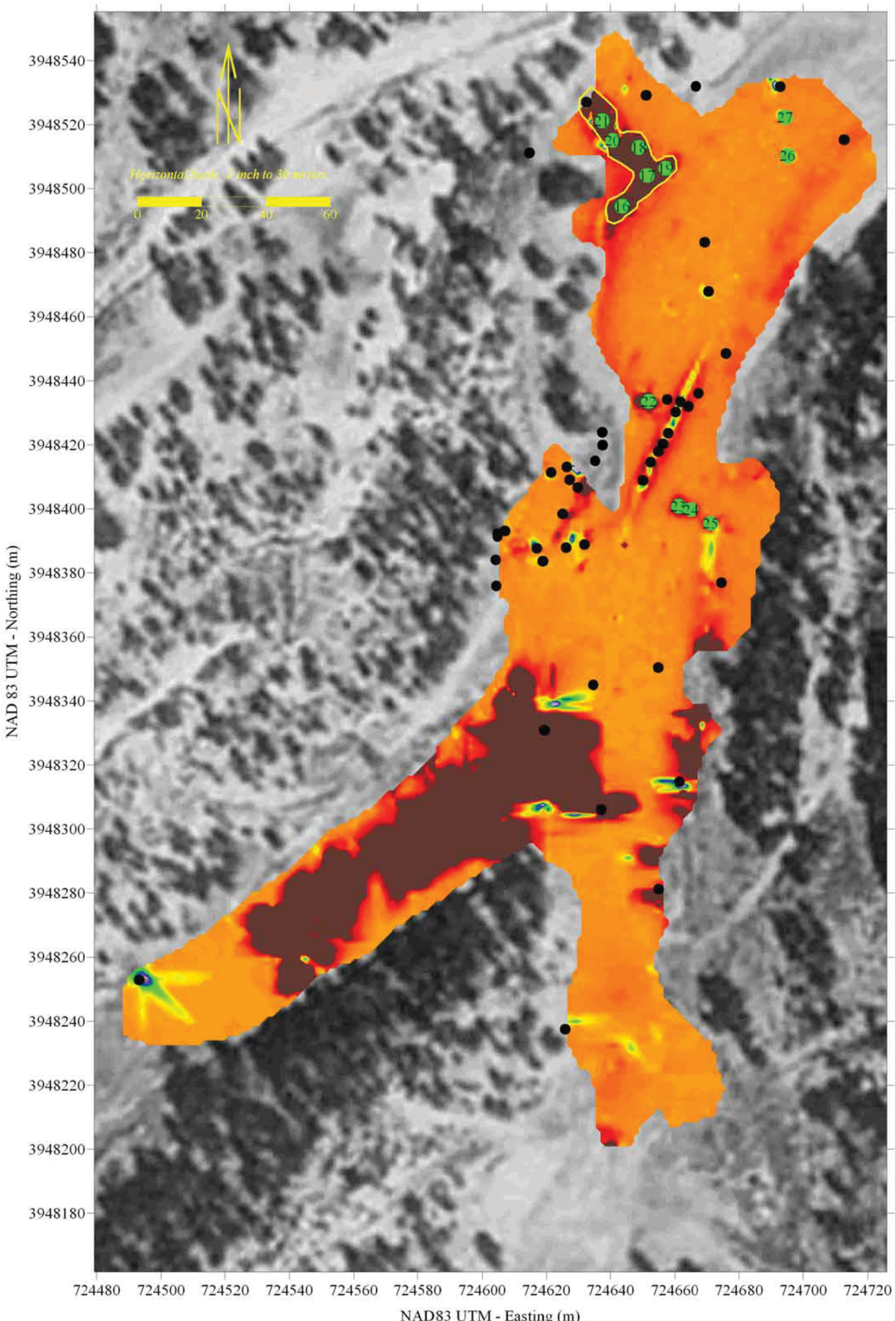
Figure 8 - NEMSA Area - EM Response



In-phase EM Results (ppm)

MWH
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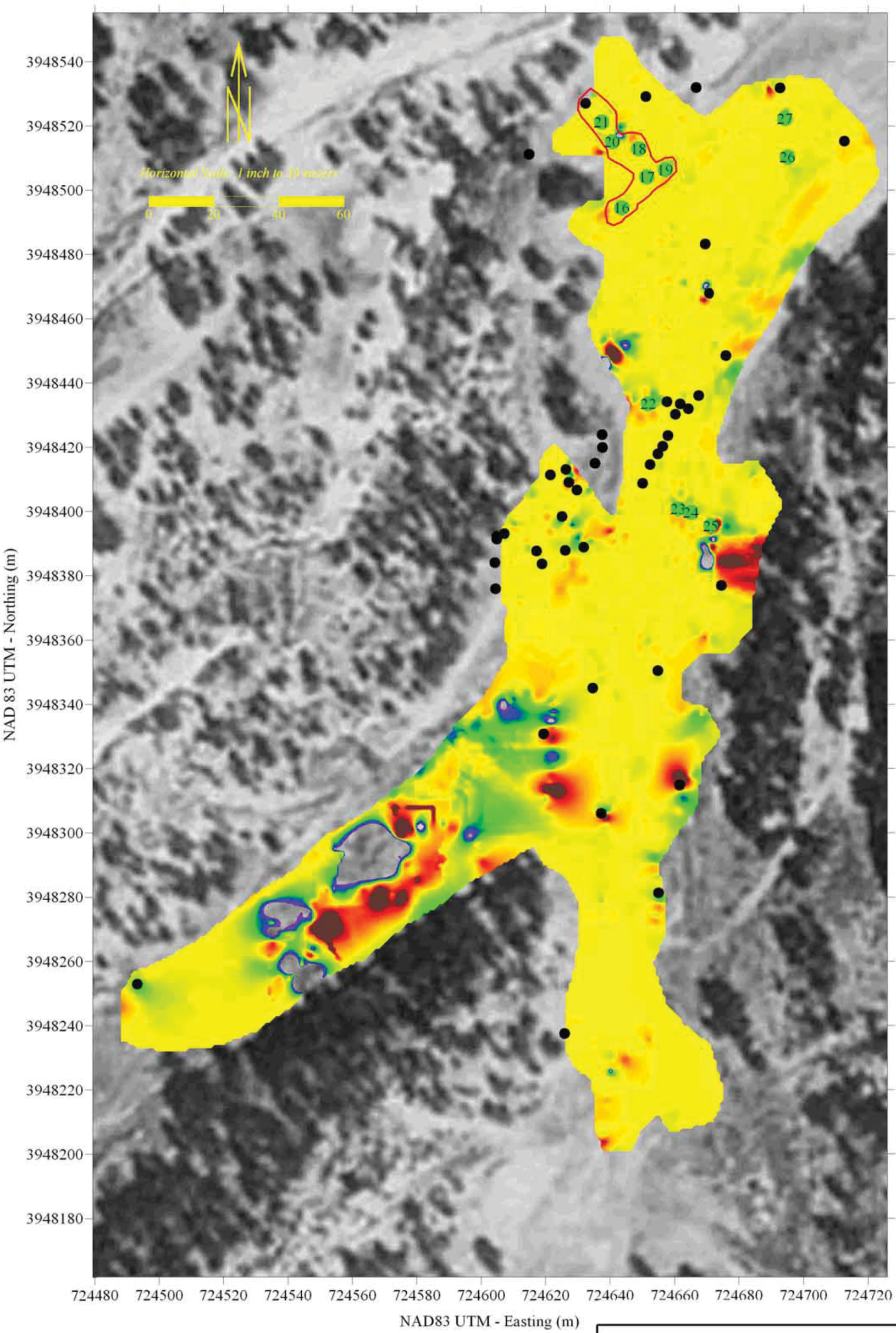
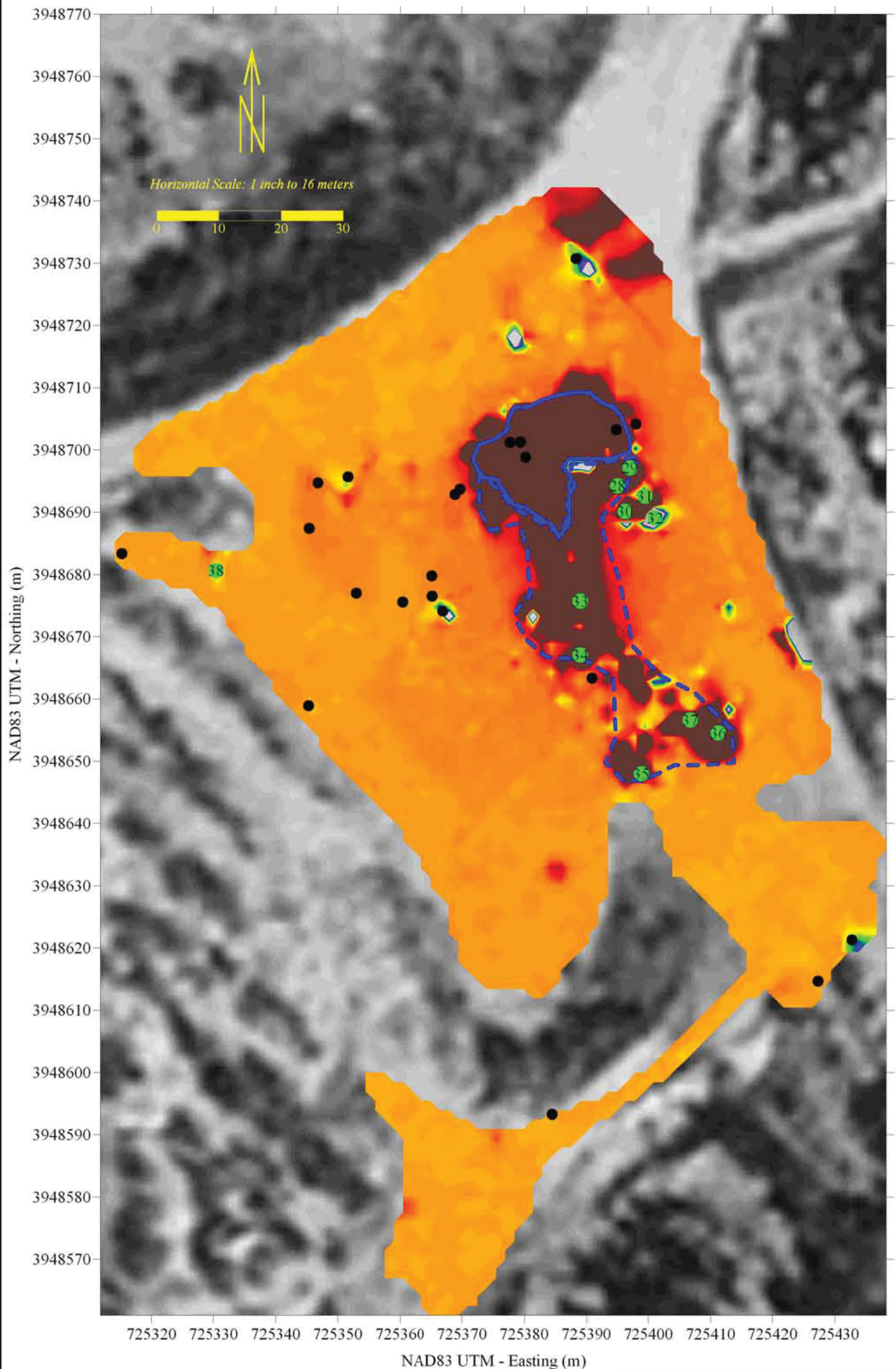
Figure 9 - NEMSA Area - Magnetic Response



Vertical Gradient (nT)

MWH
Church Rock

Figure 10 - Pond 1 Area - EM Response

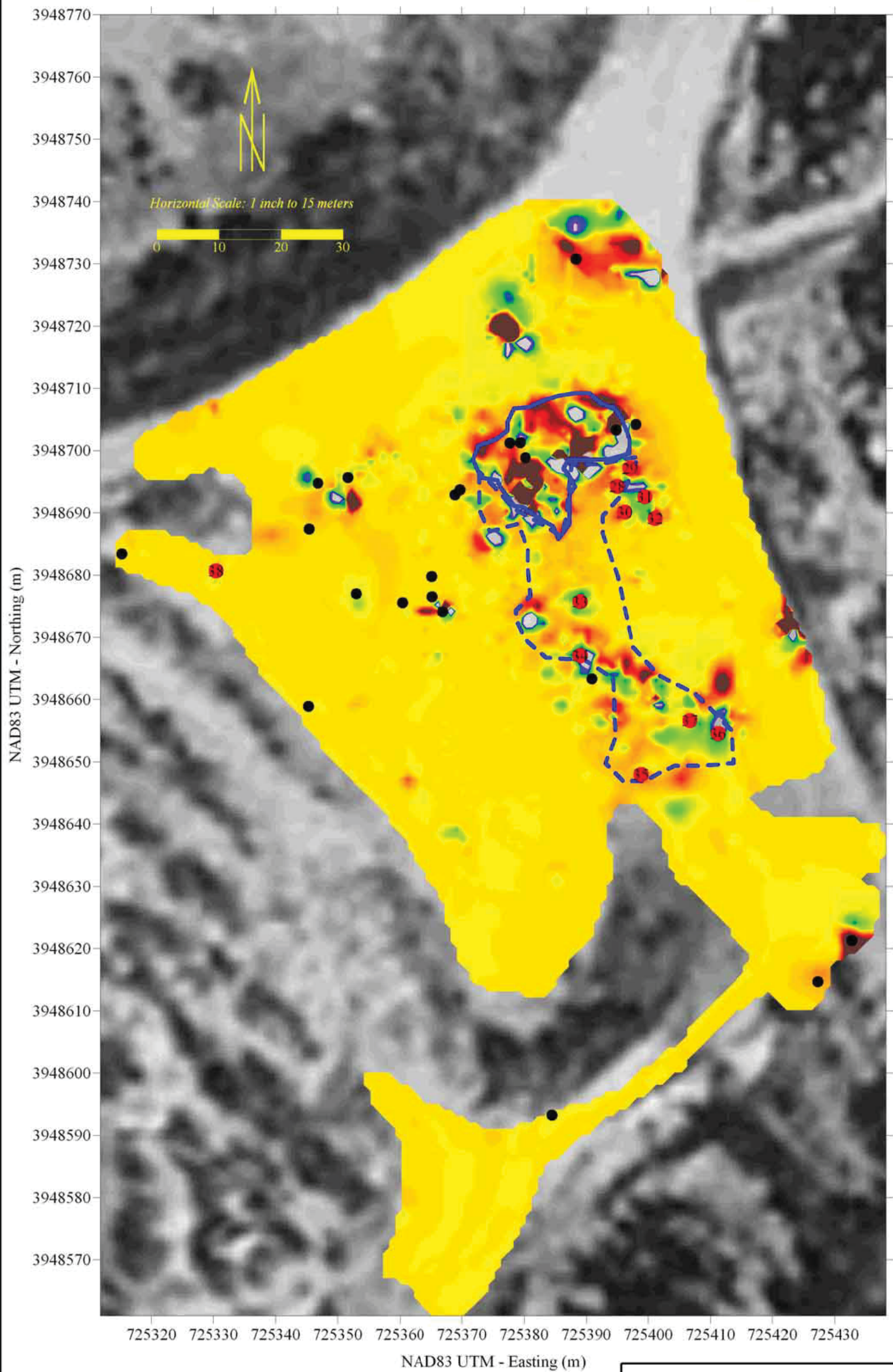


In-phase EM Results (ppm)

surface culvert

MWH
Church Rock

Figure 11 - Pond 1 Area - Magnetic Response



Vertical Gradient (nT)

MWH
Church Rock

Figure 12 - Trailer Park Area - EM Response

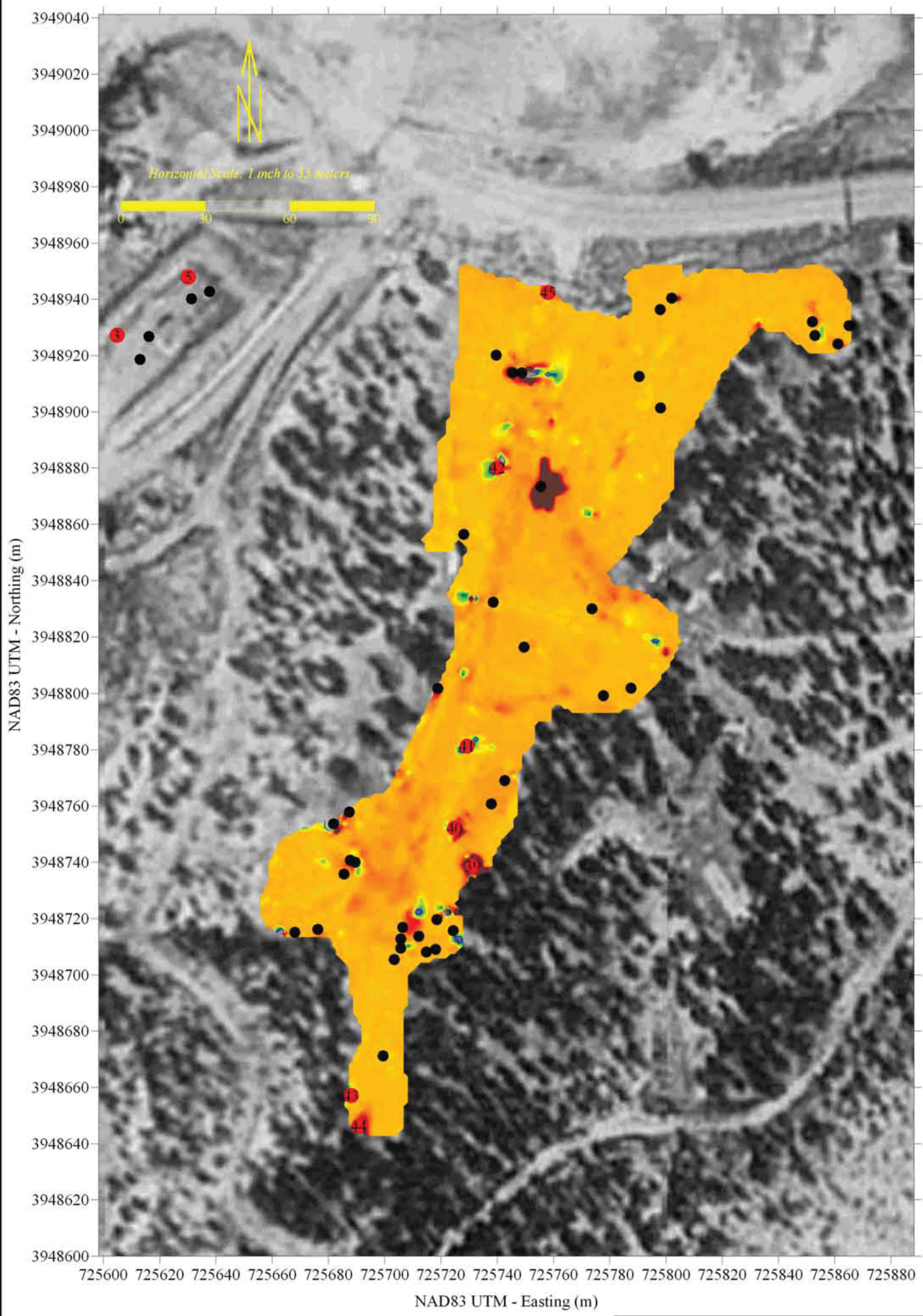
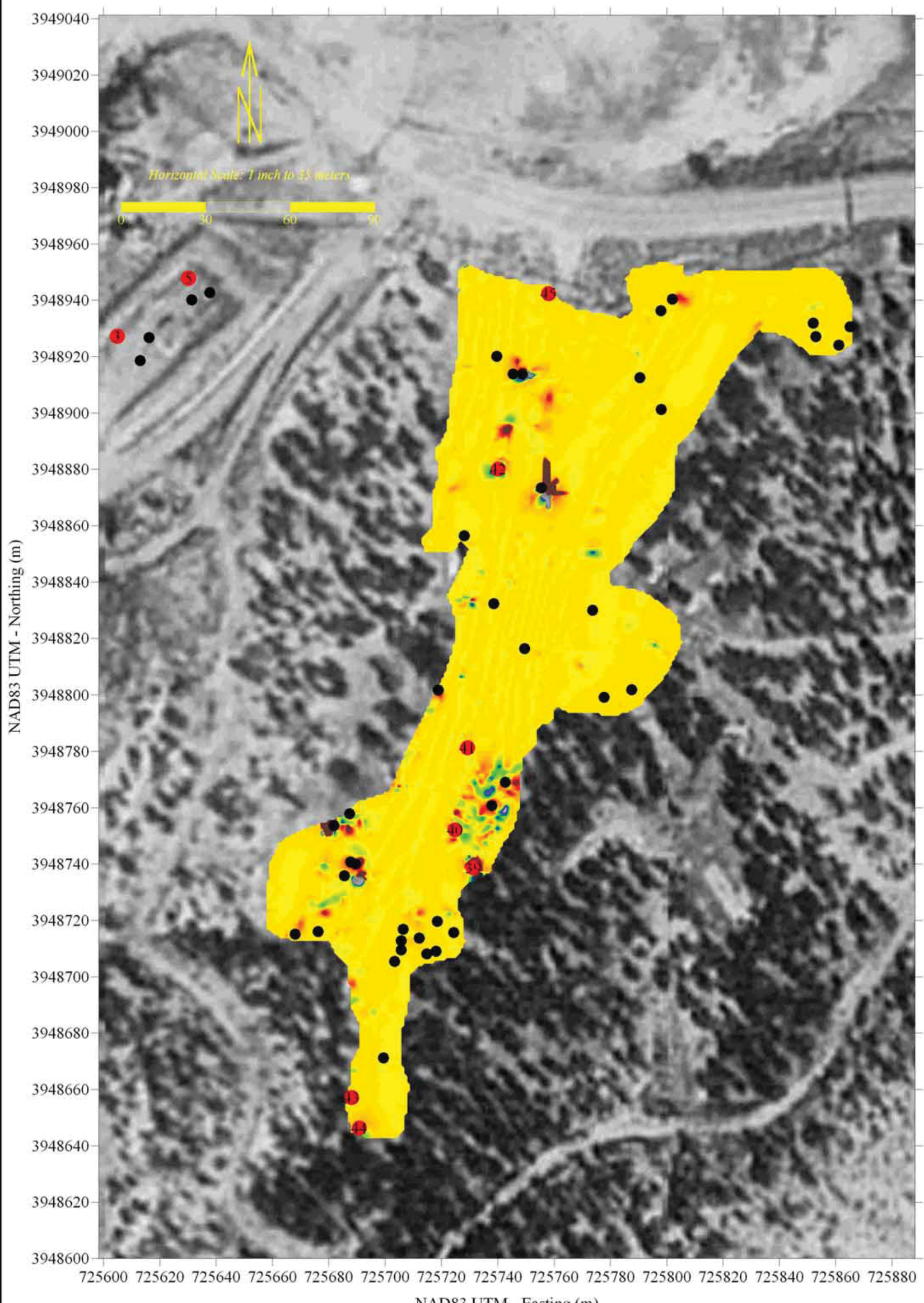


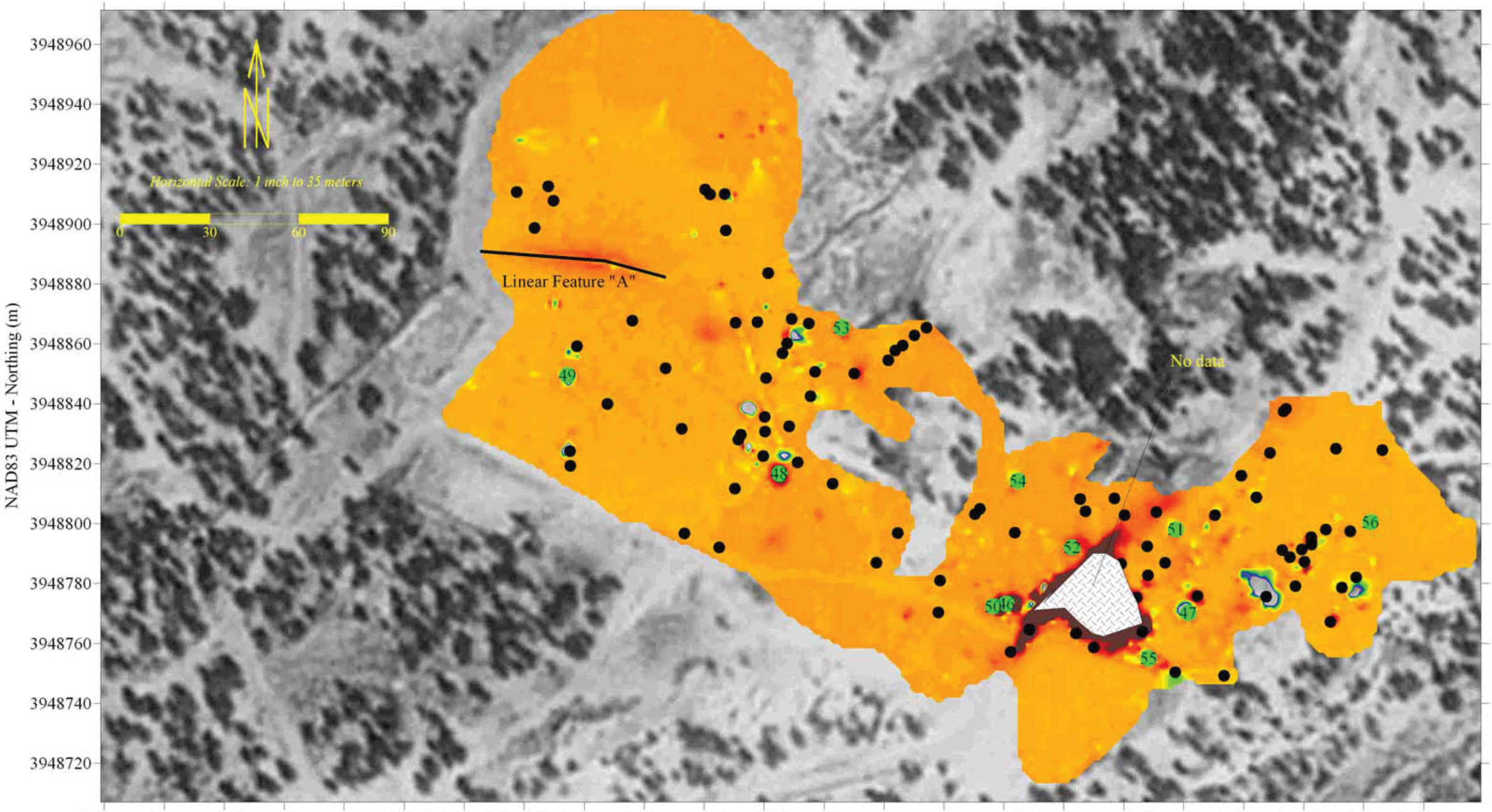
Figure 13 - Trailer Park Area - Magnetic Response



Vertical Gradient (nT)

MWH
Church Rock

Figure 14 - Vents 3 and 8 Area - EM Response



hydroGEOPHYSICS, Inc.

MWH
Church Rock

Date: *May 2007* | **Fig:** *14*

FILE: Figure - 14 - Vents 3 & 8 - EM Response.srf | 2007-017 | 05/31/07 16:44:41

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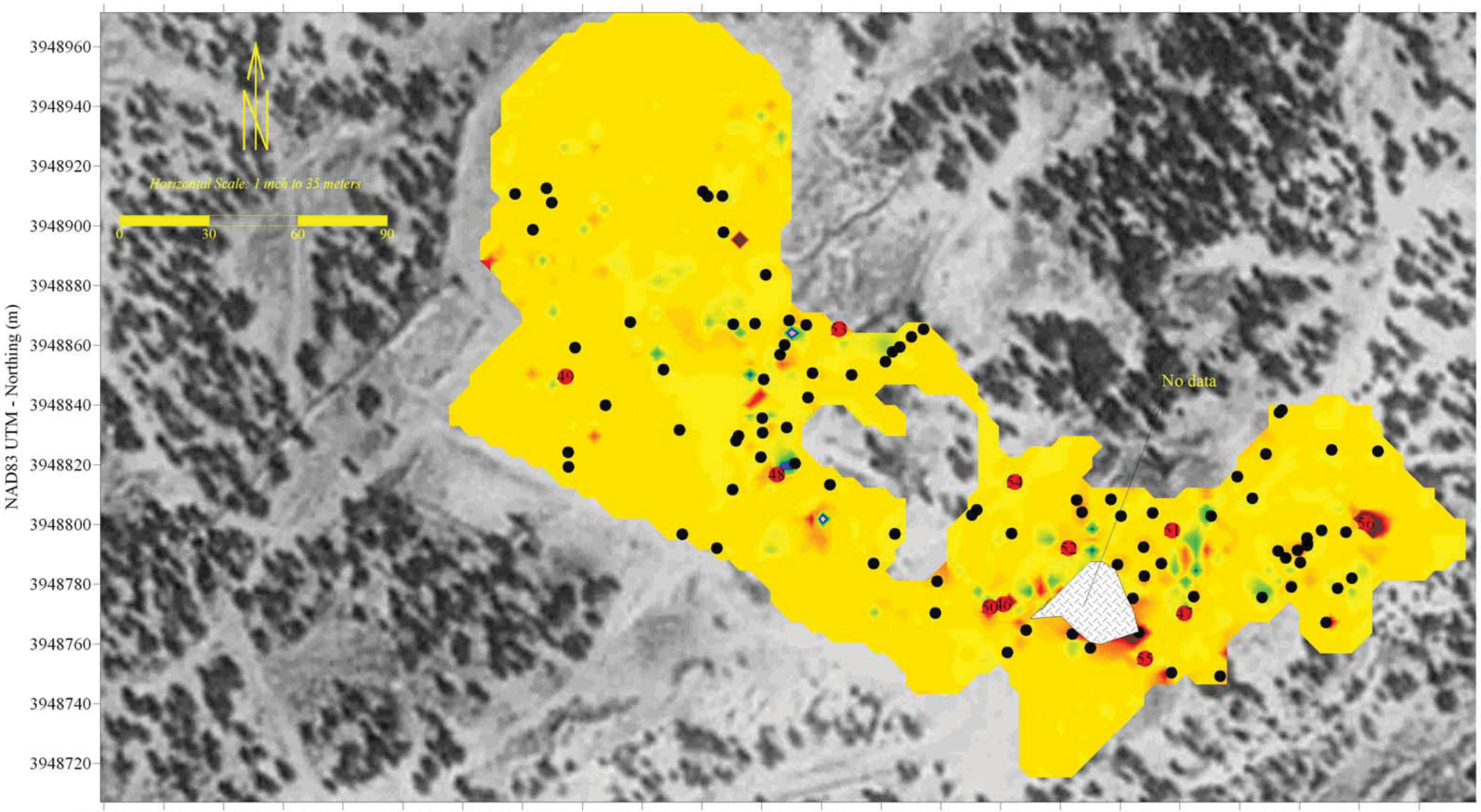
Figure 15 - Vents 3 and 8 Area - Magnetic Response



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Date: *May 2007* | **Fig:** *15*

FILE: Figure - 15 - Vents 3 & 8 - Magnetic Response.srf | 2007-017 | 05/31/07 16:45:16

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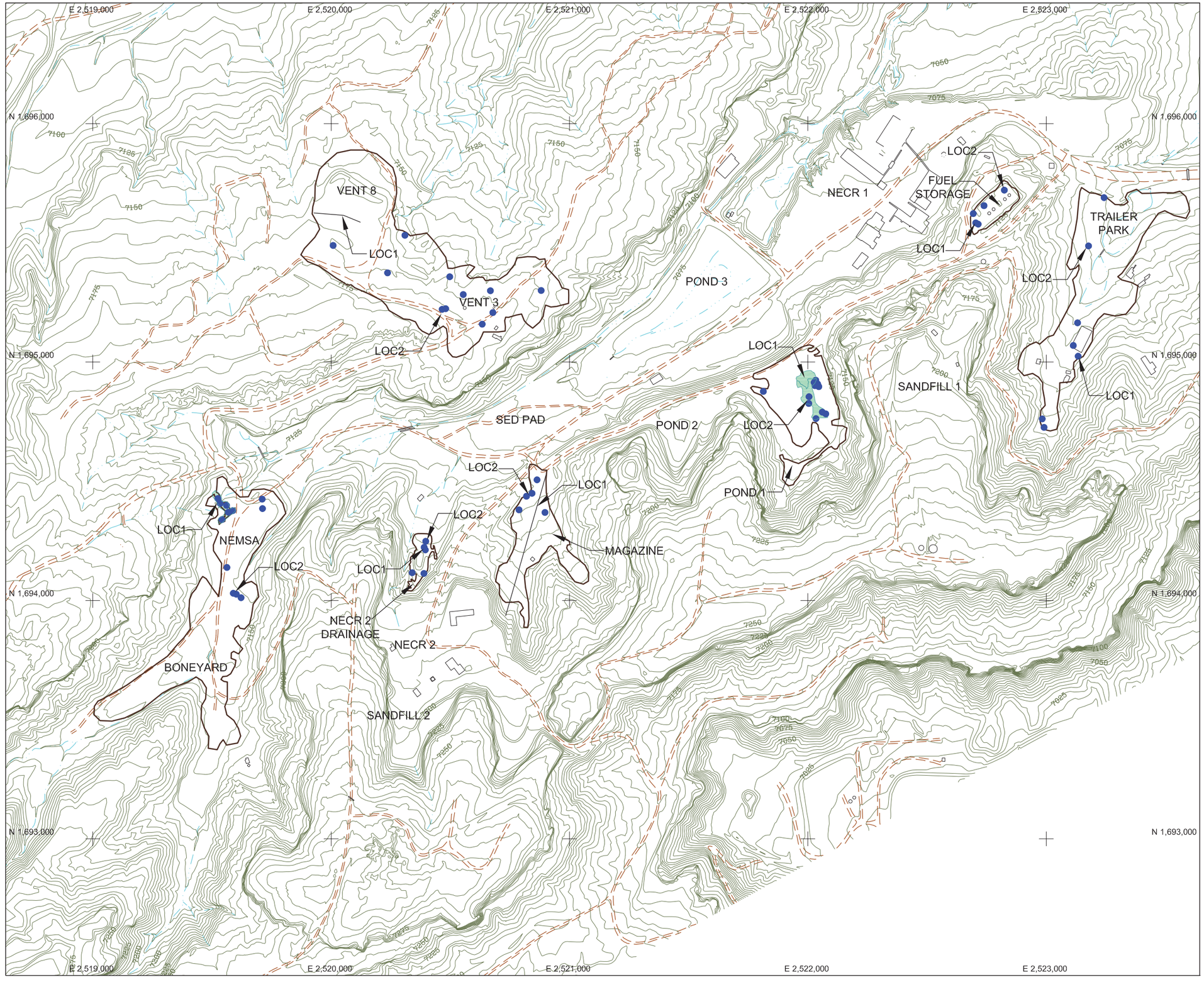
ATTACHMENT 2

RECOMMENDED EXCAVATION LOCATIONS



LEGEND

- ROADS
- DRAINAGE
- ANOMALOUS POINTS
- ANOMALOUS LINES
- ANOMALOUS AREAS
- SURVEY LIMITS
- LOC1 EXCAVATION LOCATION

NOTE:
1. TOPOGRAPHY FROM 2007 BY COOPER AERIAL.
2. COORDINATE SYSTEM: STATE PLANE, NEW MEXICO, WEST, FEET, NAD83.

N

SCALE
400' 0 400'
CONTOUR INTERVAL 5FT.

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
0	ISSUED FOR DRAFT	06/07	T.LEESON	C.FOWLER	

UNC
P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT:
REMOVAL SITE EVALUATION WORK PLAN

DRAWING TITLE:
RECOMMENDED LOCATIONS FOR EXCAVATION OF GEOPHYSICAL ANOMALIES

MWH

SCALE: As Shown

SHEET 1 OF 1

J:\1005146 NECR\1005146 ANOMALY Locations

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
NECR-1	NECR-COR-A-18	40.4	na	na	na	na	na
	NECR1-SS-005	8.9	3.7	nd	2.6	5.1	28.6
	NECR1-SB-016 [0-0.25]	80.8	nd	nd	59.5	758.0	62.4
	NECR1-SS-018	21.7	2.1	nd	5.4	17.0	27.1
	NECR1-SS-020	46.2	1.9	nd	54.1	52.0	38.3
	NECR1-SS-023	18.3	4.5	nd	11.2	71.2	42.8
	NECR1-SS-026	68.4	nd	nd	69.4	199.0	42.5
	NECR1-SS-028	26.3	7.4	63.8	6.6	79.9	35.4
	NECR1-SS-030	6.5	5.3	nd	2.1	8.5	32.5
	NECR1-SS-044	47.9	1.3	nd	27.3	57.7	48.4
	NECR1-SB-046 [0-0.5]	58.8	nd	nd	54.2	176.0	52.5
	NECR1-SS-047	31.3	2.3	nd	19.2	27.7	33.8
	NECR1-SS-049	29.3	8.3	214.0	5.1	664.0	22.9
	NECR1-SS-065	28.4	5.7	nd	16.0	59.1	56.9
	NECR1-SS-067	38.3	2.9	nd	21.2	55.1	39.1
	NECR1-SS-068	12.8	1.9	nd	5.7	256.0	21.6
	NECR1-SS-070	26.1	2.5	nd	9.4	49.6	32.8
	NECR1-SS-090	84.8	2.3	nd	29.0	122.0	47.1
	NECR1-SS-092	13.2	3.1	nd	8.2	18.1	28.3
	NECR1-SS-093	35.7	2.0	nd	12.8	56.9	29.6
	NECR1-SB-095 [0-0.5]	75.7	3.0	nd	30.6	209.0	45.1
	NECR1-SS-101	12.7	4.4	nd	4.1	27.2	30.2
	NECR1-SS-103	17.7	5.6	nd	7.9	17.7	41.6
	NECR1-SS-126	50.9	5.9	10.8	14.1	99.3	48.6
	NECR1-SS-127	93.3	6.9	15.2	21.6	177.0	75.9
	NECR1-SS-129	7.0	4.4	nd	2.4	7.7	31.9
	NECR1-SS-131	41.5	1.6	nd	14.7	58.7	34.3
	NECR1-SS-133	54.7	2.1	nd	12.6	52.6	35.8
	NECR1-SS-135	63.2	4.6	nd	16.5	81.0	61.3
	NECR1-SS-137	52.6	5.4	nd	17.6	98.5	64.2
	NECR1-SS-138	48.6	2.2	nd	13.5	19.9	26.8
	NECR1-SS-140	15.8	4.8	nd	4.2	21.2	34.7
	Average	39.3	3.9	76.0	18.7	116.2	40.4
	Standard Deviation	24.2	2.1	39.1	17.8	172.1	13.2
NECR-1 Stepouts	NECR1-SS-164	35.7	4.3	nd	11.4	22.0	43.2
	NECR1-SS-173	4.6	4.5	nd	1.4	5.6	32.3
	NECR1-SS-184	1.2	2.7	nd	1.0	2.9	35.9
	NECR1-SS-207	3.1	4.9	nd	1.4	7.6	30.5
	NECR1-SS-238	1.6	7.9	nd	1.4J-	3.4	42.9
	NECR1-SS-240	1.5	14.9	nd	0.5J-	3.6	50.2
	NECR1-SS-262	1.4	5.2	nd	1.1J-	2.2	30.4
	NECR1-SS-265	1.6	4.9	nd	0.4J-	2.4	30.6
	NECR1-SS-266	1.7	5.1	nd	0.6J-	57.7	34.6
	NECR1-SS-281	80.5	4.0	nd	53.1J-	83.4	69.7
	NECR1-SS-289	1.8	5.7	nd	1.0J-	3.1	30.6
	NECR1-SS-293	7.0	9.0	nd	3.2J-	21.4	32.9
	NECR1-SS-307	3.8	13.3	nd	1.1J-	6.8	41.0

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
	NECR1-SS-316	1.3	2.7	nd	nd	1.2	19.3
	NECR1-SS-323	2.6	3.7	nd	0.9	2.2	32.3
	NECR1-SS-326	5.2	2.8	nd	1.6	4.3	28.5
	Average	9.7	6.0	nd	4.9	14.4	36.6
	Standard Deviation	20.7	3.6	nd	13.1	23.3	11.4
NECR-2	NECR-COR-A-11	1.9	na	na	na	na	na
	NECR-COR-A-12	6.8	na	na	na	na	na
	NECR-COR-A-13	8.9	na	na	na	na	na
	NECR-COR-A-14	10.3	na	na	na	na	na
	NECR-COR-A-15	9.2	na	na	na	na	na
	NECR 2-SS-004	1.2	4.0	nd	nd	1.5	28.9
	NECR 2-SS-015	97.2	3.5	nd	11.9	107.0	46.7
	NECR 2-SS-017	55.3	2.8	nd	13.3	48.9	39.9
	NECR 2-SS-018	3.6	3.4	nd	1.2	2.2	29.4
	NECR 2-SS-020	38.1	1.3	nd	15.7	66.2	26.8
	NECR 2-SS-027	35.3	3.4	nd	6.6	12.3	34.9
	NECR 2-SS-033	2.0	3.3	nd	1.2	5.2	16.0
	NECR 2-SS-035	160.0	1.9	nd	26.7	370.0	67.3
	NECR 2-SS-037	4.6	4.8	nd	1.2	7.1	33.0
	NECR 2-SS-039	35.4	2.3	nd	6.5	29.5	26.7
	NECR 2-SS-050	1.2J	6.4	nd	nd	2.0	24.7
	NECR 2-SS-052	23.0	2.5	nd	5.6	43.5	31.0
	NECR 2-SS-056	11.9	3.4	nd	2.6	3.9	33.0
	NECR 2-SS-069	8.9	4.7	nd	2.6	9.6	34.2
	NECR 2-SS-071	40.0	5.0	nd	14.5	45.7	58.9
	Average	27.7	3.5	2.5	7.3	50.3	35.4
	Standard Deviation	39.3	1.3	0.0	7.7	93.5	13.3
NECR-2 Stepouts	NECR2-SS-083	3.1	3.3	nd	0.4	3.2	26.5
	NECR2-SS-096	1.4	8.1	nd	nd	3.7	39.0
	NECR2-SS-103	1.5	4.9	nd	0.6	2.1	35.6
	NECR2-SS-109	1.6	6.4	nd	nd	1.7	37.2
	Average	1.9	5.7	2.5	0.3	2.7	34.6
	Standard Deviation	0.8	2.1	0.0	0.2	0.9	5.6
Sandfill 1	SAND1-SS-009	1.8	5.1	nd	0.3B	1.9	20.2
	SAND1-SS-011	5.8	3.2	nd	0.9B	2.5	22.8
	SAND1-SS-017	2.1	2.0	nd	0.3B	2.8	11.8
	SAND1-SS-021	2.3	2.6	nd	0.7B	12.6	13.4
	SAND1-SS-027	4.4	2.8	nd	0.6B	1.0	14.1
	SAND1-SS-028	0.8	3.0	nd	0.2B	0.7	15.6
	SAND1-SS-030	14.3	4.1	nd	2.5	10.6	33.9
	SAND1-SS-041	1.3	5.6	nd	0.4B	2.1	23.2
	SAND1-SS-043	6.7	3.4	nd	1.7J	1.8	18.8
	SAND1-SS-044	11.0	6.7	nd	1.6	1.7	31.9
	SAND1-SS-049	16.8	4.9	nd	3.0	41.0	81.3
	SAND1-SS-050	15.7	5.0	nd	8.1	4.5	26.1
	SAND1-SS-051	1.9	4.6	nd	0.5B	1.0	32.6
	SAND1-SS-063	20.8	3.3	nd	3.5J	6.9	28.5
	SAND1-SS-068	47.3	2.3	nd	19.2	41.3	42.1
	Average	10.2	3.9	nd	2.9	8.8	27.8
	Standard Deviation	12.2	1.4	nd	5.0	13.6	17.2

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
Sandfill 1 Boundary	SAND1-SS-032	3.8	4.6	nd	1.3	2.5	34.4
	SAND1-SS-053	5.4	7.0	nd	1.4	2.5	32.0
	SAND1-SS-065	4.3	4.6	nd	1.0	3.0	30.1
	Average	4.5	5.4	nd	1.2	2.7	32.2
	Standard Deviation	0.8	1.4	nd	0.2	0.3	2.2
Sandfill 2	SAND2-SS-003	3.3	8.0	nd	0.9B	4.2	22.6
	SAND2-SS-004	2.0	7.3	nd	0.8B	2.2	29.1
	SAND2-SS-006	1.2	7.8	nd	0.2B	1.0	30.9
	SAND2-SS-007	16.1	4.0	nd	2.8	7.0	37.6
	SAND2-SS-010	1.2	9.0	nd	0.3B	1.2	42.6
	SAND2-SS-011	6.2	4.7	nd	1.0	5.4	29.6
	SAND2-SS-012	6.2	3.3	nd	0.9B	26.3	54.2
	SAND2-SS-014	0.8	3.5	nd	nd	0.7	12.4
	SAND2-SS-015	4.4	5.5	nd	0.8B	2.7	38.1
	SAND2-SS-016	6.1	4.5	nd	1.3	2.5	34.3
	SAND2-SS-017	36.0	3.2	nd	6.3	9.0	41.5
	SAND2-SS-019	21.6	3.3	nd	3.6	27.5	49.7
	SAND2-SS-020	27.7	4.1	nd	5.0	41.4	49.0
	Average	10.2	5.2	nd	1.8	10.1	36.3
	Standard Deviation	11.5	2.1	nd	2.0	13.0	11.6
Sandfill 3	NECR-COR-A-10	31.6	na	na	na	na	na
	SAND3-SS-002	15.3	3.4	nd	4.2	42.6	43.7
	SAND3-SS-005	66.9	1.5	nd	32.2	86.4	54.5
	SAND3-SS-006	17.4	4.7	nd	3.5	119.0	39.6
	SAND3-SS-008	1.4	3.7	nd	0.5	2.9	34.1
	SAND3-SS-009	31.9	3.7	nd	14.0	41.4	41.0
	SAND3-SS-010	33.4	3.8	nd	7.2	136.0	45.0
	SAND3-SS-014	123.0	1.7	nd	33.5	396.0	51.5
	SAND3-SS-017	1.0	5.3	nd	0.7	1.4	26.0
	SAND3-SS-022	1.2	2.9	nd	nd	0.9	22.7
	SAND3-SS-024	27.4	4.3	nd	5.8	7.4	33.2
	SAND3-SS-025	26.9	2.7	nd	5.5	10.9	28.6
	SAND3-SS-026	19.6	2.5	nd	5.3	7.3	20.6
	SAND3-SS-027	4.5	4.7	nd	1.4	3.2	28.7
	Average	28.7	3.5	nd	8.8	65.8	36.1
	Standard Deviation	32.4	1.2	nd	11.3	109.7	10.8
Sandfill 3 Boundary	SAND3-SS-004	1.4	2.1	nd	1.0	3.5	34.9
	SAND3-SS-012	1.4	4.3	nd	nd	2.3	38.8
	Average	1.4	3.2	nd	0.6	2.9	36.9
	Standard Deviation	0.0	1.6	nd	0.6	0.8	2.8
Correlation Samples (outside & NW of Sandfill 3)	NECR-COR-A-01	1.9	na	na	na	na	na
	NECR-COR-A-02	5.4	na	na	na	na	na
	NECR-COR-A-03	4.5	na	na	na	na	na
	NECR-COR-A-04	1.8	na	na	na	na	na
	NECR-COR-A-05	3.7	na	na	na	na	na
	NECR-COR-A-06	1.1	na	na	na	na	na
	NECR-COR-A-07	1.5	na	na	na	na	na
	NECR-COR-A-08	3.5	na	na	na	na	na
	NECR-COR-A-09	6.6	na	na	na	na	na
	NECR-COR-A-19	1.0	na	na	na	na	na
	Average	3.1	na	na	na	na	na
	Standard Deviation	1.9	na	na	na	na	na

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
Ponds 1 and 2	NECR-COR-A-17	185.0	na	na	na	na	na
	POND12-SS-011	1.1	5.0	nd	nd	1.0	35.3
	POND12-SS-014	96.9	3.2	nd	36.3	47.5	56.2
	POND12-SS-019	4.7	4.9	nd	0.9	7.8	34.9
	POND12-SS-020	2.2	5.0	nd	0.5	2.0	35.6
	POND12-SS-023	62.4	2.5	nd	22.8	28.6	38.5
	POND12-SS-024	26.9	2.5	nd	7.1	16.2	28.7
	POND12-SS-035	78.5	8.8	nd	30.6	85.5	83.7
	POND12-SS-041	3.0	4.2	nd	1.5	4.1	26.8
	POND12-SS-042	1.0	5.6	nd	nd	1.5	35.5
	POND12-SS-047	73.1	3.7	nd	24.3	37.7	49.6
	POND12-SS-050	13.7	5.3	nd	5.3	11.9	35.8
	POND12-SS-056	11.2	5.3	nd	3.2	10.1	35.9
	POND12-SS-058	655.0	5.5	nd	159.0	1080.0	198.0
	POND12-SS-061	26.5	4.4	nd	5.2	36.6	35.8
	POND12-SS-069	161.0	3.8	nd	33.0	166.0	79.6
	POND12-SB-071 [0-0.5]	49.9	3.1	nd	11.3	73.9	34.9
	POND12-SS-076	2.2	5.2	nd	0.2	8.0	40.8
	POND12-SS-077	487.0	5.1	nd	83.7	423.0	123.0
	1/2-SB-82 [0-0.5]	177.0	2.7	nd	56.3	339.0	75.6
	Average	105.9	4.5	nd	25.3	125.3	57.1
	Standard Deviation	172.0	1.5	nd	39.4	259.1	42.1
Ponds 1 and 2 Boundary	POND12-SS-009	1.7	2.2	nd	1.2	1.6	24.6
	POND12-SS-012	1.5	4.5	nd	0.8	1.7	35.2
	POND12-SS-032	1.6	4.4	nd	0.8	2.0	33.5
	POND12-SS-063	1.2	3.0	nd	0.6	1.3	40.1
	Average	1.5	3.5	nd	0.9	1.7	33.4
	Standard Deviation	0.2	1.1	nd	0.3	0.3	6.5
Pond 3/3a	NECR-COR-A-16	6.2	na	na	na	na	na
	POND3-SS-001	18.1	6.1	nd	5.2	42.0	50.4
	POND3-SS-007	259.0	5.5	nd	22.3	1020.0	64.1
	POND3-SS-014	875.0	5.7	nd	71.9	3970.0	118.0
	POND3-SS-015	18.8	3.9	nd	8.6	11.1	32.4
	POND3-SS-027	4.7	4.0	nd	0.9	19.1	26.9
	POND3-SS-029	312.0	5.0	nd	24.5	1240.0	79.3
	POND3-TP-037 [0-0.5]	7.7	2.7	nd	1.0	9.8	19.2
	POND3-SS-038	20.9	6.1	nd	4.2	34.9	34.1
	POND3-SS-042	1.4	5.1	nd	0.7	1.9	28.8
	POND3-SS-046	19.5	6.7	nd	3.3	34.3	42.5
	POND3-SS-057	2.8	8.1	nd	0.7	4.5	39.9
	POND3-SS-059	26.9	5.5	nd	5.2	62.9	39.5
	3/3a-SB-61 [0-0.5]	17.3	3.7	nd	6.8	28.4	30.3
	POND3-SS-063	3.8	6.4	nd	2.9	8.8	38.9
	POND3-SS-065	39.6	5.7	nd	5.2	68.4	46.8
	Average	102.1	5.3	2.5	10.9	437.1	46.1
	Standard Deviation	226.2	1.4	0.0	18.4	1051.8	25.0

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
Sediment Pad	SEDPAD-SS-005	17.7	3.1	nd	3.7	14.1	25.5
	SEDPAD-SS-006	38.8	3.0	nd	14.2	21.7	39.5
	SEDPAD-SS-07	106.0	1.1	nd	45.5	92.4	63.4
	SEDPAD-SS-008	25.8	3.0	nd	7.9	19.8	35.5
	SEDPAD-SS-011	3.8	11.6	nd	2.7	27.3	502.0
	SEDPAD-SS-12	118.0	0.9	nd	37.8	363.0	52.9
	SEDPAD-SS-014	236.0	2.7	nd	78.8	366.0	106.0
	SEDPAD-SS-015	33.4	1.5	nd	12.9	34.7	31.5
	SEDPAD-SS-018	1.5	nd	nd	nd	1.9	46.8
	SEDPAD-SS-020	12.8	6.0	nd	3.8	17.7	22.2
	SEDPAD-SS-021	85.6	1.3	nd	45.4	1640.0	59.1
	SEDPAD-SS-022	104.0	1.3	nd	44.5	85.9	60.7
	SEDPAD-SS-025	36.7	1.5	nd	7.5	21.9	29.9
	SEDPAD-SS-026	27.1	3.0	nd	9.0	33.1	32.1
	Average	60.5	2.9	nd	22.4	195.7	79.1
	Standard Deviation	64.2	2.9	nd	23.7	433.2	123.6
NEMSA	NEMSA-TP-001 [0-0.5]	1.2	3.6	nd	0.6	1.0	28.6
	NEMSA-TP-002 [0-0.25]	1.7	4.2	nd	1.0	4.8	32.4
	NEMSA-TP-003 [0-0.5]	0.9	3.2	nd	1.7	0.9	18.0
	NEMSA-TP-004 [0-0.5]	1.3	4.3	nd	1.2	4.8	29.2
	NEMSA-TP-005 [0-0.5]	2.6	4.3	nd	nd	2.2	28.9
	Average	1.5	3.9	nd	0.9	2.7	27.4
	Standard Deviation	0.7	0.5	nd	0.6	1.9	5.5
Boneyard	YARD-TP-001 [0-0.5]	45.9	1.3	nd	16.7	17.4	41.3
	YARD-TP-002 [0-0.5]	2.2	5.5	nd	0.6	2.1	32.0
	YARD-TP-003 [0-0.5]	1.1	5.1	nd	0.8	1.5	31.6
	YARD-TP-004 [0-0.5]	1.6	3.7	nd	0.4	0.8	29.0
	YARD-TP-005 [0-0.5]	1.2	4.0	nd	nd	1.0	26.0
	Average	10.4	3.9	nd	3.7	4.6	32.0
	Standard Deviation	19.8	1.6	nd	7.3	7.2	5.7
Vents 3 & 8	VENT3-SS-034	1.4	2.3	nd	0.2	1.1	9.0
	VENT8-SS-002	3.6	5.1	nd	2.9	5.2	35.3
	VENT8-SS-006	13.2	3.3	nd	5.0	19.4	30.3
	VENT8-SS-019	137.0	3.3	nd	27.4	358.0	55.4
	VENT8-SS-031	2.2	2.6	nd	0.9	2.1	21.6
	Average	31.5	3.3	nd	7.3	77.2	30.3
	Standard Deviation	59.2	1.1	nd	11.4	157.2	17.2
Trailer Park	TP-SS-001	12.5	3.7	nd	6.6J-	12.7	43.7
	TP-SS-009	33.2	6.1	nd	39.8J-	139.0	61.3
	TP-SS-013	33.2	nd	nd	101.0J-	44.0	78.4
	TP-SS-024	2.1	5.4	nd	1.7J-	16.7	32.8
	TP-SS-027	2.1	5.3	nd	0.8J-	1.7	31.7
	Average	16.6	4.2	nd	30.0	42.8	49.6
	Standard Deviation	15.7	2.4	nd	42.8	56.0	20.0

Table A2-1
Surface Soil Analytical Results
Removal Site Evaluation 2006

Area	Sample ID	Analyte					
		Ra-226[1]	As[2]	Mo	Se	U	V
	Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
Unnamed (correlation samples)	NECR-COR-B-01	11.9	na	na	na	na	na
	NECR-COR-B-02	10.6	na	na	na	na	na
	NECR-COR-B-03	9.7	na	na	na	na	na
	NECR-COR-B-04	11.4	na	na	na	na	na
	NECR-COR-B-05	15.8	na	na	na	na	na
	NECR-COR-B-06	15.7	na	na	na	na	na
	NECR-COR-B-07	14.9	na	na	na	na	na
	NECR-COR-B-08	14.4	na	na	na	na	na
	NECR-COR-B-09	18.9	na	na	na	na	na
	NECR-COR-B-10	21.2	na	na	na	na	na
	NECR-COR-B-11	19.6	na	na	na	na	na
	NECR-COR-B-12	21.4	na	na	na	na	na
	NECR-COR-B-13	19.2	na	na	na	na	na
	NECR-COR-B-14	21.0	na	na	na	na	na
	NECR-COR-B-15	26.4	na	na	na	na	na
	Average	16.8	na	na	na	na	na
	Standard Deviation	4.8	na	na	na	na	na

Notes:
nd = not detected above reporting limint; na = not analyzed.
-- = not applicable
Data Qualifier
J = Datum is estimated, bias unknown.
J- = Datum is estimated, potentially biased low.
J+ = Datum is estimated, potentially biased high.
B = Analyte detected in associated method blank. Sample concentration greater than five time method blank concentration.

Table A2-2
Subsurface Soils Analytical Results
Removal Site Evaluation 2006

Area	Type	Sample ID	Depth (ft bgs)	Analyte					
				Ra-226	As	Mo	Se	U	V
			Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
NECR-1	Soil Boring	NECR1-SB-016 [5.0]	5.0-6.5	21.1	3.8	nd	9.5	99.5	34.2
		NECR1-SB-016 [10.0]	10.0-11.5	64.6	nd	nd	29.6	141.0	54.4
		NECR1-SB-016 [15.0]	15.0-16.5	63.1	nd	nd	32.8	144.0	35.0
		NECR1-SB-016 [20.0]	20.0-21.5	1.4	5.1	nd	0.6	21.4	38.7
		NECR1-SB-046 [5.0]	5.0-6.5	31.9	nd	nd	24.6	71.1	41.7
		NECR1-SB-046 [10.0]	10.0-11.5	19.3	nd	nd	5.4	72.7	31.0
		NECR1-SB-046 [15.0]	15.0-16.5	1.3	6.9	nd	1.4	337.0	41.5
		NECR1-SB-046 [20.0]	20.0-21.5	1.0	5.2	nd	nd	3.4	34.4
		NECR1-SB-046 [25.0]	25.0-26.5	1.1	5.5	nd	0.5	0.8	39.2
		NECR1-SB-046 [30.0]	30.0-31.5	1.1	6.2	nd	nd	1.1	37.9
		NECR1-SB-90 [5.0]	5.0-6.5	6.9	4.4	nd	1.9	8.5	41.2
		NECR1-SB-90 [10.0]	10.0-11.5	4.2	3.1	nd	0.8	43.2	44.5
		NECR1-SB-90 [15.0]	15.0-16.5	103.0	0.8	nd	20.6	125.0	89.5
		NECR1-SB-90 [20]	20.0-21.5	90.0	0.9	nd	45.4	144.0	63.7
		NECR1-SB-90 [25]	25.0-26.5	48.9	0.6	nd	47.0	218.0	83.3
		NECR1-SB-90 [30.0]	30.0-31.5	1.7	6.4	nd	0.2	313.0	31.7
		NECR1-SB-90 [35.5]	35.0-36.5	1.3	4.9	nd	0.4	331.0	34.5
		NECR1-SB-90 [40]	40.0-41.5	1.2	4.3	nd	1.0	240.0	35.1
		NECR1-SB-90 [45]	45.0-46.5	1.3	5.3	nd	0.8	165.0	42.0
		NECR1-SB-095 [5.0]	5.0-6.5	27.7	3.8	nd	6.7	90.4	41.9
		NECR1-SB-095 [10.0]	10.0-11.5	7.9	7.9	nd	1.1	11.4	48.4
		NECR1-SB-095 [14.0]	14.0-15.5	1.8	5.2	nd	0.9	2.4	39.7
		NECR1-SB-131 [5.0]	5.0-6.5	67.4	2.8	nd	15.4	58.6	47.8
		NECR1-SB-131 [10.0]	10.0-11.5	1.9	7.3	nd	nd	59.4	40.7
		NECR1-SB-131 [15.0]	15.0-16.5	1.8	5.1	nd	nd	19.2	31.5
		NECR1-SB-131 [20]	20.0-21.5	1.2J	7.9	nd	nd	1.6	39.8
		NECR1-SB-131 [24]	24.0-25.5	1.3	5.2	nd	nd	1.5	37.3
	Test Pit	NECR1-TP-138	3.5-4.0	24.2	6.9	nd	13.2	73.6	42.3
			Average	21.4	4.2	nd	9.3	99.9	43.7
			Standard Deviation	30.0	2.5	nd	14.2	104.5	14.0
NECR-2	Test Pit	NECR 2-TP-035	1.0-1.5	10.4	2.9	nd	1.4	35.5	18.8
		NECR 2-TP-052	1.5-2.0	12.6	3.4	nd	4.0	70.6	32.5
		NECR 2-TP-052	4.0-5.0	2.9	3.2	nd	0.8	32.7	25.9
		NECR 2-TP-020	1.0-1.5	1.2	3.2	nd	0.9	9.7	25.0
		NECR 2-TP-039	1.0-1.5	5.5	3.6	nd	2.1	32.2	33.7
		NECR 2-TP-015	0.5-1.0	2.5	3.6	nd	1.0	17.0	35.4
			Average	5.9	3.3	nd	1.7	33.0	28.6
			Standard Deviation	4.6	0.3	nd	1.2	21.1	6.4
Sandfill 1	Test Pit	SAND1-TP-030	1.0-1.5	113.0	2.9	nd	15.8	31.7	45.7
		SAND1-TP-030	3.5-4.0	4.8	13.9	nd	1.4	5.2	44.8
		SAND1-TP-043	1.0-1.5	0.6	3.4	nd	0.4	0.8	17.4
		SAND1-TP-049	1.0-1.5	75.8	3.4	nd	17.3	32.3	40.6
		SAND1-TP-049	3.5-4.0	6.4	4.4	nd	2.4	3.0	23.9
		SAND1-TP-063	0.5-1.0	80.6	1.1	nd	21.7	89.8	48.5
		SAND1-TP-063	1.5-2.0	8.8	9.2	nd	4.6	60.5	28.3
		SAND1-TP-068	0.5-1.0	57.4	2.5	nd	34.3	91.6	45.3
		SAND1-TP-068	1.5-2.0	7.1	6.5	nd	0.6	27.0	10.4
			Average	39.4	5.3	nd	10.9	38.0	33.9
			Standard Deviation	42.6	4.0	nd	12.0	35.2	14.2
Sandfill 2	Test Pit	SAND 2-TP-011	0.5-1.0	1.1	5.3	nd	0.5	2.5	41.7
		SAND 2-TP-012	1.5-2.0	3.8	3.1	nd	nd	26.5	50.9
		SAND 2-TP-017	1.5-2.0	1.9	3.8	nd	0.7	2.8	29.9
		SAND 2-TP-019	1.0-1.5	1.8	3.6	nd	nd	3.2	35.2
		SAND 2-TP-008	0.5-1.0	2.4	3.6	nd	0.4	15.3	45.0
			Average	2.2	3.9	nd	0.4	10.1	40.5
			Standard Deviation	1.0	0.8	nd	0.3	10.7	8.2
Sandfill 3	Test Pit	SAND3-TP-005	0.5-1.0	40.8	0.8	nd	39.2	131.0	63.3
		SAND3-TP-005	1.5-2.0	28.1	4.3	nd	3.6	78.8	33.9

Table A2-2
Subsurface Soils Analytical Results
Removal Site Evaluation 2006

Area	Type	Sample ID	Depth (ft bgs)	Analyte					
				Ra-226	As	Mo	Se	U	V
			Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		SAND3-TP-006	0.5-1.0	8.4	5.0	nd	0.8	102.0	35.0
		SAND3-TP-009	0.5-1.0	5.1	6.9	nd	1.7	90.6	38.0
		SAND3-TP-014	0.5-1.0	1.2	4.2	nd	1.3	227.0	29.4
		SAND3-TP-014	1.0-1.5	84.1	1.5	nd	29.0	488.0	52.2
		SAND3-TP-025	0.5-1.0	27.2	4.6	nd	8.9	21.1	41.3
			Average	27.8	3.9	nd	12.1	162.6	41.9
			Standard Deviation	28.7	2.1	nd	15.6	156.5	11.9
Ponds 1 & 2	Soil Boring	Pond12-SB-71 [5.0]	5.0-6.5	0.9	4.7	nd	nd	1.3	30.2
		1/2-SB-71 [10.0]	10.0-11.5	0.7	5.5	nd	nd	2.1	37.6
		1/2-SB-71 [15.0]	15.0-16.5	1.0	6.7	nd	1.0	3.3	43.2
		1/2-SB-82 [5.0]	5.0-6.5	14.4	4.6	nd	3.7	22.7	36.2
		1/2-SB-82 [10.0]	10.0-11.5	12.2	5.0	nd	3.4	18.1	38.0
		1/2-SB-82 [15]	15.0-16.5	1.1	6.8	nd	nd	5.0	42.6
		1/2-SB-82 [20]	20.0-21.5	1.5	5.1	nd	nd	1.7	37.9
	Test Pit	POND12-TP-030	2.0-3.0	41.3	5.5	nd	13.2J-	149.0	45.2
		POND12-TP-030	4.5-5.0	6.2	6.4	nd	1.6J-	80.3	30.7
		POND12-TP-035	1.0-1.5	417.0	3.2	nd	159.0J-	286.0	158.0
		POND12-TP-035	2.0-2.5	41.5	1.4	nd	11.2J-	38.9J+	31.6J+
		POND12-TP-035	9.0-9.5	19.6	4.4	nd	15.5	206.0	35.3
		POND12-TP-058	4.5-5.0	438.0	4.3	nd	227.0	760.0	173.0
		POND12-TP-058	8.5-9.0	1.3	5.6	nd	2.6	59.4	31.9
			Average	71.2	4.9	nd	31.3	116.7	55.1
			Standard Deviation	151.7	1.4	nd	70.0	204.9	47.1
Pond 3/3a	Soil Boring	3/3a-SB-61 [5.5]	5.5-7.0	0.9	4.8	nd	nd	1.3	29.6
		3/3a-SB-61 [10.0]	10.0-11.5	1.1	4.8	nd	nd	1.0	27.9
		3/3a-SB-61 [15.0]	15.0-16.5	1.5	4.1	nd	nd	1.0	29.7
		3/3a-SB-61 [20.0]	20.0-21.5	1.0	4.5	nd	nd	1.1	34.5
		3/3a-SB-61 [25.0]	25.0-26.5	1.3	4.9	nd	nd	1.0	35.0
	Test Pit	POND3-TP-007	5.0-5.5	4.5	4.9	nd	3.1	24.4	35.8
		POND3-TP-007	9.0-9.5	0.7	2.9	nd	nd	0.7	22.6
		POND3-TP-014	6.5-7.0	0.8	3.3	nd	nd	1.5	25.6
		POND3-TP-014	8.5-9.0	0.8	3.2	nd	nd	1.4	22.1
		POND3-TP-029	3.0-3.5	14.3	6.2	nd	0.8	102.0	28.5
		POND3-TP-029	6.0-6.5	15.7	6.7	nd	2.9	116.0	31.1
		POND3-TP-029	9.0-9.5	2.1	4.5	nd	nd	30.8	33.7
		POND3-TP-037	5.0-5.5	2.2	6.6	nd	1.0	16.3	45.7
		POND3-TP-037	8.5-9.0	0.7	4.9	nd	nd	23.5	31.4
			Average	3.4	4.7	nd	0.6	23.0	30.9
			Standard Deviation	5.0	1.2	nd	1.0	38.1	6.0
Sediment Pad	Test Pit	SEDPAD-TP-006	1.5-2.0	92.9	0.6	nd	161.0	68.6	74.7
		SEDPAD-TP-006	3.0-3.5	2.8	4.2	nd	2.4	88.7	29.0
		SEDPAD-TP-012	1.0-1.5	84.0	0.8	nd	83.5	147.0	48.4
		SEDPAD-TP-012	1.5-2.0	2.9	4.3	nd	2.7	158.0	30.7
		SEDPAD-TP-014	0.5-1.0	165.0	2.7	nd	61.4	252.0	75.0
		SEDPAD-TP-014	1.0-1.5	9.8	3.8	nd	3.4	18.9	31.5
		SEDPAD-TP-021	5.0-5.5	99.7	1.9	nd	63.9	357.0	60.3
		SEDPAD-TP-021	10.0-10.5	86.3	nd	nd	74.1	270.0	63.9
		SEDPAD-TP-026	0.5-1.0	86.6	5.5	nd	40.9	89.0	65.4
			Average	70.0	2.7	nd	54.8	161.0	53.2
			Standard Deviation	54.6	1.9	nd	51.1	110.6	18.8
NEMSA	Test Pit	NEMSA-TP-001	1.0-1.5	45.8	0.8	nd	17.5	71.0	32.5
		NEMSA-TP-001	4.0-5.0	57.3	1.5	nd	15.6	67.0	35.1
		NEMSA-TP-001	6.0-6.5	1.3J	4.9	nd	0.4	311.0	28.5
		NEMSA-TP-002	0.25-0.75	46.6	0.7	nd	19.0	79.5	41.7
		NEMSA-TP-002	5.5-6.0	68.8	nd	nd	38.9	125.0	47.3
		NEMSA-TP-002	7.0-7.5	1.1	3.7	nd	nd	227.0	25.6
		NEMSA-TP-003	1.5-2.0	38.2	0.6	nd	24.2	17.6	36.4
		NEMSA-TP-003	4.0-4.5	0.8	4.0	nd	nd	49.3	24.9

Table A2-2
Subsurface Soils Analytical Results
Removal Site Evaluation 2006

Area	Type	Sample ID	Depth (ft bgs)	Analyte					
				Ra-226	As	Mo	Se	U	V
			Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
		NEMSA-TP-004	1.0-1.5	140.0	0.8	nd	40.1	390.0	43.2
		NEMSA-TP-004	6.0-6.5	112.0	nd	nd	132.0	75.8	38.5
		NEMSA-TP-004	8.5-9.0	68.8	1.3	nd	112.0	136.0	44.0
		NEMSA-TP-005	4.0-4.5	8.4	4.5	nd	0.5	27.3J+	32.8
		NEMSA-TP-005	8.0-8.5	0.8	3.4	nd	nd	1.4	26.5
			Average	45.4	2.1	nd	30.8	121.4	35.2
			Standard Deviation	44.7	1.8	nd	43.1	118.3	7.5
Boneyard	Test Pit	YARD-TP-001	1.0-1.5	1.3	5.2	nd	0.2	0.8	29.9
		YARD-TP-002	1.5-2.0	1.1	5.2	nd	nd	1.5	31.1
		YARD-TP-002	9.5-10.0	1.1	4.0	nd	nd	0.9	27.8
		YARD-TP-003	1.0-1.5	1.2	5.1	nd	nd	1.0	37.8
		YARD-TP-004	0.5-1.0	48.4	0.8	nd	24.3	12.5	36.9
		YARD-TP-004	5.5-6.0	50.7	1.9	nd	33.4	228.0	33.9
		YARD-TP-004	7.0-7.5	10.1	3.3	nd	3.1	240.0	22.2
		YARD-TP-004	9.5-10.0	1.9	3.5	nd	0.8	5.5	24.7
		YARD-TP-005	2.5-3.0	1.4	4.0	nd	1.2	5.6	25.2
		YARD-TP-005	4.5-5.0	1.7	4.0	nd	0.3	4.3	24.7
		YARD-TP-005	8.5-9.0	1.9	4.9	nd	0.5	8.4	25.6
			Average	11.0	3.8	nd	5.8	46.2	29.1
			Standard Deviation	19.3	1.4	nd	11.6	92.9	5.3

Notes:
nd = non-detect
Data Qualifier Flags
J = Datum is estimated, bias unknown.
J- = Datum is estimated, potentially biased low.
J+ = Datum is estimated, potentially biased high.
B = Analyte detected in associated method blank. Sample concentration greater than five time method blank concentration.

Table A2-3
Summary of Synthetic Precipitation Leaching Procedure Analytical Results
Removal Site Evaluation 2006

Area	Location ID	Lab Sample ID	Analyte				
			Ra-226	As	Mo	Se	U
		Reporting Limit	**0.2**	**0.001**	**0.1**	**0.0029**	**0.00038**
NECR-1	NECR1-SS-240	C06120235-042	nd	0.0051	nd	nd	0.0032B
	NECR1-SS-307	C06120235-050	0.6	0.0031	nd	nd	0.0042B
NECR-2	NECR2-SS-096	C06120235-018	1.4	0.0066	nd	nd	0.0035B
	NECR2-SS-109	C06120235-020	0.9J	0.0021	nd	nd	0.0021B
Ponds 1 and 2	POND12-SS-035	C06111057-057	**7.1**	0.0028	nd	0.0071	**0.22**
	POND12-SS-058	C06111057-064	**27.1**	0.0049	nd	**0.94**	**4.4**
Pond 3/3a	POND3-SS-014	C06111057-122	**20.1**	0.0084	nd	**0.1**	**0.98**
	POND3-SS-057	C06111057-098	0.8	0.0034	nd	0.0016	0.014
Sandfill 1	SAND1-TP-030	C06120405-011	**16.1**	nd	nd	0.0037	0.0024B
	SAND1-TP-063	C06120405-016	**17J**	0.0021	nd	0.0024	**0.1**
Sandfill 2	SAND2-SS-003	C06110737-001	1.4	0.0022	nd	nd	0.0012B
	SAND2-SS-010	C06110737-005	nd	0.0023	nd	nd	0.01
Sandfill 3	SAND3-TP-009	C06120235-069	nd	0.0013	nd	0.0024	**0.41**
	SAND3-SS-017	C06110906-011	1.6	0.0019	nd	nd	0.0015B
Sediment Pad	SEDPAD-SS-011	C06111057-033	nd	0.0013	nd	0.0058	0.0012B
	SEDPAD-SS-018	C06111057-038	nd	nd	nd	nd	0.00096B
	Average		**5.1**	**0.0029**	**nd**	**0.06**	**0.8**
	Maximum		**27.1**	**0.008**	**nd**	**0.9**	**4.4**

Notes:
J - Datum is estimated, bias unknown.
B - Analyte detected in associated method blank. Sample concentration greater than five time method blank concentration.
n/a = not applicable
1. Units are mg/L, except Ra-226, which is in pCi/L.
2. Statistical values based on one-half the reporting limits for "nd"

Table A2-4
Summary of Toxicity Characteristic Leaching Procedure Analytical Results
Removal Site Evaluation 2006

Loc ID	Lab Sample ID	Top Depth	Bottom Depth	Analyte[1]							
				Ag	As	Ba	Cd	Cr	Hg	Pb	Se
			Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Boneyard-TP-001	C06120227-001	1	1.5	nd	nd	nd	nd	nd	nd	nd	nd
Boneyard-TP-002	C06120227-002	1.5	2	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-011	9.5	10	nd	nd	nd	nd	nd	nd	nd	nd
Boneyard-TP-003	C06120227-010	1	1.5	nd	nd	nd	nd	nd	nd	nd	nd
Boneyard-TP-004	C06120227-003	0.5	1	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-004	5.5	6	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-006	9.5	10	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-007	7	7.5	nd	nd	nd	nd	nd	nd	nd	nd
Boneyard-TP-005	C06120227-005	2.5	3	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-008	4.5	5	nd	nd	nd	nd	nd	nd	nd	nd
	C06120227-009	8.5	9	nd	nd	nd	nd	nd	nd	nd	nd

Notes:
1. Soil samples analyzed for the 8 RCRA priority pollutant metals using the TCLP method.

Table A2-5
Soils Analytical Results, Agronomic Data
Removal Site Evaluation 2006

Area	Loc ID	Lab ID	Analyte											
			Calcium	Chloride	Potassium	Magnesium	Sodium	Nitrate/Nitrite	pH	Phosphorous	SAR	Specific Conductivity	Sulfate	Texture
		Units	meq/L	mg/kg	mg/kg	meq/L	meq/L	mg/kg	pH	mg/kg	none	mmhos/cm	mg/kg	none
		Reporting Limit	0.02	1.0	1.0	0.04	0.02	1.0	0.1	1.0	0.01	0.01	1.0	1.0
NECR-1	NECR1-SS-028	C06120336-054	8.3	6.7	17.1	1.7	0.35	2.3	8.5	19.0	0.16	0.90	28.0	nd
	NECR1-SS-044	C06111057-004	2.4	nd	1.6	0.2	0.16	nd	8.5	3.2	0.13	0.25	10.2	nd
	NECR1-SS-127	C06111057-086	14.0	nd	4.7	0.7	0.23	nd	8.4	2.4	0.08	1.13	218.0	nd
NECR-2	NECR2-SS-015	C06110906-032	4.1	3.7	9.4	1.0	0.24	nd	8.4	9.5	0.15	0.46	9.3	nd
	NECR2-SS-056	C06110906-041	2.6	nd	1.2	0.4	0.18	nd	8.7	4.7	0.15	0.25	6.4	nd
NEMSA	NEMSA-TP-001	C06110906-027	2.9	nd	1.2	0.5	0.23	nd	8.6	3.7	0.18	0.27	5.2	nd
	NEMSA-TP-003	C06120336-034	3.3	nd	1.6	0.5	0.10	2.0	8.9	6.3	0.07	0.33	29.1	nd
Ponds 1 & 2	POND12-SS-020	C06111057-054	2.3	2.3	1.4	0.6	0.18	1.9	8.6	4.2	0.15	0.24	8.3	nd
	POND12-SS-047	C06111057-061	5.4	5.1	5.6	1.2	0.69	nd	8.2	3.2	0.38	0.55	25.2	nd
Pond 3/3a	POND3-SS-046	C06111057-099	4.3	2.5	3.2	0.6	0.16	3.5	8.5	11.0	0.10	0.42	23.5	nd
	POND3-SS-057	C06111057-098	4.7	2.5	2.2	0.4	0.32	2.0	8.7	3.4	0.20	0.45	71.4	nd
Sandfill No. 1	SAND1-SS-017	C06110737-022	1.4	1.5	4.5	0.4	0.12	nd	7.6	3.5	0.13	0.18	9.4	nd
	SAND1-SS-028	C06110737-029	1.9	2.1	nd	0.4	0.68	1.0	8.1	3.2	0.64	0.26	25.4	nd
Sandfill No. 2	SAND2-SS-014	C06110737-009	2.4	nd	2.2	0.2	0.09	1.9	8.1	4.2	0.08	0.22	8.0	nd
Sandfill No. 3	SAND3-SS-017	C06110906-011	4.4	nd	3.0	0.4	0.10	nd	8.2	3.5	0.07	0.38	5.6	nd
	SAND3-SS-027	C06110906-007	4.3	1.6	5.9	1.3	0.11	nd	8.2	10.0	0.06	0.46	24.3	nd
Sediment Pad	SEDPAD-SS-021	C06111057-040	35.0	892.0	5.6	9.4	98.00	4.2	8.6	2.1	20.90	11.70	854.0	nd
Boneyard	YARD-TP-001	C06110906-031	2.2	nd	2.5	0.4	0.14	nd	8.4	3.4	0.12	0.24	5.5	nd
	YARD-TP-004	C06120235-022	2.4	1.3	nd	0.4	0.31	1.3	8.8	4.7	0.26	0.24	10.9	nd
	YARD-TP-005	C06120235-033	2.3	2.0	5.9	0.5	0.26	2.8	8.6	8.9	0.22	0.26	8.0	nd
		Average	**5.5**	**46.4**	**4.0**	**1.1**	**5.13**	**1.4**	**8.4**	**5.7**	**1.21**	**0.96**	**69.3**	**nd**
		Standard Deviation	**7.5**	**199.0**	**3.9**	**2.0**	**21.86**	**1.1**	**0.3**	**4.1**	**4.64**	**2.54**	**190.7**	**nd**

Notes:
nd = non-detect
1. Statistical values based on one-half the reporting limits for "nd" results.

Table A2-6 Surface Soil Analytical Results Supplemental Removal Site Evaluation 2007		
Samp ID	**Ra-226 (pCi/g)**	**Uranium (mg/kg)**
Reporting Limit	0.1	0.2
Screening Level	2.24	200
Trailer Park		
TP-SS-418	3.2	1.94
TP-SS-419	0.9	1.07
TP-SS-420	0.9	1.36
TP-SS-520	1.4	1.49
TP-SS-421	2.9	2.44
TP-SS-423	2.1	2.30
TP-SS-424	3.8	4.73
TP-SS-425	8.9	8.55
TP-SS-426	1.1	1.80
TP-SS-427	4.1	2.55
Average	2.9	2.80
Standard Deviation	2.4	2.25
Vents 3 & 8		
Vent38-SS-400	0.6	1.00
Vent38-SS-401	0.9	2.09
Vent38-SS-402	2.9	7.41
Vent38-SS-403	0.8	0.98
Vent38-SS-404	1.4	1.36
Vent38-SS-405	1.2	1.65
Vent38-SS-406	0.3	0.51
Vent38-SS-407	1.1	1.30
Vent38-SS-408	0.6	0.64
Vent38-SS-409	1.9	2.11
Vent38-SS-410	3.1	2.87
Vent38-SS-510	2.9	2.87
Vent38-SS-411	0.5	0.60
Vent38-SS-412	1.4	2.32
Vent38-SS-413	1.8	2.69
Vent38-SS-414	1.0	119.00
Vent38-SS-415	0.8	1.07
Vent38-SS-416	0.6	0.48
Vent38-SS-417	1.1	1.19
Average	1.3	8.00
Standard Deviation	0.8	26.92

Notes:

1. Split samples are indicated by ID numbers in the 500s and are listed below their corresponding primary sample.

Table A2-7
Subsurface Soil Analytical Results
Supplemental Removal Site Evaluation 2XXX

Loc ID	Sample ID	Depth ft bgs	Background γ CPM	Sample γ CPM	Ra-226 pCi/g	Uranium mg/kg	Comments
NECR-1							
N1-SB401	N1-SB401 (10')	10	51,904	54,548	16.1	159.0	
	N1-SB401 (20')	20		53,847	26.2	52.6	Weathered bedrock at 20.5 ft bgs
	N1-SB401 (25')	25		--	1.4	1.8	
N1-SB402	--	5	57,127	55,312	--	--	
	N1-SB402 (10')	10		55,566	2.4	2.7	Bedrock at 11 ft bgs.
N1-SB403	N1-SB403 (5')	5	25,408	27,059	6.3	11.1	Weathered bedrock at 5 ft bgs
	N1-SB403 (9')	9		--	1.8	3.3	
N1-SB404	N1-SB404 (30')	30	47,470	49,050	0.6	8.4	Sample recovery too low to measure gamma at 25 ft bgs.
	N1-SB404 (35')	35		--	0.6	11.5	
N1-SB405	--	15	70,378	82,250	--	--	
	--	20		79,393	--	--	
	--	25		80,543	--	--	
	N1-SB405 (30.5')	30.5		69,851	1.4	77.7	Native at 30.5 ft bgs
N1-SB406	N1-SB406 (10')	10	46,910	53,972	23.2	62.6	
	--	16		52,596	--	--	
	--	22		51,880	--	--	
	N1-SB406 (25')	25		48,854	4.2	15.0	
	N1-SB406 (30')	30		48,055	3.2	19.8	
N1-SB407	N1-SB407 (10')	10	31,991	27,653	3.8	5.7	Bedrock at 14 ft bgs.
N1-SB408	--	5	36,798	36,433	--	--	Sample recovery too low for sample.
	N1-SB408 (10')	10		--	1.1	1.4	Possible bedrock at 11.5 ft bgs.
NECR-2							
N2-SB409	N2-SB409 (5')	5	16,067	16,560	1.0	108.0	Native fill all the way.
	N2-SB409 (10')	10		--	0.7	0.9	Bedrock at 20 ft bgs.
N2-SB410	N2-SB410 (5')	5	75,665	78,173	30.8	179.0	
	N2-SB410 (10')	10		75,264	27.8	67.0	Gamma level inconsistent with lab results.
	--	13		--	--	--	Native at 13 ft bgs.
N2-SB411	N2-SB411 (5')	5	24,680	25,117	2.0	14.4	Native all the way.
	N2-SB411 (9')	9		--	1.3	11.1	
Sediment Pad							
SP-SB412	--	15	72,170	90,490	--	--	
	SP-SB412 (20')	20		72,173	26.2	240.0	Native at 20.5 ft bgs. Gamma level inconsistent with lab results.
SP-SB413	--	5	103,344	117,041	--	--	
	--	10		118,953	--	--	
	SP-SB413 (15')	15		107,193	33.1	90.4	Native at 16 ft bgs.
	SP-SB413 (20')	20		100,752	1.0	99.8	

Notes:
-- = not sampled or measured.
1. Depths shown for samples indicated the top of the 1.5-foot sample intervals.
2. Based on previous samples results, the FSL is approximately equal to 5,200 CPM above background.

Table A2-8
Subsurface Soil Analytical Results
Supplemental Removal Site Evaluation 2008

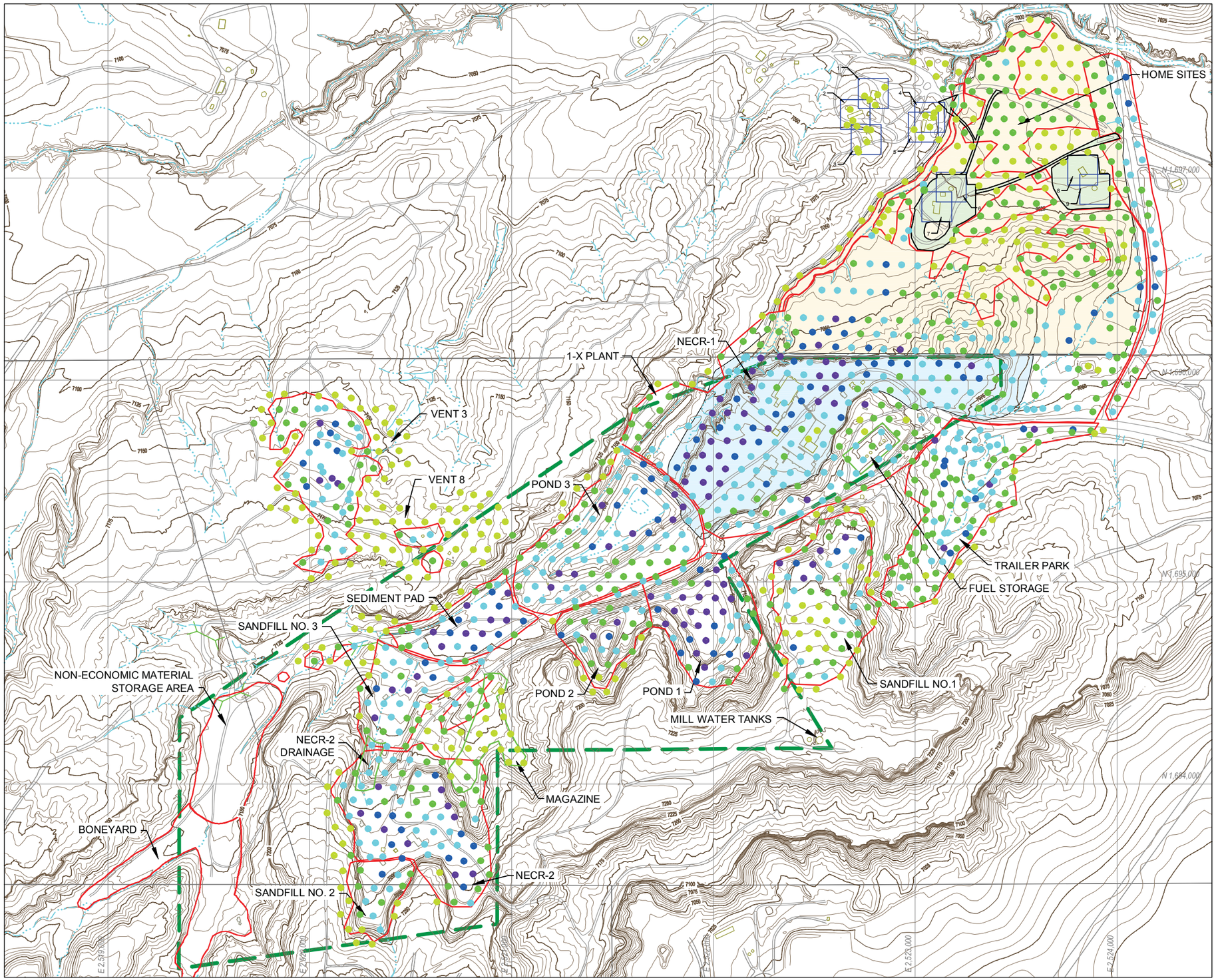
Location ID	Depth (ft bgs)	Ra-226 (pCi/g)	Uranium (mg/kg)	Gamma (cpm)	Comments
Boneyard					
BY-415	5	1.8	48.2	18,852	
	10	0.7	34.6	17,938	
	15	n/a		17,863	Possible bedrock
NECR-1					
N1-419	2	n/a		84,000	
	5	19	13.9	75,326	
	10	2.4	55.2	72,758	
	15	n/a		n/a	
NEMSA					
NA-416	5	n/a		50,573	
	10	n/a		37,417	
	15	17.5	117.0	44,685	
	20	1.9	17.6	31,452	
NA-417	2	3.1	21.6	23,570	
	5	2.5	11.1	23,531	
Pond 1					
P1-418	2	n/a		226,493	
	5	n/a		226,202	
	10	15.6	74.6	229,405	
	15.5	n/a		n/a	Bedrock
Pond 3					
P3-414	2	n/a		74,081	
	5	n/a		73,993	
	10	2.4	26.5	66,348	
	15	1.8	21.9	65,897	
	20	n/a		n/a	Weathered bedrock

Notes:
n/a = not applicable

Table A2-9
TPH-Stockpile Analytical Results
Supplemental Removal Site Evaluation

Location ID	Moisture (%)	RCRA 8 Priority Pollutant Metals (mg/kg)								Other Analytes (mg/kg)		
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Phosphorus, Olsen	Total Kjeldahl Nitrogen	DRO
Soil Screening Levels		**17.7**	**100,000**	**564**	**34,000**	**800**	**100,000**	**5,680**	**5,680**	**NA**	**NA**	**1,000**
SP-01-1	9.2	7.9	31.9	<0.5	11.5	11.4	<0.05	<5	<0.5	2	672	1,540
SP-01-2	9.3	7.7	31.6	<0.5	9.2	9.6	<0.05	<5	<0.5	4	168	281
SP-02-3	9.5	8.6	55.9	<0.5	9.6	10.9	<0.05	<5	<0.5	3	336	622
SP-02-4	8.4	9.1	68.7	<0.5	9.9	12.5	<0.05	<5	<0.5	2	280	534
SP-02-5	12.9	8	42.9	<0.5	11.3	11.6	<0.05	<5	<0.5	3	336	226

Notes:
1. Samples were collected November 5, 2010.
2. DRO = diesel range organics (C10-C28) (mg/kg)
3. Shaded cells DRO>1,000 mg/kg
4. <= not detected, showing reporting limit.
5. Soil screening level for DRO from EPA Region 9, Federal. All other soil screening levels for Industrial/Occupational Soil from New Mexico Environment Department (NMED), Technical Background Document for Development of Soil Screening Levels, Revision 4.0, June 2006.
6. NA = no soil screening level



LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
- MINE FEATURE BOUNDARY
- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
- AREAS ABOVE FIELD SCREENING LEVEL
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

STATIC GAMMA MEASUREMENT LOCATIONS SHOWING EQUIVALENT Ra-226 (pCi/g) CONCENTRATION

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

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Gallup, New Mexico 87305-3077

PROJECT: ***SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT***

DRAWING TITLE: ***RESULTS OF FIELD GAMMA RADIATION SURVEY***

MWH

SCALE: As Shown

FIGURE No. 3-1

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N

E 2,522,000

E 2,523,000

E 2,524,000

N 1,697,000

HO1-005 (1.5)(1)
HO1-001 (1.2)(1)
HO1-004 (1.3)(1)
HO1-003 (1)(1)
HO1-002 (0.9)(1)
HO2-003 (0.9)(1)
HO2-001 (0.9)(1)
HO2-002 (0.9)(1)
HO2-004 (0.9)(1)
HO3-005 (1.1)(1)
HO2-005 (0.9)(1)
HO3-004 (1.2)(1)
HO3-003 (1.1)(1)
HO3-001 (0.9)(1)
HO3-002 (1.1)(1)
HO4-003 (1.6)(1.5)
HO4-002 (2.1)(1.5)
HO4-001 (1.3)(1.1)
HO5-005 (2.1)(2.4)
HO5-004 (1.3)(1.4)
HO5-001 (1)(0.8)
HO5-002 (1.4)(1.1)
HO5-003 (0.9)(0.9)
CB-01 (11.9)(NA)
HO-454 (26.6)(15)
CB-02 (10.6)(NA)
CB-03 (9.7)(0)
HO-450 (0.9)(2)
HO6-004 (8.9)(10.2)
CB-04 (11.4)(NA)
HO-447 (2.5)(4)
CB-05 (15.8)(NA)
HO7-005 (7.4)(9.2)
CB-07 (14.9)(NA)
CB-06 (15.7)(NA)
HO-441 (0.7)(1)
HO-438 (1.3)(13)
CB-08 (14.4)(NA)
CB-09 (18.9)(NA)
CB-10 (21.2)(NA)
CB-11 (19.6)(NA)
CB-12 (21.4)(NA)
CB-13 (19.2)(NA)
N1-173 (4.6)(6)
CB-14 (21)(NA)
CB-15 (26.4)(NA)
N1-126 (50.9)(99)
N1-127 (93.3)(177)
N1-129 (7)(8)
N1-131 (41.5)(59)
N1-133 (54.7)(53)
N1-135 (63.2)(81)
N1-137 (52.6)(99)
N1-138 (48.6)(20)
N1-140 (15.8)(21)
NECR-1
HO-462 (1.7)(3)
HO-461 (1.2)(2)
HO-463 (4.8)(6)
HO-459 (2.5)(3)
HO-460 (1.9)(4)
HO-457 (4.4)(4)
HO-458 (1.4)(4)
HO-433 (28.5)(36)
HO-455 (9.5)(12)
HO-456 (1.8)(2)
HO-432 (3.4)(50)
HO-453 (3.2)(3)
HO-431 (18.7)(18)
HO-452 (4.1)(5)
HO-451 (1.1)(1)
HO-430 (2.9)(5)
HO-448 (17.1)(23)
HO-447 (2.5)(4)
HO-445 (1.3)(2)
HO-446 (1.7)(4)
HO-444 (2.9)(3)
HO-429 (4.6)(6)
HO-442 (1.5)(3)
HO-443 (2)(7)
HO-439 (0.9)(2)
HO-440 (2.5)(5)
N1-262 (1.4)(2)
N1-265 (1.6)(2)
HO-437 (5.4)(21)
N1-307 (3.8)(7)
HO-436 (2)(9)
N1-238 (1.6)(3)
N1-240 (1.5)(4)
HO-435 (2.5)(7)
HO-428 (9.2)(24)
N1-293 (7)(21)
N1-207 (3.1)(8)
N1-289 (1.8)(3)
N1-184 (1.2)(3)
N1-164 (35.7)(22)
N1-281 (80.5)(83)
HO-434 (5.3)(5)

1
2
3
4
5
6
7
8
9

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT.

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
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SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

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PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

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MWH

SCALE: As Shown

FIGURE No. 3-2.1

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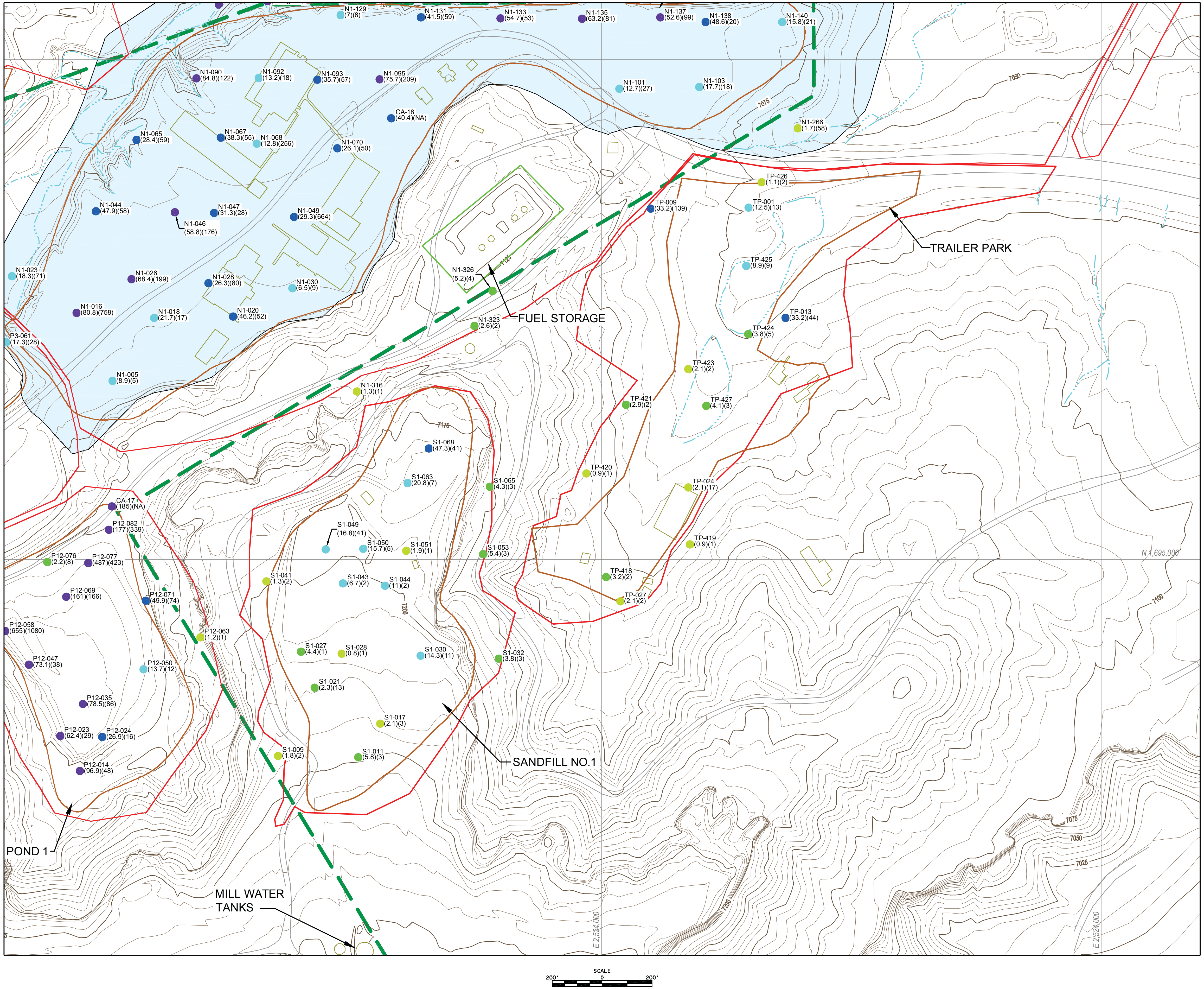

LEGEND

- CONTOURS
- STREAMS
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SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

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2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

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PROJECT: ***SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT***

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MWH

SCALE: As Shown

FIGURE No. 3-2.2

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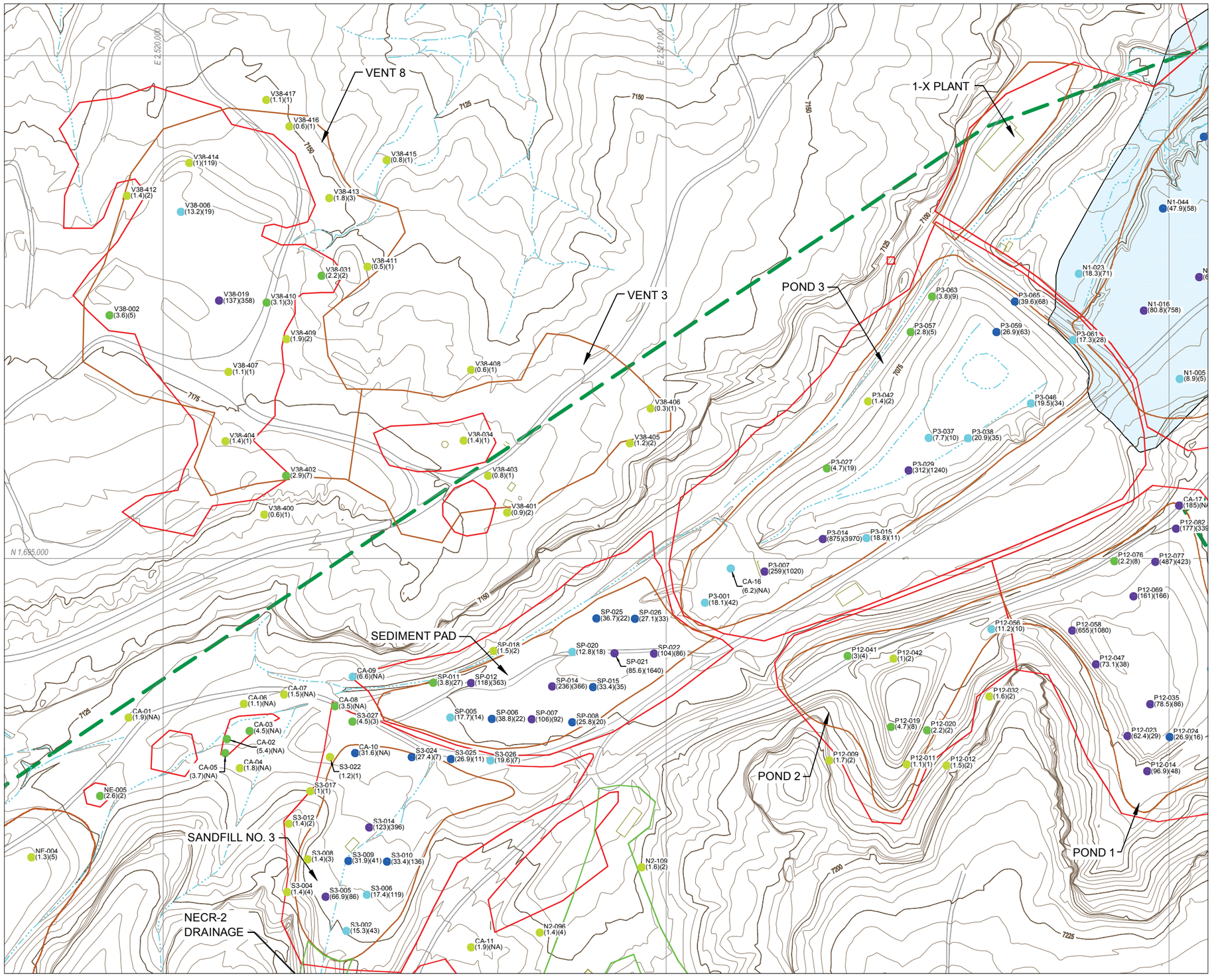

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
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SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

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DRAWING TITLE: **SURFACE SOIL ANALYTICAL RESULTS**

MWH

SCALE: As Shown

FIGURE No. 3-2.3

N:\design-drafting\clients q-z\united nuclear corporation\1005146 necr supplemental rse rev1\02-sheet set\1005146F023-0

N

NON-ECONOMIC MATERIAL STORAGE AREA

SANDFILL NO. 3

NECR-2 DRAINAGE

MAGAZINE

BONEYARD

SANDFILL NO. 2

NECR-2

NE-005 (2.6)(2)
NE-004 (1.3)(5)
NE-001 (1.2)(1)
NF-002 (1.7)(5)
BY-003 (1.1)(2)
NF-003 (0.9)(1)
BY-004 (1.6)(1)
BY-002 (2.2)(2)
BY-001 (45.9)(17)
CA-02 (5.4)(NA)
CA-05 (3.7)(NA)
CA-04 (1.8)(NA)
CA-10 (31.6)(NA)
S3-022 (1.2)(1)
S3-024 (27.4)(7)
S3-025 (26.9)(11)
S3-026 (19.6)(7)
S3-017 (1)(1)
S3-012 (1.4)(2)
S3-014 (123)(396)
S3-008 (1.4)(3)
S3-009 (31.9)(41)
S3-010 (33.4)(136)
S3-004 (1.4)(4)
S3-005 (66.9)(86)
S3-006 (17.4)(119)
S3-002 (15.3)(43)
N2-109 (1.6)(2)
N2-096 (1.4)(4)
CA-11 (1.9)(NA)
N2-083 (3.1)(3)
N2-103 (1.5)(2)
N2-069 (8.9)(10)
N2-071 (40)(46)
CA-14 (10.3)(NA)
CA-13 (8.9)(NA)
CA-12 (6.8)(NA)
N2-050 (1.2)(2)
N2-052 (23)(44)
N2-056 (11.9)(4)
CA-15 (9.2)(NA)
N2-033 (2)(5)
N2-035 (160)(370)
N2-037 (4.6)(7)
N2-039 (35.4)(30)
N2-027 (35.3)(12)
N2-018 (3.6)(2)
N2-015 (97.2)(107)
N2-017 (55.3)(49)
N2-020 (38.1)(66)
S2-019 (21.6)(28)
S2-020 (27.7)(41)
N2-004 (1.2)(2)
S2-014 (0.8)(1)
S2-015 (4.4)(3)
S2-016 (6.1)(3)
S2-017 (36)(9)
S2-010 (1.2)(1)
S2-011 (6.2)(5)
S2-012 (6.2)(26)
S2-006 (1.2)(1)
S2-007 (16.1)(7)
S2-003 (3.3)(4)
S2-004 (2)(2)

7200
7400
7600
7800

N 1,694,000
N 1,693,000
E 2,519,000
E 2,520,000
E 2,521,000

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT.

LEGEND

- CONTOURS
- STREAMS
- ROADS
- STRUCTURES
- PERMIT BOUNDARY
- MINE FEATURE BOUNDARY
- HOME SITE 0.5ACRE SURVEY AREA BOUNDAY
- AREAS ABOVE FIELD SCREENING LEVEL

SURFACE SOIL SAMPLE LOCATIONS SHOWING Ra-226 LABORATORY RESULTS (pCi/g)

- < 2.2
- 2.2 ~ 6.0
- 6.1 ~ 22.4
- 22.4 ~ 50
- > 50

(2.7)(5.3) AS,U (mg/Kg)

NA NOT-ANALYZED

NOTES:

1. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.
2. URANIUM VALUES ARE ROUNDED TO ZERO DECIMAL PLACES.

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
1	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
0	ISSUE FOR INTERNAL REVIEW	01/08	T.Leeson	E.Marks	T.Leeson

P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT: **SUPPLEMENTAL REMOVAL SITE EVALUATION REPORT**

DRAWING TITLE: **SURFACE SOIL ANALYTICAL RESULTS**

MWH

SCALE: As Shown

FIGURE No. 3-2.4

N:\design-drafting\clients q-z\united nuclear corporation\10005146 necr supplemental rse rev1\021-sheet set\10051146F024-0

E 2,522,000

E 2,523,000

E 2,524,000

N 1,697,000

N 1,696,000

7000

7025

7050

7075

7076

7080

NECR-1

ARROYO-SB-001

Depth	Ra	As	U
0-1	14.9	2.6	29
1-2	17.3	5.4	27.3
2-3	8.4	7.8	14.3

ARROYO-SB-002

Depth	Ra	As	U
0-1	12.7	2.2	15.6
1-2	21.1	2.8	21.7
2-3	21	6.1	108

ARROYO-SB-003

Depth	Ra	As	U
0-1	12.9	1.4	14.2
1-2	13.3	3.6	18.6
2-3	12.4	4.7	16.4

ARROYO-SB-004

Depth	Ra	As	U
0-1	12.5	1.2	14.6
1-2	14.9	2.9	16.6
2-3	18.5	6.3	23.7

ARROYO-SB-005

Depth	Ra	As	U
0-1	18.1	2.2	25.7
1-2	30.2	4.7	79.2
2-3	10.3	7.3	27

ARROYO-SB-006

Depth	Ra	As	U
0-1	11.2	1.7	18.7
1-2	11.8	3.3	23.7
2-3	11.1	8.2	19.4

ARROYO-SB-007

Depth	Ra	As	U
0-1	14.8	1.8	21.7
1-2	11.1	2.6	17.1
2-3	35.7	4.3	45.4

ARROYO-SB-008

Depth	Ra	As	U
0-1	17.6	1.9	17.4
1-2	21.5	2.1	17.1
2-3	24.5	2.1	21.3

ARROYO-SB-009

Depth	Ra	As	U
0-1	11.7	2.2	22.6
1-2	15.5	1.3	23.7
2-3	15.5	3.5	31.7

ARROYO-SB-010

Depth	Ra	As	U
0-1	18.5	2.6	35.1
1-2	18.6	1.9	26.6
2-3	12.9	1.5	21.9

ARROYO-SB-420

Depth	Ra	As	U
5-6.5	6.7	NA	22.9
10-11.5	1.1	NA	10.1

ARROYO-SB-421

Depth	Ra	As	U
5-6.5	7	NA	42.9
10-11.5	1.4	NA	11.3

ARROYO-SB-422

Depth	Ra	As	U
10-11.5	6.6	NA	14.6
15-16.5	1.6	NA	7.69
20-21.5	1.3	NA	7.11

ARROYO-SB-423

Depth	Ra	As	U
10-11.5	1.2	NA	24.6
15-16.5	2.9	NA	14.9

NECR1-SB-090

Depth	Ra	As	U
5-6.5	6.9	4.4	8.5
10-11.5	4.2	3.1	43.2
15-16.5	103	0.8	125
20-21.5	90	0.9	144
25-26.5	48.9	0.6	218
30-31.5	1.7	6.4	313
35-36.5	1.3	4.9	331
40-41.5	1.2	4.3	240
45-46.5	1.3	5.3	165

NECR1-SB-403

Depth	Ra	As	U
5-6.5	6.3	NA	11.1
9-10.5	1.8	NA	3.3

NECR1-SB-406

Depth	Ra	As	U
10-11.5	23.2	NA	62.6
25-26.5	4.2	NA	15.0
30-31.5	3.2	NA	19.8

NECR1-SB-095

Depth	Ra	As	U
5-6.5	27.7	3.8	90.4
10-11.5	7.9	7.9	11.4
14-15.5	1.8	5.2	2.4

NECR1-SB-131

Depth	Ra	As	U
5-6.5	67.4	2.8	58.6
10-11.5	1.9	7.3	59.4
15-16.5	1.8	5.1	19.2
20-21.5	1.2	7.9	1.6
24-25.5	1.3	5.2	1.5

NECR1-SB-402

Depth	Ra	As	U
10-12.5	2.4	NA	2.7

NECR1-SB-138

Depth	Ra	As	U
3.5-4	24.2	6.9	73.6

NECR1-SB-401

Depth	Ra	As	U
10-15.5	16.1	NA	159.0
20-21.5	26.2	NA	52.6
25-25.5	1.4	NA	1.8

NECR1-SB-404

Depth	Ra	As	U
30.5-37	0.6	NA	8.4
35-36.5	0.6	NA	11.5

LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- TEST PIT LOCATION
- SOIL BORING LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY. 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

NOTES:

1. 1. Ra-226 CONCENTRATIONS ARE IN pCi/g; AS AND U ARE IN mg/Kg.
2. RSE SAMPLES COLLECTED NOV.2006; SRSE SAMPLES COLLECTED FEBRUARY 2008 (ID# 400-413); SRSE PHASE 2 SAMPLES COLLECTED APRIL 2008 (ID# 414-423).
3. DEPTH IN FEET bgs.
4. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

SCALE

200' 0 200'

CONTOUR INTERVAL 5FT

REV. No.	REVISIONS	DATE	DESIGN BY	DRAWN BY	REVIEWED AND SIGNED BY
2	SUPPLEMENTAL RSE PLANNING 2011	04/11	T.Leeson	C.Fowler	T.Leeson
1	Issued For Supplemental Draft	04/08	T.Leeson	C.Fowler	T.Leeson
0	Issued For Final	09/07	T.Leeson	C.Fowler	T.Leeson

UNC

P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT:

REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:

SUBSURFACE SOIL ANALYTICAL RESULTS

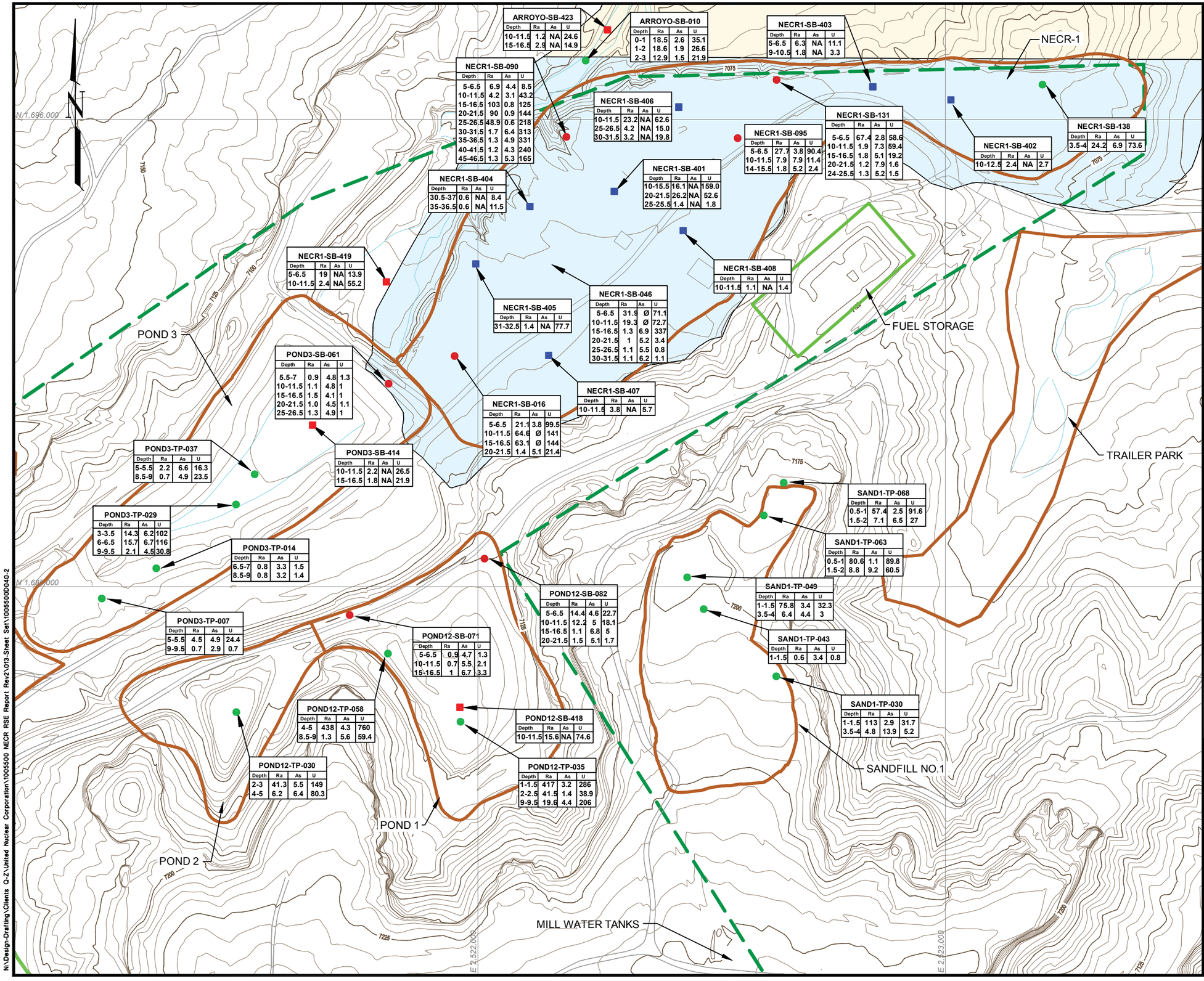
MWH

Sheet 1 Of 3 Sheets

SCALE: As Shown

FIGURE No. 3-4

N:\Design-Drafting\Clients Q-Z\United Nuclear Corporation\1005500 NECR RSE Report Rev2\013-Sheet Set\1005500D039-2



LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- MINE FEATURE BOUNDARY
- ARROYO
- TEST PIT LOCATION
- SOIL BORING LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)
- EPA REMOVAL ACTION AREA (APPROXIMATE 5,300 C.Y. OF IMPACTED SOIL REMOVED BY EPA IN 2007 HOME SITES REMOVAL ACTION (DISPOSED OF OFFSITE))
- INTERIM REMOVAL ACTION AREA (NECR-1 PAD WAS REGRADED AND COVERED WITH UP TO 20 FEET OF IMPACTED SOIL AND 6"-12" OF IMPORTED SOIL)
- INTERIM REMOVAL ACTION AREA (APPROXIMATE 100,000 C.Y. OF IMPACTED SOIL REMOVED BY UNC/GE IN 2009/2010 PLACED/COVERED ON NECR MINE SITE)

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3. DEPTH IN FEET bgs.
4. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT

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0	Issued For Final	09/07	T.Leeson	C.Fowler	T.Leeson

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Gallup, New Mexico 87305-3077

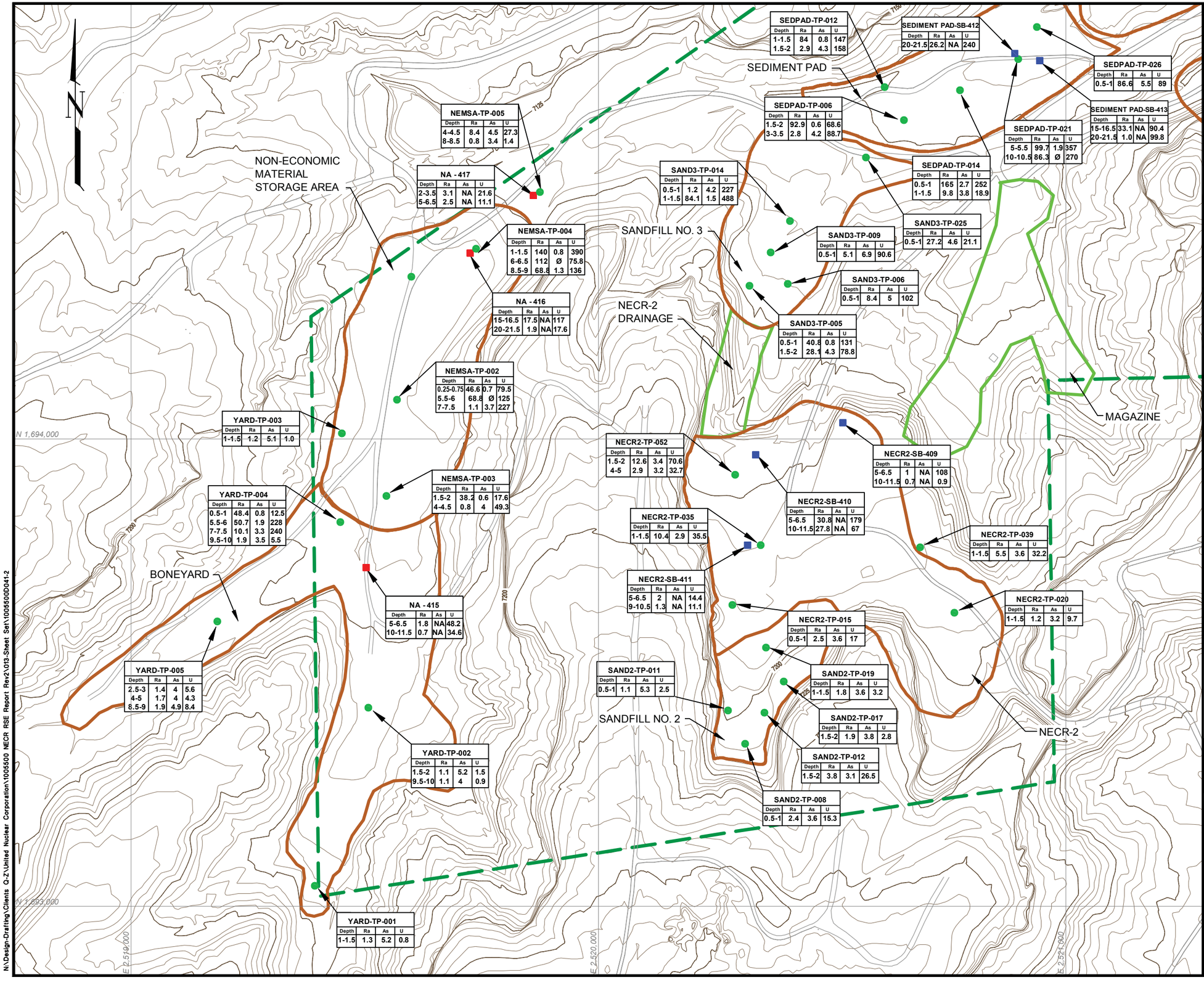
PROJECT:
REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:
SUBSURFACE SOIL ANALYTICAL RESULTS

MWH

Sheet 2 Of 3 Sheets
SCALE: As Shown
FIGURE No. 3-4

N:\Design-Drafting\Clients G-Z\United Nuclear Corporation\1005500 NECR RSE Report Rev2\013-Sheet Set\1005500D040-2



LEGEND

- PERMIT BOUNDARY
- SURVEY AREA BOUNDARY
- MINE FEATURE BOUNDARY
- TEST PIT LOCATION
- SUPPLEMENTAL SOIL BORING LOCATION (FEBRUARY 2008)
- SUPPLEMENTAL SOIL BORING LOCATION (APRIL. 2008)

NOTES:

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3. DEPTH IN FEET bgs.
4. SURFACE TOPOGRAPHY GENERATED FROM AERIAL PHOTOGRAPHS DATED MAY 2007 BY COOPER AERIAL SURVEYS CO. NEW MEXICO WEST STATE PLANE COORDINATES, NAD 83.

SCALE
200' 0 200'
CONTOUR INTERVAL 5FT

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UNC
P.O. BOX 3077
Gallup, New Mexico 87305-3077

PROJECT:
REMOVAL SITE EVALUATION REPORT

DRAWING TITLE:
SUBSURFACE SOIL ANALYTICAL RESULTS

MWH

Sheet 3 Of 3 Sheets
SCALE: As Shown
FIGURE No. 3-4

N:\Design-Drafting\Clients Q-Z\United Nuclear Corporation\1005500 NECR RSE Report Rev2\013-Sheet Set\1005500D041-2