Tables

MWH

Table 2.1
Gamma Radiation Levels vs. Ra-226 Soil Concentrations, Mine Site

Survey Date[1]	Gamma Rad Survey Point & Sample Identification	Gamma Rad Level (cpm) DECTECTOR: SPA-3, SR# 408522-33				Gamma Rad Level (cpm) DETECTOR: SPA-3, SR# 408522-30[1]				Soil Sample[2] Ra-226 (pCi/g)		Comments
		Lead Collimated		Bare (Uncollimated)		Lead Collimated		Bare (Uncollimated)				
		cpm	Average	cpm	Average	cpm	Average	cpm	Average	Conc.	Error	
08/17/06	NECR-COR-A-01	3,808	3,840	13,992	13,819	4,128	4,109	-	-	1.9	0.3	16-17 uR/hr, soil sample @1428
		3,856		13,892		4,096		-				
		3,857		13,573		4,102		-				
08/17/06	NECR-COR-A-02	6,794	6,767	22,199	22,399	7,109	7,148	-	-	5.4	0.8	23-26 uR/hr, soil sample @1440
		6,728		22,519		7,192		-				
		6,779		22,478		7,144		-				
08/17/06	NECR-COR-A-03	6,315	6,335	21,525	21,604	6,705	6,702	-	-	4.5	0.7	25 uR/hr, soil sample @1450
		6,352		21,524		6,664		-				
		6,337		21,764		6,738		-				
08/17/06	NECR-COR-A-04	4,809	4,835	17,195	17,018	5,177	5,110	-	-	1.8	0.4	20 uR/hr, soil sample @1500
		4,823		16,869		5,034		-				
		4,873		16,990		5,118		-				
08/17/06	NECR-COR-A-05	5,256	5,145	18,268	18,421	5,503	5,449	-	-	3.7	0.8	22 uR/hr, soil sample @1514
		5,122		18,357		5,434		-				
		5,057		18,639		5,409		-				
08/17/06	NECR-COR-A-06	4,111	4,036	15,318	15,322	4,274	4,289	-	-	1.1	0.3	20 uR/hr, soil sample @1527
		4,074		15,219		4,298		-				
		3,922		15,430		4,296		-				
08/17/06	NECR-COR-A-07	4,339	4,410	16,497	16,630	4,755	4,681	-	-	1.5	0.4	29-20 uR/hr, soil sample @1540
		4,502		16,555		4,687		-				
		4,390		16,839		4,602		-				
08/17/06	NECR-COR-A-08	5,798	5,879	23,880	23,842	6,279	6,237	24,386	24,318	3.5	0.7	28 uR/hr, soil sample @1604
		5,861		23,686		6,231		24,319				
		5,977		23,959		6,202		24,249				
08/17/06	NECR-COR-A-09	7,045	7,064	29,267	29,168	7,422	7,466	-	-	6.6	0.9	32 uR/hr, soil sample @1615
		7,188		29,505		7,508		-				
		6,960		28,733		7,468		-				
08/17/06	NECR-COR-A-10	21,588	21,529	64,550	64,820	22,970	22,740	65,453	65,468	31.6	3.6	75 uR/hr, soil sample @1635, Dup sample designated as NECR-COR-A-50 @1640
		21,377		65,569		22,448		65,176				
		21,623		64,340		22,801		65,774		32.3	3.7	
08/18/06	NECR-COR-A-11	4,750	4,789	20,267	20,143	5,104	5,068	-	-	1.9	0.6	22 uR/hr, soil sample @0848
		4,881		20,165		5,067		-				
		4,737		19,996		5,033		-				
08/18/06	NECR-COR-A-12	6,061	6,086	25,597	25,491	6,402	6,439	-	-	6.8	0.9	32 uR/hr, soil sample @0914
		6,205		25,634		6,432		-				
		5,993		25,241		6,483		-				
08/18/06	NECR-COR-A-13	6,662	6,693	27,457	27,466	7,168	7,208	-	-	8.9	1.1	32 uR/hr, soil sample @0922
		6,547		27,273		7,206		-				
		6,871		27,667		7,251		-				
08/18/06	NECR-COR-A-14	8,258	8,309	29,400	29,203	8,802	8,779	-	-	10.3	1.3	28 uR/hr, soil sample @0930
		8,314		29,178		8,754		-				
		8,354		29,031		8,780		-				
08/18/06	NECR-COR-A-15	7,086	7,265	30,194	29,949	7,616	7,649	29,230	29,677	9.2	1.1	32 uR/hr, soil sample @0945, Dup sample designated as NECR-COR-A-55 @0950
		7,361		29,917		7,681		29,721				
		7,349		29,735		7,649		30,080		8.8	0.5	
08/18/06	NECR-COR-A-16	6,441	6,436	24,754	24,480	6,838	6,797	-	-	6.2	0.4	40 uR/hr, soil sample @1014
		6,580		24,852		6,744		-				
		6,287		23,833		6,808		-				
08/18/06	NECR-COR-A-17	71,402	72,060	208,986	209,441	77,091	76,378	-	-	185.0	8.7	220 uR/hr, soil sample @1037
		71,884		205,275		76,034		-				
		72,894		214,062		76,010		-				
08/18/06	NECR-COR-A-18	29,639	28,894	92,060	91,855	31,655	31,201			40.4	1.9	110 uR/hr, soil sample @1103
		28,306		91,682		31,448						
		28,737		91,822		30,500						
08/18/06	NECR-COR-A-19	3,676	3,732	11,798	12,029	3,941	3,942	12,310	12,242	1.0	0.1	Near NECRBKG20 @ backg area, 15 uR/hr, soil sample @1200
		3,902		12,139		3,894		12,145				
		3,618		12,150		3,992		12,271				

Notes:
1. Gamma radiation level measurements with Detector #408522-30 for locations NECR-COR-A-01, 02, 03, 04, 05, 06, 07, 09, 11,12,13,14,16, and 18 were performed on November 7, 2006.
2. Soil samples were collected at co-locations with the gamma measurements and submitted to a laboratory for analysis of Ra-226

Table 2.2 Gamma Radiation Level to Surface Soil Ra-226 Regression Data NECR-1 Step Out Survey and On Site Area >10K CPM Survey Points				
Date	Area	Point No.	Gamma Rad Level CPM	Soil Sample Ra-226 pCi/gm
NECR-1 Step Out Survey Points for <10,000 CPM Correlation				
01-Dec-06	NECR-1, SO South	316	4865	1.3
13-Nov-06	NECR-1, SO North	265	4908	1.6
13-Nov-06	NECR-1, SO North	240	5073	1.5
13-Nov-06	NECR-1, SO North	238	5080	1.6
16-Nov-06	NECR-1, SO East	307	5331	3.8
13-Nov-06	NECR-1, SO North	184	5380	1.2
13-Nov-06	NECR-1, SO North	262	5383	1.4
14-Nov-06	NECR-1, SO East	289	5400	1.8
01-Dec-06	NECR-1, SO South	323	5789	2.6
13-Nov-06	NECR-1, SO North	207	5977	3.1
16-Nov-06	NECR-1, SO East	293	6158	7.0
13-Nov-06	NECR-1, SO North	230	6557	6.9
14-Nov-06	NECR-1, SO East	266	7610	1.7
01-Dec-06	NECR-1, SO South	326	7908	5.2
13-Nov-06	NECR-1, SO North	173	9954	4.6
13-Nov-06	NECR-1, SO North	164	19872	35.7
14-Nov-06	NECR-1, SO East	281	37406	80.5
ON Site Areas w 10K CPM Survey Points for >10,000 CPM Correlation				
09-Nov-06	Pond 1&2	76	10,358	2.2
09-Nov-06	Sandfill 3	2	10,387	15.3
07-Nov-06	NECR-1	101	10437	12.7
10-Nov-06	Sandfill 2	7	10,505	16.1
10-Nov-06	Sandfill 2	12	10,586	6.2
10-Nov-06	Sandfill 1	43	10,879	6.7
17-Nov-06	Pond 1&2	42	11,185	1.0
08-Nov-06	Pond 3	27	11,737	4.7
09-Nov-06	Pond 3	57	12,207	2.8
07-Nov-06	Pond 3	15	12,447	18.8
10-Nov-06	NECR-2	69	12,599	8.9
10-Nov-06	Sandfill 1	50	12,689	15.7
10-Nov-06	Sandfill 1	30	12,777	14.3
08-Nov-06	NECR-1	49	12820	29.3
09-Nov-06	Sediment Pad	11	12,946	3.8
10-Nov-06	Pond 1&2	56	14,024	11.2
07-Nov-06	NECR-1	93	14402	35.7
09-Nov-06	NECR-2	71	14,523	40.0
09-Nov-06	Sandfill 3	8	14,637	1.4
10-Nov-06	Sandfill 2	11	15,448	6.2
09-Nov-06	Sandfill 3	10	15,681	33.4
09-Nov-06	Sandfill 3	6	15,867	17.4
09-Nov-06	Sandfill 3	9	16,019	31.9
08-Nov-06	NECR-1	28	16041	18.5
09-Nov-06	Sandfill 3	24	16,201	27.4
07-Nov-06	NECR-1	103	16490	20.9
09-Nov-06	Pond 3	63	16,625	3.8
09-Nov-06	Pond 1&2	50	16,747	13.7
08-Nov-06	NECR-1	67	16829	38.3
09-Nov-06	Sediment Pad	18	16,887	1.5
10-Nov-06	Pond 1&2	19	17,022	4.7
08-Nov-06	NECR-1	70	17802	26.1
10-Nov-06	NECR-2	18	17,871	3.6
08-Nov-06	NECR-1	18	18184	21.7
09-Nov-06	Sediment Pad	7	19,678	106.0

Table 2.2
Gamma Radiation Level to Surface Soil Ra-226 Regression Data
NECR-1 Step Out Survey and On Site Area >10K CPM Survey Points

Date	Area	Point No.	Gamma Rad Level CPM	Soil Sample Ra-226 pCi/gm
07-Nov-06	NECR-1	129	19698	7.0
13-Nov-06	NECR-1, SO North	164	19872	35.7
09-Nov-06	NECR-2	39	19,939	35.4
10-Nov-06	Sandfill 2	17	20,647	36.4
09-Nov-06	NECR-2	15	20,677	97.2
09-Nov-06	NECR-2	27	21,010	35.3
07-Nov-06	Pond 3	1	21,120	18.8
09-Nov-06	Sandfill 3	26	21,274	19.6
09-Nov-06	Sediment Pad	25	21,621	36.7
09-Nov-06	NECR-2	52	22,046	23.0
09-Nov-06	Sediment Pad	5	22,191	17.7
09-Nov-06	Sediment Pad	20	22,537	12.8
08-Nov-06	Pond 3	46	23,486	19.5
09-Nov-06	NECR-2	20	24,011	38.1
08-Nov-06	NECR-1	47	24256	31.3
08-Nov-06	NECR-1	23	24299	18.3
09-Nov-06	Sandfill 3	25	24,640	26.9
09-Nov-06	Pond 3	65	24,776	39.6
10-Nov-06	Sandfill 2	19	24,945	21.6
08-Nov-06	NECR-1	68	26252	12.8
09-Nov-06	Pond 1&2	24	28,230	26.9
07-Nov-06	NECR-1	137	29493	52.6
08-Nov-06	NECR-1	20	31670	46.2
09-Nov-06	Sediment Pad	8	31,701	25.8
10-Nov-06	Sandfill 1	63	32,153	20.8
07-Nov-06	NECR-1	133	33370	54.7
07-Nov-06	NECR-1	135	34742	63.2
09-Nov-06	Sediment Pad	26	36,363	27.1
09-Nov-06	NECR-2	17	36,878	55.2
14-Nov-06	NECR-1, SO East	281	37406	80.5
07-Nov-06	NECR-1	138	37798	48.6
09-Nov-06	Pond 3	59	38,463	26.9
08-Nov-06	NECR-1	65	40047	28.4
09-Nov-06	Pond 1&2	71	40,879	49.9
09-Nov-06	Pond 3	61	40,887	17.3
08-Nov-06	NECR-1	126	41946	50.9
10-Nov-06	Pond 1&2	14	44,649	96.9
07-Nov-06	NECR-1	131	45205	41.5
10-Nov-06	Sandfill 1	68	45,274	47.3
09-Nov-06	Sediment Pad	15	46,708	33.4
10-Nov-06	Pond 1&2	23	48,888	62.4
10-Nov-06	Sandfill 1	49	49,290	16.8
08-Nov-06	NECR-1	46	50688	58.8
08-Nov-06	NECR-1	44	53006	47.9
08-Nov-06	NECR-1	26	55532	68.4
09-Nov-06	Sediment Pad	6	58,230	38.8
07-Nov-06	NECR-1	90	60717	84.8
09-Nov-06	Sandfill 3	5	62,004	66.9
08-Nov-06	NECR-1	127	62399	93.3
09-Nov-06	Pond 1&2	47	62,918	73.1
08-Nov-06	Pond 3	38	73,114	20.9
08-Nov-06	NECR-1	16	80015	80.8
09-Nov-06	NECR-2	35	84,399	160.8
07-Nov-06	Pond 3	7	84,406	259.0

Table 2.2
Gamma Radiation Level to Surface Soil Ra-226 Regression Data
NECR-1 Step Out Survey and On Site Area >10K CPM Survey Points

Date	Area	Point No.	Gamma Rad Level CPM	Soil Sample Ra-226 pCi/gm
07-Nov-06	NECR-1	95	88148	75.7
09-Nov-06	Sandfill 3	14	92,167	123
09-Nov-06	Pond 1&2	82	92,284	177.0
09-Nov-06	Pond 1&2	60	92,295	26.5
09-Nov-06	Sediment Pad	14	110,907	236.0
09-Nov-06	Pond 1&2	77	112,122	48.7
09-Nov-06	Pond 1&2	69	112,771	161.0
09-Nov-06	Sediment Pad	12	119,627	118.0
09-Nov-06	Sediment Pad	21	140,404	85.6
09-Nov-06	Pond 1&2	35	141,363	78.5
08-Nov-06	Pond 3	29	149,128	312.0
09-Nov-06	Pond 1&2	58	320,161	655.0

Table 2.3
Summary of Soil Sampling Program

	Surface Soil Samples[1]		Soil Borings & Test Pits[1,2]
	Inside Original Boundary	**Step-out Samples**	**>0.5 ft bgs**
NECR-1	31	16	28
NECR-2	15	4	6
Ponds 1 and 2	19	4	14
Pond 3/3a	15	0	14
Sediment Pad	14	0	9
Sandfill 1	15	3	9
Sandfill 2	13	0	5
Sandfill 3	13	2	7
NEMSA	5	0	13
Boneyard	5	0	11
Trailer Park	0	5	0
Vents 3 & 8	0	5	0
Home Sites	45	0	0
Unnamed Arroyo[3]	0	0	30

Notes:

1. The above sample quantities include both gridded (random) samples, as well as judgmental samples.
2. All test pits and soil borings were within the original survey area boundaries as shown on Figures 2-3 and 2-4.
3. Soil samples were collected from the Unnamed Arroyo from 0-1, 1-2, and 2-3 feet bgs.
4. Vents 3 & 8 and the Trailer Park areas were added during the field investigations as per FCR #004.

Table 2.4
Summary of Analytical Results From Background Sampling

Location ID	Ra-226[1]	As[2]	Mo	Se	U	V
Reporting Limit	0.1	0.5	5.0	0.2	0.2	5.0
Industrial PRG	--	1.6	5100.0	5100.0	200.0	1000.0
Outdoor Worker	0.0258	--	--	--	--	--
Residential PRG	0.0124	0.39	390.0	390.0	16.0	78.0
Screening Level	2.24	1.6	5100.0	5100.0	200.0	1000.0
NECRBKG-01	0.8	**4.4**	nd	0.2	0.8	24.7
NECRBKG-02	1.3	**9.2**	nd	0.7	1.4	29.8
NECRBKG-03	1.1	**10.0**	nd	0.7	1.8	32.3
NECRBKG-04	1.3	**5.1**	nd	0.7	1.3	40.7
NECRBKG-05	1.1	**4.5**	nd	0.5	1.0	30.7
NECRBKG-06	1.0	**6.1**	nd	0.6	1.1	31.9
NECRBKG-07	1.1	**4.2**	nd	0.5	1.3	33.5
NECRBKG-08	1.2	**3.1**	nd	0.4	1.4	32.5
NECRBKG-09	1.2	**2.8**	nd	0.5	1.4	31.6
NECRBKG-10	0.9	**2.5**	nd	0.5	1.1	27.3
NECRBKG-11	1.0	**2.9**	nd	0.4	0.9	30.6
NECRBKG-12	1.2	**3.1**	nd	0.3	1.0	23.7
NECRBKG-13	1.0	**2.8**	nd	0.4	1.1	31.2
NECRBKG-14	1.0	**2.4**	nd	0.2	1.1	20.1
NECRBKG-15	1.2	**2.7**	nd	0.5	1.2	28.7
NECRBKG-16	0.7	**2.7**	nd	0.4	1.2	23.0
NECRBKG-17	1.1	**3.0**	nd	nd	1.2	29.0
NECRBKG-18	0.6	**2.4**	nd	nd	1.1	21.2
NECRBKG-19	1.1	**2.7**	nd	0.2	0.9	18.4
NECRBKG-20	1.0	**2.7**	nd	nd	0.9	20.0
NECRBKG-21	1.0	**2.9**	nd	0.3	1.0	22.5
NECRBKG-22	0.8	**3.4**	nd	0.2	0.9	18.0
NECRBKG-23	0.9	**2.9**	nd	nd	0.9	22.6
NECRBKG-24	1.0	**2.0**	nd	nd	0.9	18.8
NECRBKG-25	1.3	**2.5**	nd	nd	1.2	24.9
Average	**1.0**	**3.7**	**nd**	**0.4**	**1.1**	**26.7**
Standard Deviation	**0.2**	**2.0**	**nd**	**0.2**	**0.2**	**5.8**

Notes:
Shaded cells indicate results greater than the screening levels.
nd = not detected above the reporting limit. One-half the reporting limit was used for statistical parameters.
-- = not applicable
All results in mg/kg, except Ra-226, which is in pCi/g.
1. Radium 226 precision (+/-) 0.1.
2. The residential non-cancer PRG for arsenic is 22 mg/kg, and the industrial non-cancer PRG is 260 mg/kg.

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Primary Sample Locations					
08-Nov-06	1	725,375.4	3,948,805.1	11507	4.5
08-Nov-06	2	725,402.1	3,948,805.2	8481	8.7
08-Nov-06	3	725,421.6	3,948,808.3	17937	14.8
08-Nov-06	4	725,364.9	3,948,826.2	12376	5.9
08-Nov-06	5	725,389.2	3,948,829.0	8766	9.4
08-Nov-06	6	725,413.3	3,948,828.0	7241	5.8
08-Nov-06	7	725,440.5	3,948,825.5	7381	6.1
08-Nov-06	8	725,461.8	3,948,826.4	7187	5.6
08-Nov-06	9	725,350.6	3,948,848.6	22595	22.2
08-Nov-06	10	725,374.6	3,948,849.0	49353	65.1
08-Nov-06	11	725,399.3	3,948,848.5	8225	8.1
08-Nov-06	12	725,423.4	3,948,848.8	9282	10.7
08-Nov-06	13	725,447.9	3,948,847.4	10469	2.8
08-Nov-06	14	725,472.7	3,948,849.9	6339	3.6
08-Nov-06	15	725,338.5	3,948,869.9	65159	90.3
08-Nov-06	16	725,366.1	3,948,869.8	80015	114.1
08-Nov-06	17	725,390.8	3,948,869.3	72378	101.9
08-Nov-06	18	725,413.4	3,948,868.3	18184	15.2
08-Nov-06	19	725,438.3	3,948,868.9	15502	10.9
08-Nov-06	20	725,461.5	3,948,870.5	31670	36.8
08-Nov-06	21	725,486.9	3,948,869.7	13018	6.9
08-Nov-06	22	725,508.7	3,948,869.0	6581	4.2
08-Nov-06	23	725,325.9	3,948,890.8	24299	25.0
08-Nov-06	24	725,350.3	3,948,890.8	39603	49.5
08-Nov-06	25	725,374.6	3,948,890.9	58768	80.1
08-Nov-06	26	725,398.9	3,948,891.2	55532	74.9
08-Nov-06	27	725,423.4	3,948,891.6	20946	19.6
08-Nov-06	28	725,445.8	3,948,890.3	16041	11.8
08-Nov-06	29	725,471.9	3,948,888.5	16286	12.1
08-Nov-06	30	725,497.0	3,948,889.1	8914	9.8
08-Nov-06	31	725,522.9	3,948,888.7	16751	12.9
08-Nov-06	32	725,547.8	3,948,890.8	17145	13.5
08-Nov-06	33	725,340.1	3,948,910.0	47725	62.5
08-Nov-06	34	725,363.7	3,948,911.0	49355	65.1
08-Nov-06	35	725,388.4	3,948,910.6	45420	58.8
08-Nov-06	36	725,412.2	3,948,910.8	38089	47.0
08-Nov-06	37	725,436.8	3,948,911.4	19606	17.5
08-Nov-06	38	725,460.0	3,948,911.9	21243	20.1
08-Nov-06	39	725,487.0	3,948,913.1	11917	5.2
08-Nov-06	40	725,511.4	3,948,913.4	9768	11.8
08-Nov-06	41	725,535.9	3,948,913.8	17532	14.1
08-Nov-06	42	725,562.4	3,948,913.8	8022	7.6
08-Nov-06	43	725,354.1	3,948,934.0	39276	48.9
08-Nov-06	44	725,375.8	3,948,932.1	53006	70.9
08-Nov-06	45	725,399.8	3,948,933.7	51944	69.2
08-Nov-06	46	725,424.0	3,948,933.0	50688	67.2
08-Nov-06	47	725,447.8	3,948,933.4	24256	24.9
08-Nov-06	48	725,472.5	3,948,934.1	13183	7.2
08-Nov-06	49	725,496.6	3,948,932.5	12820	6.6
08-Nov-06	50	725,522.9	3,948,940.3	4572	<0.6
08-Nov-06	51	725,545.4	3,948,932.8	8537	8.9
08-Nov-06	52	725,569.7	3,948,930.5	6751	4.6
08-Nov-06	53	725,341.2	3,948,954.2	16935	13.2
08-Nov-06	54	725,362.2	3,948,953.8	53886	72.3

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
08-Nov-06	55	725,388.4	3,948,953.5	37553	46.2
08-Nov-06	56	725,414.6	3,948,954.6	15136	10.3
08-Nov-06	57	725,438.6	3,948,954.3	35129	42.3
08-Nov-06	58	725,461.6	3,948,953.9	48968	64.4
08-Nov-06	59	725,487.0	3,948,953.8	24949	26.0
08-Nov-06	60	725,512.0	3,948,955.0	11705	4.8
08-Nov-06	61	725,535.5	3,948,953.4	4396	<0.6
08-Nov-06	62	725,559.1	3,948,953.5	10902	3.5
08-Nov-06	63	725,583.7	3,948,954.1	6388	3.7
08-Nov-06	64	725,376.4	3,948,974.6	43422	55.6
08-Nov-06	65	725,399.1	3,948,976.3	40047	50.2
08-Nov-06	66	725,424.6	3,948,976.0	41761	52.9
08-Nov-06	67	725,450.5	3,948,979.2	16829	13.0
08-Nov-06	68	725,472.6	3,948,976.3	26252	28.1
08-Nov-06	69	725,495.8	3,948,976.6	26006	27.7
08-Nov-06	70	725,521.7	3,948,975.0	17802	14.6
08-Nov-06	71	725,545.5	3,948,976.6	8163	8.0
08-Nov-06	72	725,570.8	3,948,974.3	35498	42.9
08-Nov-06	73	725,599.2	3,948,971.7	5637	1.9
08-Nov-06	74	725,387.1	3,948,996.4	44786	57.7
07-Nov-06	75	725,412.9	3,948,997.5	38489	47.7
07-Nov-06	76	725,437.5	3,948,996.5	51493	68.5
07-Nov-06	77	725,461.3	3,948,996.3	13265	7.3
07-Nov-06	78	725,484.7	3,948,993.3	14469	9.2
07-Nov-06	79	725,510.2	3,948,997.3	23748	24.1
07-Nov-06	80	725,535.8	3,948,997.4	43850	56.3
07-Nov-06	81	725,560.3	3,948,995.3	56281	76.1
07-Nov-06	82	725,581.3	3,948,997.2	8975	9.9
07-Nov-06	83	725,606.4	3,948,995.4	145474	218.8
07-Nov-06	84	725,682.1	3,948,994.2	10375	2.7
07-Nov-06	85	725,704.9	3,948,997.4	12551	6.2
07-Nov-06	86	725,730.7	3,948,996.8	19431	17.2
07-Nov-06	87	725,753.2	3,948,996.5	6101	3.0
07-Nov-06	88	725,778.3	3,948,994.9	10556	3.0
08-Nov-06	89	725,398.5	3,949,016.9	21626	20.7
07-Nov-06	90	725,434.4	3,949,015.1	60717	83.2
07-Nov-06	91	725,449.4	3,949,018.3	21054	19.8
07-Nov-06	92	725,472.3	3,949,016.5	6827	4.8
07-Nov-06	93	725,508.2	3,949,016.5	14402	9.1
07-Nov-06	94	725,523.4	3,949,019.0	26588	28.6
07-Nov-06	95	725,546.1	3,949,017.9	88148	127.1
07-Nov-06	96	725,570.5	3,949,018.4	27587	30.2
07-Nov-06	97	725,594.4	3,949,018.3	10754	3.3
07-Nov-06	98	725,621.1	3,949,017.6	19799	17.8
07-Nov-06	99	725,643.5	3,949,017.8	7204	5.7
07-Nov-06	100	725,668.0	3,949,017.3	8633	9.1
07-Nov-06	101	725,692.5	3,949,017.0	10437	2.8
07-Nov-06	102	725,715.9	3,949,020.7	8777	9.5
07-Nov-06	103	725,741.2	3,949,019.7	16490	12.5
07-Nov-06	104	725,764.9	3,949,018.3	18823	16.2
07-Nov-06	105	725,791.1	3,949,019.0	5852	2.4
07-Nov-06	106	725,813.7	3,949,017.3	7051	5.3
08-Nov-06	107	725,412.0	3,949,039.4	22186	21.6
08-Nov-06	108	725,434.8	3,949,040.3	79701	113.6
07-Nov-06	109	725,462.1	3,949,037.8	18421	15.6

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
07-Nov-06	110	725,487.8	3,949,038.8	8220	8.1
07-Nov-06	111	725,512.5	3,949,037.3	7679	6.8
07-Nov-06	112	725,536.6	3,949,036.3	69475	97.3
07-Nov-06	113	725,560.0	3,949,037.9	79793	113.8
07-Nov-06	114	725,584.8	3,949,038.9	19244	16.9
07-Nov-06	115	725,607.4	3,949,040.6	23626	23.9
07-Nov-06	116	725,632.9	3,949,038.7	22297	21.8
07-Nov-06	117	725,657.1	3,949,039.1	7309	5.9
07-Nov-06	118	725,681.5	3,949,038.1	19873	17.9
07-Nov-06	119	725,706.3	3,949,038.4	7647	6.7
07-Nov-06	120	725,730.3	3,949,039.5	11851	5.1
07-Nov-06	121	725,753.6	3,949,040.6	24860	25.9
07-Nov-06	122	725,777.4	3,949,040.3	23760	24.1
07-Nov-06	123	725,802.8	3,949,039.6	11268	4.1
07-Nov-06	124	725,827.7	3,949,039.0	7852	7.2
08-Nov-06	125	725,425.1	3,949,061.7	9426	11.0
08-Nov-06	126	725,446.6	3,949,060.4	41946	53.2
08-Nov-06	127	725,476.2	3,949,063.5	62399	85.9
07-Nov-06	128	725,497.1	3,949,057.1	24809	25.8
07-Nov-06	129	725,521.1	3,949,056.4	19698	17.6
07-Nov-06	130	725,545.4	3,949,057.8	53449	71.6
07-Nov-06	131	725,570.2	3,949,056.6	45205	58.4
07-Nov-06	132	725,594.4	3,949,057.4	34165	40.8
07-Nov-06	133	725,618.7	3,949,057.5	33370	39.5
07-Nov-06	134	725,644.1	3,949,059.2	26907	29.1
07-Nov-06	135	725,668.4	3,949,058.9	34742	41.7
07-Nov-06	136	725,691.3	3,949,059.3	21509	20.5
07-Nov-06	137	725,716.1	3,949,061.2	29493	33.3
07-Nov-06	138	725,743.8	3,949,059.2	37798	46.6
07-Nov-06	139	725,765.1	3,949,058.8	48202	63.2
07-Nov-06	140	725,790.5	3,949,060.7	9890	12.1
07-Nov-06	141	725,815.4	3,949,059.0	7820	7.2
08-Nov-06	142	725,485.7	3,949,080.3	10596	3.0
08-Nov-06	143	725,509.5	3,949,080.1	31568	36.6
08-Nov-06	144	725,533.5	3,949,082.4	49257	64.9
08-Nov-06	145	725,559.1	3,949,080.9	38198	47.2
08-Nov-06	146	725,583.4	3,949,080.7	20300	18.6
08-Nov-06	147	725,609.2	3,949,080.9	35327	42.6
08-Nov-06	148	725,631.9	3,949,079.9	18496	15.7
08-Nov-06	149	725,657.3	3,949,079.8	71156	99.9
08-Nov-06	150	725,680.1	3,949,079.1	14110	8.7
08-Nov-06	151	725,704.4	3,949,079.6	11364	4.3
08-Nov-06	152	725,728.2	3,949,080.5	7752	7.0
08-Nov-06	153	725,752.3	3,949,081.2	6566	4.2
08-Nov-06	154	725,780.5	3,949,081.9	7733	7.0
07-Nov-06	155	725,802.2	3,949,080.9	12924	6.8
07-Nov-06	156	725,827.2	3,949,080.0	13907	8.3
North Step-out Sample Locations					
13-Nov-06	157	725,473.1	3,949,100.7	10339	2.6
13-Nov-06	158	725,498.2	3,949,101.3	7204	5.7
13-Nov-06	159	725,523.9	3,949,102.0	25545	27.0
13-Nov-06	160	725,547.6	3,949,102.6	37812	46.6
13-Nov-06	161	725,571.8	3,949,101.8	30446	34.8
13-Nov-06	162	725,596.5	3,949,101.9	10548	3.0
13-Nov-06	163	725,620.4	3,949,102.1	16230	12.1

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
13-Nov-06	164	725,646.0	3,949,102.3	19872	17.9
13-Nov-06	165	725,668.3	3,949,101.4	10040	2.2
13-Nov-06	166	725,692.9	3,949,100.6	8919	9.8
13-Nov-06	167	725,717.1	3,949,100.0	6956	5.1
13-Nov-06	168	725,741.0	3,949,100.0	8529	8.9
13-Nov-06	169	725,765.5	3,949,100.7	8896	9.7
13-Nov-06	170	725,791.1	3,949,102.0	7520	6.4
13-Nov-06	171	725,816.0	3,949,100.5	8180	8.0
13-Nov-06	172	725,485.6	3,949,122.5	7060	5.3
13-Nov-06	173	725,509.1	3,949,123.2	9954	12.3
13-Nov-06	174	725,535.0	3,949,123.2	9405	11.0
13-Nov-06	175	725,557.8	3,949,123.0	61150	83.9
13-Nov-06	176	725,582.9	3,949,122.9	23864	24.3
13-Nov-06	177	725,607.3	3,949,122.9	10183	2.4
13-Nov-06	178	725,631.0	3,949,123.4	12550	6.2
13-Nov-06	179	725,654.5	3,949,124.1	11081	3.8
13-Nov-06	180	725,679.6	3,949,123.6	8416	8.6
13-Nov-06	181	725,703.8	3,949,121.7	7019	5.2
13-Nov-06	182	725,728.4	3,949,125.0	6038	2.9
13-Nov-06	183	725,753.5	3,949,121.2	8326	8.4
13-Nov-06	184	725,776.8	3,949,123.0	5380	1.3
13-Nov-06	185	725,802.9	3,949,124.1	5775	2.3
13-Nov-06	186	725,827.4	3,949,123.8	7340	6.0
13-Nov-06	201	725,536.0	3,949,165.8	14153	8.7
13-Nov-06	202	725,559.2	3,949,166.1	7961	7.5
13-Nov-06	203	725,583.8	3,949,166.0	13606	7.9
13-Nov-06	204	725,609.1	3,949,165.2	8432	8.6
13-Nov-06	205	725,632.4	3,949,165.2	36494	44.5
13-Nov-06	206	725,658.2	3,949,165.1	6654	4.4
13-Nov-06	207	725,680.8	3,949,163.4	5977	2.7
13-Nov-06	208	725,706.1	3,949,164.1	6103	3.0
13-Nov-06	209	725,730.6	3,949,164.2	5940	2.6
13-Nov-06	210	725,755.0	3,949,165.1	5482	1.5
13-Nov-06	211	725,780.1	3,949,164.7	5684	2.0
13-Nov-06	212	725,804.0	3,949,165.3	5786	2.3
13-Nov-06	213	725,827.4	3,949,162.0	7087	5.4
13-Nov-06	230	725,582.3	3,949,207.6	6557	4.1
13-Nov-06	231	725,607.1	3,949,207.9	20281	18.5
13-Nov-06	232	725,631.4	3,949,207.6	23723	24.0
13-Nov-06	233	725,655.1	3,949,207.8	7928	7.4
13-Nov-06	234	725,679.2	3,949,207.4	7750	7.0
13-Nov-06	235	725,703.6	3,949,207.5	5595	1.8
13-Nov-06	236	725,727.3	3,949,207.4	6067	3.0
13-Nov-06	237	725,751.0	3,949,206.9	5863	2.5
13-Nov-06	238	725,776.9	3,949,205.9	5080	<0.6
13-Nov-06	239	725,801.3	3,949,207.0	5115	0.7
13-Nov-06	240	725,828.1	3,949,207.5	5073	<0.6
13-Nov-06	256	725,608.0	3,949,250.5	9588	11.4
13-Nov-06	257	725,633.5	3,949,248.7	5474	1.5
13-Nov-06	258	725,657.0	3,949,247.9	14804	9.8
13-Nov-06	259	725,681.5	3,949,248.1	5944	2.7
13-Nov-06	260	725,704.0	3,949,247.3	6414	3.8
13-Nov-06	261	725,730.8	3,949,248.0	5966	2.7
13-Nov-06	262	725,754.1	3,949,246.6	5383	1.3
13-Nov-06	263	725,779.5	3,949,247.9	5352	1.2

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
13-Nov-06	264	725,804.4	3,949,248.9	5220	0.9
13-Nov-06	265	725,827.8	3,949,248.0	4908	<0.6
East Step-out Sample Locations					
14-Nov-06	266	725,802.0	3,948,996.3	7610	6.7
14-Nov-06	267	725,826.5	3,948,996.1	9057	10.1
14-Nov-06	268	725,851.0	3,948,995.9	21443	20.4
14-Nov-06	269	725,912.1	3,949,017.2	7047	5.3
14-Nov-06	270	725,863.1	3,949,017.6	10077	2.2
14-Nov-06	271	725,875.4	3,949,039.0	8904	9.8
14-Nov-06	272	725,923.2	3,949,038.0	5967	2.7
14-Nov-06	273	725,863.1	3,949,059.7	6368	3.7
14-Nov-06	274	725,911.9	3,949,059.6	16528	12.5
14-Nov-06	275	725,927.0	3,949,058.9	6410	3.8
14-Nov-06	276	725,956.4	3,949,058.6	5614	1.9
14-Nov-06	277	725,874.7	3,949,080.4	9384	10.9
14-Nov-06	278	725,922.6	3,949,080.9	10609	3.1
14-Nov-06	279	725,972.5	3,949,081.4	7905	7.4
14-Nov-06	280	725,862.9	3,949,101.5	18294	15.4
14-Nov-06	281	725,911.4	3,949,102.1	37406	45.9
14-Nov-06	282	725,947.4	3,949,102.0	8298	8.3
14-Nov-06	283	725,875.1	3,949,122.9	8327	8.4
14-Nov-06	284	725,923.2	3,949,123.0	8666	9.2
14-Nov-06	285	725,972.5	3,949,122.6	6452	3.9
14-Nov-06	286	725,851.2	3,949,144.3	6445	3.9
14-Nov-06	287	725,898.9	3,949,144.5	7617	6.7
14-Nov-06	288	725,948.0	3,949,144.4	27874	30.7
14-Nov-06	289	725,875.4	3,949,165.3	5400	1.4
14-Nov-06	290	725,923.2	3,949,165.2	6467	3.9
14-Nov-06	291	725,972.1	3,949,163.9	14088	8.6
14-Nov-06	292	725,851.1	3,949,186.4	5050	<0.6
16-Nov-06	293	725,899.1	3,949,186.6	6158	3.2
16-Nov-06	294	725,948.3	3,949,186.3	6353	3.6
16-Nov-06	295	726,007.1	3,949,122.4	7101	5.4
16-Nov-06	296	725,971.7	3,949,142.6	20349	18.6
16-Nov-06	297	726,011.6	3,949,142.6	8397	8.5
16-Nov-06	298	726,013.7	3,949,164.8	8367	8.5
16-Nov-06	299	726,016.2	3,949,185.7	24537	25.4
16-Nov-06	300	725,971.9	3,949,186.0	6387	3.7
16-Nov-06	301	726,014.2	3,949,207.4	12180	5.6
16-Nov-06	302	725,983.4	3,949,206.6	6428	3.8
16-Nov-06	303	725,989.7	3,949,228.9	5243	1.0
16-Nov-06	304	726,011.0	3,949,228.2	8326	8.4
16-Nov-06	305	726,007.7	3,949,249.6	7381	6.1
16-Nov-06	306	726,002.1	3,949,271.6	5827	2.4
16-Nov-06	307	725,989.4	3,949,248.1	5331	1.2
16-Nov-06	308	725,978.2	3,949,058.9	6076	3.0
16-Nov-06	309	725,967.1	3,949,039.1	5799	2.3
16-Nov-06	310	725,955.4	3,949,016.1	6602	4.2
16-Nov-06	311	725,861.8	3,948,995.9	20578	19.0

Table 3.1 NECR-1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
South Step-out Sample Locations					
28-Nov-06	312	725,486.9	3,948,828.7	8602	9.0
28-Nov-06	313	725,514.2	3,948,827.8	8483	8.8
28-Nov-06	314	725,470.0	3,948,803.2	8858	9.7
01-Dec-06	315	725,448.8	3,948,807.1	9276	10.7
01-Dec-06	316	725,538.4	3,948,827.4	4865	<0.6
01-Dec-06	317	725,498.3	3,948,848.3	9901	12.2
01-Dec-06	318	725,524.0	3,948,848.5	62291	85.8
01-Dec-06	319	725,546.9	3,948,848.5	20850	19.5
01-Dec-06	320	725,570.3	3,948,850.5	6899	4.9
01-Dec-06	321	725,558.6	3,948,869.9	18342	15.4
01-Dec-06	322	725,582.7	3,948,870.6	7021	5.2
01-Dec-06	323	725,608.8	3,948,869.6	5789	2.3
01-Dec-06	324	725,572.0	3,948,890.2	14578	9.4
01-Dec-06	325	725,596.6	3,948,891.1	22182	21.6
01-Dec-06	326	725,619.2	3,948,891.3	7908	7.4
01-Dec-06	327	725,643.6	3,948,891.5	5887	2.5
01-Dec-06	328	725,680.6	3,948,912.2	5775	2.3
01-Dec-06	329	725,652.6	3,948,912.5	7666	6.8
01-Dec-06	330	725,630.0	3,948,913.5	14672	9.6
01-Dec-06	331	725,606.5	3,948,911.8	8792	9.5
01-Dec-06	332	725,582.9	3,948,911.9	11642	4.7
01-Dec-06	333	725,594.6	3,948,932.3	8579	9.0
01-Dec-06	334	725,619.3	3,948,932.6	11592	4.6
01-Dec-06	335	725,644.4	3,948,932.1	9754	11.8
01-Dec-06	336	725,682.9	3,948,954.7	6852	4.8
01-Dec-06	338	725,607.1	3,948,954.1	5242	1.0
01-Dec-06	339	725,632.7	3,948,954.4	9561	11.3
01-Dec-06	340	725,656.1	3,948,953.4	6942	5.1
01-Dec-06	341	725,620.3	3,948,975.2	5808	2.3
01-Dec-06	342	725,643.4	3,948,974.4	5971	2.7
01-Dec-06	343	725,669.4	3,948,974.3	5474	1.5
01-Dec-06	344	725,657.0	3,948,995.6	6583	4.2
01-Dec-06	345	725,631.4	3,948,995.0	6521	4.0
01-Dec-06	346	725,716.8	3,948,975.3	6820	4.8
01-Dec-06	347	725,692.7	3,948,975.5	8779	9.5
01-Dec-06	348	725,669.6	3,948,932.4	6451	3.9
01-Dec-06	349	725,690.9	3,948,933.7	5970	2.7
14-Nov-06	350	725,994.6	3,949,082.7	5860	2.5
16-Nov-06	351	726,000.4	3,949,101.1	6835	4.8
				Average	**19.6**
				Standard Deviation	**26.8**

Notes:

1. Point #337 was not surveyed
2. Points #187 to 200, #214 to 229, #241 to 255 in east-west transects were not surveyed as these transects were skipped to start 80 x 160 grids.

Table 3.2 NECR-2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Primary Sample Locations					
10-Nov-06	1	724,984.3	3,948,224.1	4,709	<0.6
09-Nov-06	2	725,010.5	3,948,224.2	6,418	3.8
09-Nov-06	3	725,035.4	3,948,223.8	8,719	9.3
09-Nov-06	4	725,000.4	3,948,247.9	6,256	3.4
09-Nov-06	5	725,023.7	3,948,247.6	25,943	27.6
09-Nov-06	6	725,046.0	3,948,245.0	5,926	2.6
09-Nov-06	7	724,841.0	3,948,266.1	4,736	0.6
09-Nov-06	8	724,867.3	3,948,267.8	7,080	5.4
10-Nov-06	9	724,987.3	3,948,268.2	5,367	1.3
09-Nov-06	10	725,010.6	3,948,265.3	99,457	145.2
09-Nov-06	11	725,037.2	3,948,268.0	58,213	79.2
09-Nov-06	12	725,062.2	3,948,267.7	6,484	4.0
09-Nov-06	13	724,826.8	3,948,288.9	3,831	<0.6
09-Nov-06	14	724,852.5	3,948,290.0	5,753	2.2
09-Nov-06	15	724,881.1	3,948,288.4	20,677	19.2
09-Nov-06	16	724,900.5	3,948,289.2	8,266	8.2
09-Nov-06	17	724,929.8	3,948,287.6	36,878	45.1
10-Nov-06	18	724,968.7	3,948,294.7	17,871	14.7
09-Nov-06	19	725,000.1	3,948,290.3	34,105	40.7
09-Nov-06	20	725,023.0	3,948,286.7	24,011	24.5
09-Nov-06	21	725,048.2	3,948,288.0	6,764	4.6
09-Nov-06	22	724,839.4	3,948,307.0	5,391	1.3
09-Nov-06	23	724,864.4	3,948,309.3	9,472	11.1
09-Nov-06	24	724,888.8	3,948,310.1	13,046	7.0
09-Nov-06	25	724,913.1	3,948,308.1	32,328	37.8
09-Nov-06	26	724,937.7	3,948,310.6	41,158	51.9
09-Nov-06	27	724,962.9	3,948,310.2	21,010	19.7
09-Nov-06	28	724,988.1	3,948,308.2	18,668	16.0
09-Nov-06	29	725,012.3	3,948,310.5	21,008	19.7
09-Nov-06	30	725,037.3	3,948,310.3	24,444	25.2
09-Nov-06	31	725,058.9	3,948,308.9	12,034	5.3
09-Nov-06	32	724,827.2	3,948,331.8	5,068	<0.6
09-Nov-06	33	724,850.2	3,948,330.6	4,837	<0.6
09-Nov-06	34	724,877.0	3,948,330.9	16,710	12.8
09-Nov-06	35	724,901.4	3,948,330.5	84,399	121.1
09-Nov-06	36	724,927.3	3,948,331.0	22,723	22.4
09-Nov-06	37	724,949.3	3,948,330.8	8,943	9.9
09-Nov-06	38	724,976.0	3,948,329.5	19,234	16.9
09-Nov-06	39	725,000.3	3,948,330.0	19,939	18.0
09-Nov-06	40	725,017.5	3,948,327.6	37,549	46.2
09-Nov-06	41	724,814.0	3,948,352.6	4,652	<0.6
09-Nov-06	42	724,847.8	3,948,348.8	9,070	10.2
09-Nov-06	43	724,864.7	3,948,353.4	143,215	215.2
09-Nov-06	44	724,890.7	3,948,352.1	23,195	23.2
09-Nov-06	45	724,913.1	3,948,351.5	35,142	42.3
09-Nov-06	46	724,937.2	3,948,353.5	11,566	4.6
09-Nov-06	47	724,963.4	3,948,351.0	17,041	13.4
09-Nov-06	48	724,985.7	3,948,352.3	15,967	11.6
09-Nov-06	49	725,006.7	3,948,352.6	51,947	69.2
09-Nov-06	50	724,829.4	3,948,372.2	6,122	3.1
09-Nov-06	51	724,853.3	3,948,373.6	18,901	16.3
09-Nov-06	52	724,877.7	3,948,371.8	22,046	21.4
09-Nov-06	53	724,900.6	3,948,372.5	10,395	2.7

Table 3.2 NECR-2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
09-Nov-06	54	724,924.7	3,948,373.9	8,739	9.4
09-Nov-06	55	724,948.8	3,948,374.0	11,111	3.9
09-Nov-06	56	724,973.3	3,948,371.3	7,314	5.9
09-Nov-06	57	724,996.5	3,948,369.0	60,240	82.5
09-Nov-06	58	724,813.7	3,948,392.4	4,086	<0.6
09-Nov-06	59	724,837.8	3,948,395.1	7,950	7.5
09-Nov-06	60	724,864.4	3,948,395.1	20,112	18.3
09-Nov-06	61	724,890.8	3,948,394.7	46,882	61.1
10-Nov-06	62	724,912.9	3,948,394.3	13,887	8.3
09-Nov-06	63	724,939.7	3,948,394.1	10,520	2.9
09-Nov-06	64	724,961.6	3,948,394.5	7,019	5.2
09-Nov-06	65	724,985.6	3,948,393.0	55,096	74.2
09-Nov-06	66	724,830.0	3,948,414.7	4,622	<0.6
09-Nov-06	67	724,854.7	3,948,414.1	11,626	4.7
09-Nov-06	68	724,875.5	3,948,415.5	15,477	10.9
10-Nov-06	69	724,899.8	3,948,416.1	12,599	6.2
10-Nov-06	70	724,925.8	3,948,416.1	11,172	4.0
09-Nov-06	71	724,950.0	3,948,416.1	14,523	9.3
09-Nov-06	72	724,975.7	3,948,414.7	33,150	39.1
09-Nov-06	73	724,911.7	3,948,436.1	9,176	10.4
09-Nov-06	74	724,936.2	3,948,436.9	9,150	10.4
09-Nov-06	75	724,962.5	3,948,434.4	6,003	2.8
Step-out Sample Locations					
14-Nov-06	76	724929.9	3948457.5	7,113	5.5
14-Nov-06	77	724951.0	3948456.8	6,352	3.6
14-Nov-06	78	724975.1	3948456.9	5,122	0.7
14-Nov-06	79	724999.0	3948456.8	5,544	1.7
14-Nov-06	80	725024.2	3948456.8	5,454	1.5
14-Nov-06	81	725049.0	3948456.3	5,634	1.9
14-Nov-06	82	725037.2	3948436.2	6,048	2.9
14-Nov-06	83	725010.9	3948435.9	5,587	1.8
14-Nov-06	84	724985.9	3948435.3	6,869	4.9
14-Nov-06	85	724999.4	3948413.9	5,349	1.2
14-Nov-06	86	725024.0	3948414.0	5,989	2.8
14-Nov-06	87	725049.2	3948413.3	6,205	3.3
14-Nov-06	88	725037.7	3948394.3	7,012	5.2
14-Nov-06	89	725013.0	3948394.2	6,343	3.6
14-Nov-06	90	725018.5	3948372.4	6,232	3.3
14-Nov-06	91	725046.2	3948377.5	6,197	3.3
14-Nov-06	92	725038.4	3948350.8	15,635	11.1
14-Nov-06	93	724938.9	3948481.9	7,061	5.3
14-Nov-06	94	724961.9	3948481.3	5,585	1.8
14-Nov-06	95	724986.6	3948481.7	5,776	2.3
14-Nov-06	96	725012.3	3948481.0	5,429	1.4
14-Nov-06	97	725040.0	3948479.3	5,178	0.8
16-Nov-06	98	725062.8	3948481.2	4,862	<0.6
16-Nov-06	99	725087.7	3948480.9	5,054	<0.6
16-Nov-06	100	725073.4	3948456.9	4,742	<0.6
16-Nov-06	101	725098.7	3948457.6	4,824	<0.6
16-Nov-06	102	725085.9	3948438.0	4,976	<0.6
16-Nov-06	103	725108.5	3948437.6	4,999	<0.6
16-Nov-06	104	725075.7	3948506.4	5,174	0.8
16-Nov-06	105	725049.3	3948502.8	5,504	1.6
16-Nov-06	106	725023.4	3948503.1	6,941	5.1
16-Nov-06	107	725025.7	3948523.2	5,877	2.5
16-Nov-06	108	725049.6	3948522.7	5,775	2.3

Table 3.2 NECR-2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
16-Nov-06	109	725072.7	3948522.6	4,945	<0.6
16-Nov-06	110	725071.2	3948544.6	5,300	1.1
16-Nov-06	111	725040.9	3948544.4	6,935	5.0
16-Nov-06	112	725054.5	3948565.7	11,055	3.8
16-Nov-06	113	724889.6	3948435.6	7,521	6.4
16-Nov-06	114	724878.3	3948457.5	20,672	19.2
16-Nov-06	115	724901.1	3948455.8	7,858	7.3
28-Nov-06	116	724,982.7	3,948,500.9	7,268	5.8
28-Nov-06	117	725,002.3	3,948,524.0	7,488	6.4
28-Nov-06	118	725,022.6	3,948,545.6	7,459	6.3
				Average	**15.6**
				Standard Deviation	**29.7**

Table 3.3 Sandfill 1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-
10-Nov-06	1	725,498.2	3,948,562.4	5,886	2.5
10-Nov-06	2	725,521.3	3,948,561.5	3,616	<0.6
10-Nov-06	3	725,546.5	3,948,563.2	3,717	<0.6
10-Nov-06	4	725,485.7	3,948,583.1	4,085	<0.6
10-Nov-06	5	725,509.9	3,948,582.5	8,811	9.5
10-Nov-06	6	725,534.6	3,948,583.4	5,787	2.3
10-Nov-06	7	725,558.7	3,948,583.0	9,517	11.2
10-Nov-06	8	725,582.7	3,948,583.1	3,769	<0.6
10-Nov-06	9	725,497.6	3,948,603.8	4,954	<0.6
10-Nov-06	10	725,522.1	3,948,604.1	8,391	8.5
10-Nov-06	11	725,546.5	3,948,604.3	7,128	5.5
10-Nov-06	12	725,570.8	3,948,604.2	7,203	5.7
10-Nov-06	13	725,595.2	3,948,604.3	4,898	<0.6
10-Nov-06	14	725,486.0	3,948,624.6	6,176	3.2
10-Nov-06	15	725,510.2	3,948,625.0	28,900	32.3
10-Nov-06	16	725,534.0	3,948,624.4	5,152	0.8
10-Nov-06	17	725,559.2	3,948,625.5	4,933	<0.6
10-Nov-06	18	725,583.3	3,948,625.6	11,335	4.2
10-Nov-06	19	725,606.5	3,948,624.0	5,401	1.4
10-Nov-06	20	725,497.6	3,948,646.5	4,978	<0.6
10-Nov-06	21	725,518.6	3,948,646.0	4,459	<0.6
10-Nov-06	22	725,546.6	3,948,646.8	5,168	0.8
10-Nov-06	23	725,570.7	3,948,646.5	10,646	3.1
10-Nov-06	24	725,595.1	3,948,646.9	12,287	5.8
10-Nov-06	25	725,606.9	3,948,648.1	6,823	4.8
10-Nov-06	26	725,486.1	3,948,666.8	5,086	0.6
10-Nov-06	27	725,509.6	3,948,667.6	4,975	<0.6
10-Nov-06	28	725,534.3	3,948,667.3	4,103	<0.6
10-Nov-06	29	725,559.2	3,948,667.2	5,714	2.1
10-Nov-06	30	725,582.5	3,948,667.6	12,777	6.5
10-Nov-06	31	725,606.4	3,948,665.9	8,919	9.8
10-Nov-06	32	725,630.2	3,948,667.2	5,666	2.0
10-Nov-06	33	725,472.9	3,948,688.6	10,214	2.4
10-Nov-06	34	725,498.3	3,948,688.4	7,376	6.1
10-Nov-06	35	725,521.9	3,948,689.1	4,299	<0.6
10-Nov-06	36	725,546.6	3,948,688.2	3,833	<0.6
10-Nov-06	37	725,571.7	3,948,688.2	6,511	4.0
10-Nov-06	38	725,599.6	3,948,690.1	9,557	11.3
10-Nov-06	39	725,620.3	3,948,689.3	7,114	5.5
10-Nov-06	40	725,461.5	3,948,709.8	3,649	<0.6
10-Nov-06	41	725,486.9	3,948,709.8	4,649	<0.6
10-Nov-06	42	725,508.1	3,948,710.9	15,910	11.5
10-Nov-06	43	725,533.8	3,948,710.1	10,879	3.5
10-Nov-06	44	725,559.4	3,948,709.6	6,711	4.5
10-Nov-06	45	725,584.0	3,948,709.8	6,032	2.9
10-Nov-06	46	725,607.5	3,948,709.8	8,185	8.0
10-Nov-06	47	725,473.6	3,948,730.9	4,665	<0.6
10-Nov-06	48	725,498.2	3,948,731.4	9,809	11.9
10-Nov-06	49	725,522.5	3,948,730.4	49,290	65.0
10-Nov-06	50	725,545.4	3,948,731.5	12,689	6.4
10-Nov-06	51	725,571.7	3,948,731.3	6,237	3.4
10-Nov-06	52	725,592.6	3,948,728.3	4,406	<0.6
10-Nov-06	53	725,618.7	3,948,730.9	5,277	1.1
10-Nov-06	54	725,485.4	3,948,751.6	41,325	52.2

Table 3.3 Sandfill 1 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-
10-Nov-06	55	725,510.6	3,948,752.6	30,799	35.4
10-Nov-06	56	725,535.7	3,948,751.3	56,195	76.0
10-Nov-06	57	725,559.0	3,948,752.4	15,436	10.8
10-Nov-06	58	725,585.0	3,948,750.2	8,058	7.7
10-Nov-06	59	725,608.1	3,948,749.6	5,197	0.9
10-Nov-06	60	725,497.8	3,948,772.4	5,223	0.9
10-Nov-06	61	725,522.6	3,948,773.9	7,147	5.5
10-Nov-06	62	725,546.2	3,948,772.4	48,250	63.3
10-Nov-06	63	725,571.1	3,948,772.4	32,153	37.5
10-Nov-06	64	725,594.9	3,948,773.4	8,593	9.0
10-Nov-06	65	725,621.3	3,948,771.9	6,188	3.2
10-Nov-06	66	725,534.5	3,948,793.6	4,673	<0.6
10-Nov-06	67	725,559.1	3,948,794.0	7,028	5.3
10-Nov-06	68	725,583.4	3,948,794.0	45,274	58.5
10-Nov-06	69	725,606.9	3,948,794.1	23,833	24.2
10-Nov-06	70	725,546.5	3,948,815.6	6,174	3.2
10-Nov-06	71	725,571.2	3,948,815.8	10,523	2.9
10-Nov-06	72	725,595.1	3,948,815.1	6,120	3.1
10-Nov-06	73	725,622.2	3,948,816.0	5,139	0.7
10-Nov-06	74	725,559.4	3,948,836.1	5,637	1.9
10-Nov-06	75	725,584.0	3,948,836.6	4,337	<0.6
10-Nov-06	76	725,607.3	3,948,835.9	4,219	<0.6
				Average	**9.0**
				Standard Deviation	**16.3**

Table 3.4 Sandfill 2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
10-Nov-06	1	724,864.4	3,948,158.3	4,813	<0.6
10-Nov-06	2	724,888.8	3,948,156.7	4,634	<0.6
10-Nov-06	3	724,852.5	3,948,177.9	4,124	<0.6
10-Nov-06	4	724,872.8	3,948,178.3	5,211	0.9
10-Nov-06	5	724,900.0	3,948,178.9	7,707	6.9
10-Nov-06	6	724,839.3	3,948,200.3	4,288	<0.6
10-Nov-06	7	724,868.7	3,948,200.9	10,505	2.9
10-Nov-06	8	724,888.6	3,948,199.8	7,597	6.6
10-Nov-06	9	724,920.6	3,948,200.1	4,926	<0.6
10-Nov-06	10	724,851.6	3,948,221.1	5,385	1.3
10-Nov-06	11	724,876.7	3,948,221.0	15,448	10.8
10-Nov-06	12	724,900.6	3,948,220.3	10,586	3.0
10-Nov-06	13	724,924.8	3,948,220.2	5,263	1.0
10-Nov-06	14	724,838.8	3,948,240.5	4,094	<0.6
10-Nov-06	15	724,865.1	3,948,243.6	6,792	4.7
10-Nov-06	16	724,888.8	3,948,241.5	8,197	8.1
10-Nov-06	17	724,912.4	3,948,241.1	20,647	19.1
10-Nov-06	18	724,931.9	3,948,246.1	6,062	2.9
10-Nov-06	19	724,900.2	3,948,262.9	24,945	26.0
10-Nov-06	20	724,924.3	3,948,262.7	18,397	15.5
10-Nov-06	21	724,943.1	3,948,264.8	6,884	4.9
				Average	5.6
				Standard Deviation	7.0

Table 3.5 Sandfill 3 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-30)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Primary Sample Locations					
09-Nov-06	1	724,869.9	3,948,478.8	6,466	3.9
09-Nov-06	2	724,895.0	3,948,478.2	10,387	2.7
09-Nov-06	3	724,919.3	3,948,478.6	16,040	11.8
09-Nov-06	4	724,858.3	3,948,500.6	5,280	1.1
09-Nov-06	5	724,881.8	3,948,498.5	62,004	85.3
09-Nov-06	6	724,906.7	3,948,500.5	15,867	11.5
09-Nov-06	7	724,930.5	3,948,499.8	10,445	2.8
09-Nov-06	8	724,870.2	3,948,520.9	14,637	9.5
09-Nov-06	9	724,894.9	3,948,520.6	16,019	11.7
09-Nov-06	10	724,918.3	3,948,521.1	15,681	11.2
09-Nov-06	11	724,943.7	3,948,520.3	8,166	8.0
09-Nov-06	12	724,858.0	3,948,542.0	5,935	2.6
09-Nov-06	13	724,882.5	3,948,542.5	24,495	25.3
09-Nov-06	14	724,906.8	3,948,541.5	92,167	133.6
09-Nov-06	15	724,931.2	3,948,542.0	43,425	55.6
09-Nov-06	16	724,955.4	3,948,542.3	9,885	12.1
09-Nov-06	17	724,870.5	3,948,562.1	5,074	<0.6
09-Nov-06	18	724,894.5	3,948,562.8	14,648	9.5
09-Nov-06	19	724,919.0	3,948,562.5	10,120	2.3
09-Nov-06	20	724,943.5	3,948,563.0	48,099	63.0
09-Nov-06	21	724,967.7	3,948,562.4	25,727	27.3
09-Nov-06	22	724,881.8	3,948,583.2	5,414	1.4
09-Nov-06	23	724,906.7	3,948,583.4	22,347	21.8
09-Nov-06	24	724,931.2	3,948,584.8	16,201	12.0
09-Nov-06	25	724,955.0	3,948,584.4	24,640	25.5
09-Nov-06	26	724,979.0	3,948,584.3	21,274	20.1
09-Nov-06	27	724,894.6	3,948,605.2	8,780	9.5
09-Nov-06	28	724,918.8	3,948,605.5	10,797	3.4
Step-out Sample Locations					
16-Nov-06	29	724872.9	3948604.5	5,469	1.5
16-Nov-06	30	724846.9	3948605.9	7,612	6.7
16-Nov-06	31	724822.7	3948603.7	5,934	2.6
16-Nov-06	32	724798.7	3948602.3	5,478	1.5
16-Nov-06	33	724787.8	3948581.2	7,298	5.9
16-Nov-06	34	724811.1	3948581.5	5,184	0.8
16-Nov-06	35	724838.0	3948580.2	4,485	<0.6
16-Nov-06	36	724861.0	3948581.4	5,008	<0.6
17-Nov-06	37	724762.9	3948580.4	4,997	<0.6
17-Nov-06	38	724774.2	3948602.4	4,352	<0.6
28-Nov-06	39	724,995.0	3,948,560.5	17,982	14.9
28-Nov-06	40	725,018.6	3,948,561.1	6,682	4.4
28-Nov-06	41	724,989.4	3,948,538.0	5,724	2.1
28-Nov-06	42	724,962.1	3,948,518.1	4,948	<0.6
28-Nov-06	43	724,947.7	3,948,497.9	5,812	2.3
				Average	**14.7**
				Standard Deviation	**25.5**

Table 3.6 Ponds 1 and 2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-30)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
10-Nov-06	1	725,209.1	3,948,548.1	4,330	<0.6
10-Nov-06	2	725,230.5	3,948,549.0	4,260	<0.6
10-Nov-06	3	725,195.0	3,948,568.8	5,472	1.5
10-Nov-06	4	725,218.1	3,948,570.2	5,610	1.9
10-Nov-06	5	725,242.5	3,948,569.2	5,373	1.3
10-Nov-06	6	725,365.2	3,948,569.0	37,608	46.3
10-Nov-06	7	725,389.6	3,948,569.1	7,641	6.7
10-Nov-06	8	725,414.0	3,948,569.8	6,187	3.2
10-Nov-06	9	725,184.3	3,948,591.1	5,461	1.5
10-Nov-06	10	725,205.8	3,948,590.9	6,377	3.7
10-Nov-06	11	725,231.2	3,948,590.1	6,902	5.0
10-Nov-06	12	725,255.4	3,948,590.1	5,565	1.7
10-Nov-06	13	725,352.9	3,948,589.8	12,151	5.5
10-Nov-06	14	725,377.1	3,948,590.6	44,649	57.5
09-Nov-06	15	725,402.0	3,948,590.7	8,918	9.8
09-Nov-06	16	725,426.1	3,948,590.2	11,908	5.1
10-Nov-06	17	725,187.9	3,948,626.0	6,452	3.9
10-Nov-06	18	725,194.7	3,948,612.3	7,521	6.4
10-Nov-06	19	725,221.0	3,948,612.4	17,022	13.3
10-Nov-06	20	725,242.9	3,948,611.2	8,732	9.3
10-Nov-06	21	725,267.0	3,948,611.3	6,387	3.7
10-Nov-06	22	725,340.5	3,948,611.3	33,905	40.3
10-Nov-06	23	725,364.4	3,948,611.5	48,888	64.3
09-Nov-06	24	725,390.0	3,948,611.8	28,230	31.3
10-Nov-06	25	725,414.0	3,948,611.6	26,902	29.1
09-Nov-06	26	725,439.7	3,948,610.6	72,749	102.5
10-Nov-06	27	725,159.0	3,948,632.4	32,643	38.3
10-Nov-06	28	725,182.3	3,948,633.7	8,411	8.6
10-Nov-06	29	725,207.5	3,948,632.7	167,837	254.6
10-Nov-06	30	725,231.4	3,948,632.9	39,539	49.4
10-Nov-06	31	725,255.2	3,948,632.6	7,134	5.5
10-Nov-06	32	725,280.0	3,948,632.9	5,670	2.0
10-Nov-06	33	725,328.6	3,948,633.4	7,591	6.6
10-Nov-06	34	725,353.3	3,948,632.2	36,539	44.6
09-Nov-06	35	725,377.6	3,948,631.5	141,363	212.3
09-Nov-06	36	725,401.9	3,948,632.0	19,222	16.8
09-Nov-06	37	725,426.1	3,948,633.2	8,143	7.9
10-Nov-06	38	725,451.6	3,948,631.5	6,744	4.6
10-Nov-06	39	725,145.6	3,948,653.7	5,322	1.2
10-Nov-06	40	725,171.4	3,948,653.3	6,334	3.6
10-Nov-06	41	725,193.4	3,948,654.6	7,325	6.0
17-Nov-06	42	725,221.2	3,948,653.8	11,185	4.0
10-Nov-06	43	725,243.0	3,948,654.4	111,328	164.2
10-Nov-06	44	725,266.9	3,948,653.1	11,041	3.8
10-Nov-06	45	725,291.5	3,948,653.2	6,633	4.3
10-Nov-06	46	725,316.0	3,948,654.3	94,508	137.3
09-Nov-06	47	725,343.9	3,948,654.4	62,918	86.8
09-Nov-06	48	725,365.4	3,948,653.3	75,125	106.3
09-Nov-06	49	725,390.0	3,948,653.9	25,210	26.4
09-Nov-06	50	725,413.9	3,948,653.8	16,747	12.9
10-Nov-06	51	725,438.9	3,948,654.2	7,555	6.5
10-Nov-06	52	725,180.0	3,948,675.6	6,858	4.9
10-Nov-06	53	725,207.9	3,948,670.3	7,715	6.9

Table 3.6 Ponds 1 and 2 Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-30)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
10-Nov-06	54	725,231.0	3,948,675.4	10,271	2.5
10-Nov-06	55	725,255.3	3,948,675.0	9,984	12.4
10-Nov-06	56	725,279.9	3,948,673.7	14,024	8.5
10-Nov-06	57	725,303.7	3,948,675.8	22,989	22.9
09-Nov-06	58	725,328.9	3,948,674.4	320,161	498.3
09-Nov-06	59	725,353.7	3,948,673.8	264,301	409.0
09-Nov-06	60	725,377.2	3,948,674.7	92,295	133.8
09-Nov-06	61	725,402.0	3,948,675.5	68,437	95.6
10-Nov-06	62	725,423.7	3,948,670.6	13,864	8.3
10-Nov-06	63	725,448.0	3,948,674.4	5,911	2.6
10-Nov-06	64	725,242.6	3,948,696.9	7,871	7.3
10-Nov-06	65	725,267.6	3,948,699.5	8,502	8.8
10-Nov-06	66	725,292.5	3,948,695.1	71,850	101.1
10-Nov-06	67	725,317.2	3,948,696.0	19,517	17.3
10-Nov-06	68	725,340.7	3,948,695.2	79,437	113.2
09-Nov-06	69	725,365.4	3,948,696.5	112,771	166.5
09-Nov-06	70	725,389.7	3,948,695.7	48,368	63.5
09-Nov-06	71	725,413.9	3,948,695.7	40,879	51.5
09-Nov-06	72	725,438.3	3,948,696.4	6,489	4.0
10-Nov-06	73	725,279.9	3,948,718.2	8,153	8.0
10-Nov-06	74	725,303.5	3,948,717.6	7,598	6.6
10-Nov-06	75	725,328.3	3,948,717.5	10,358	2.7
09-Nov-06	76	725,353.1	3,948,717.3	10,358	2.7
09-Nov-06	77	725,378.0	3,948,717.6	112,122	165.5
09-Nov-06	78	725,402.2	3,948,717.0	48,662	64.0
09-Nov-06	79	725,426.3	3,948,717.8	14,503	9.3
10-Nov-06	80	725,340.1	3,948,738.2	15,174	10.4
09-Nov-06	81	725,365.7	3,948,737.7	35,002	42.1
09-Nov-06	82	725,389.9	3,948,738.2	92,284	133.7
09-Nov-06	83	725,413.4	3,948,738.4	8,859	9.7
10-Nov-06	84	725,377.6	3,948,758.9	12,841	6.6
09-Nov-06	85	725,401.8	3,948,759.5	24,915	26.0
				Average	**45.8**
				Standard Deviation	**83.2**

Table 3.7 Pond 3/3a Static Gamma Radiation Survey Results						
			Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Area	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Primary Sample Locations						
07-Nov-06	Pond 3	1	725,105.8	3,948,684.2	21,120	19.9
07-Nov-06	Pond 3	2	725,129.1	3,948,684.3	8,225	8.1
07-Nov-06	Pond 3	3	725,153.2	3,948,684.2	14,774	9.7
07-Nov-06	Pond 3	4	725,178.1	3,948,684.3	8,031	7.7
07-Nov-06	Pond 3	5	725,092.4	3,948,704.0	10,598	3.0
07-Nov-06	Pond 3	6	725,117.2	3,948,704.8	13,688	8.0
07-Nov-06	Pond 3	7	725,141.3	3,948,704.2	84,406	121.1
07-Nov-06	Pond 3	8	725,164.9	3,948,703.7	9,176	10.4
07-Nov-06	Pond 3	9	725,189.6	3,948,705.2	8,939	9.8
07-Nov-06	Pond 3	10	725,214.1	3,948,705.2	10,533	2.9
07-Nov-06	Pond 3	11	725,103.8	3,948,725.1	8,277	8.3
07-Nov-06	Pond 3	12	725,128.3	3,948,725.8	12,978	6.9
07-Nov-06	Pond 3	13	725,152.5	3,948,725.5	51,324	68.2
07-Nov-06	Pond 3	14	725,176.1	3,948,725.0	191,805	293.0
07-Nov-06	Pond 3	15	725,202.5	3,948,726.5	12,447	6.0
07-Nov-06	Pond 3	16	725,226.7	3,948,725.0	10,185	2.4
07-Nov-06	Pond 3	17	725,250.5	3,948,724.2	6,493	4.0
07-Nov-06	Pond 3	18	725,117.4	3,948,746.8	9,632	11.5
07-Nov-06	Pond 3	19	725,142.1	3,948,746.6	15,329	10.6
07-Nov-06	Pond 3	20	725,166.0	3,948,746.0	20,579	19.0
07-Nov-06	Pond 3	21	725,189.9	3,948,747.2	20,599	19.0
07-Nov-06	Pond 3	22	725,213.8	3,948,747.3	16,408	12.3
07-Nov-06	Pond 3	23	725,237.4	3,948,745.9	10,490	2.9
07-Nov-06	Pond 3	24	725,262.4	3,948,745.9	12,075	5.4
08-Nov-06	Pond 3	25	725,128.8	3,948,767.2	6,343	3.6
08-Nov-06	Pond 3	26	725,152.8	3,948,767.6	8,923	9.8
08-Nov-06	Pond 3	27	725,177.1	3,948,768.1	11,737	4.9
08-Nov-06	Pond 3	28	725,201.6	3,948,767.2	37,176	45.6
08-Nov-06	Pond 3	29	725,226.7	3,948,768.4	149,128	224.7
08-Nov-06	Pond 3	30	725,251.4	3,948,767.6	17,619	14.3
07-Nov-06	Pond 3	31	725,274.6	3,948,767.5	17,609	14.3
07-Nov-06	Pond 3	32	725,299.3	3,948,769.7	9,632	11.5
08-Nov-06	Pond 3	33	725,141.4	3,948,788.8	6,491	4.0
08-Nov-06	Pond 3	34	725,165.1	3,948,789.1	10,990	3.7
08-Nov-06	Pond 3	35	725,188.5	3,948,789.5	12,609	6.3
08-Nov-06	Pond 3	36	725,213.5	3,948,788.0	12,938	6.8
08-Nov-06	Pond 3	37	725,238.3	3,948,788.4	14,837	9.8
08-Nov-06	Pond 3	38	725,262.1	3,948,789.1	73,114	103.1
08-Nov-06	Pond 3	39	725,286.5	3,948,790.8	26,927	29.2
08-Nov-06	Pond 3	40	725,312.2	3,948,788.2	14,619	9.5
08-Nov-06	Pond 3	41	725,176.6	3,948,809.1	5,902	2.6
08-Nov-06	Pond 3	42	725,200.8	3,948,809.4	8,802	9.5
08-Nov-06	Pond 3	43	725,224.7	3,948,809.8	11,628	4.7
08-Nov-06	Pond 3	44	(1)	(1)	N/S	N/S
08-Nov-06	Pond 3	45	(1)	(1)	N/S	N/S
08-Nov-06	Pond 3	46	725,299.5	3,948,811.3	23,486	23.7
08-Nov-06	Pond 3	47	725,322.0	3,948,812.0	47,734	62.5
08-Nov-06	Pond 3	48	725,346.3	3,948,811.1	19,020	16.5
08-Nov-06	Pond 3	49	725,188.1	3,948,830.9	6,120	3.1
08-Nov-06	Pond 3	50	725,214.5	3,948,830.5	70,038	98.2
08-Nov-06	Pond 3	51	725,237.4	3,948,831.1	25,334	26.6
08-Nov-06	Pond 3	52	(1)	(1)	N/S	N/S
08-Nov-06	Pond 3	53	(1)	(1)	N/S	N/S

Table 3.7 Pond 3/3a Static Gamma Radiation Survey Results						
			Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-33)	
Date	Area	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
08-Nov-06	Pond 3	54	725,310.9	3,948,831.8	9,367	10.9
08-Nov-06	Pond 3	55	725,336.6	3,948,832.0	40,556	51.0
09-Nov-06	Pond 3	56	725,202.5	3,948,852.0	6,072	3.0
09-Nov-06	Pond 3	57	725,225.2	3,948,852.2	12,207	5.6
09-Nov-06	Pond 3	58	725,250.0	3,948,852.9	17,038	13.4
09-Nov-06	Pond 3	59	725,277.3	3,948,853.9	38,463	47.6
09-Nov-06	Pond 3	60	725,299.0	3,948,852.9	9,044	10.1
09-Nov-06	Pond 3	61	725,323.6	3,948,850.4	40,887	51.5
09-Nov-06	Pond 3	62	725,214.6	3,948,873.6	5,080	<0.6
09-Nov-06	Pond 3	63	725,237.6	3,948,874.2	16,625	12.7
09-Nov-06	Pond 3	64	725,262.5	3,948,874.2	13,079	7.0
09-Nov-06	Pond 3	65	725,287.7	3,948,872.7	24,776	25.7
09-Nov-06	Pond 3	66	725,310.0	3,948,874.0	19,312	17.0
09-Nov-06	Pond 3	67	725,225.4	3,948,896.3	5,170	0.8
09-Nov-06	Pond 3	68	725,250.7	3,948,896.4	13,478	7.7
09-Nov-06	Pond 3	69	725,274.6	3,948,894.5	29,797	33.8
09-Nov-06	Pond 3	70	725,299.3	3,948,894.4	21,270	20.1
09-Nov-06	Pond 3	71	725,239.4	3,948,916.1	8,454	8.7
09-Nov-06	Pond 3	72	725,264.7	3,948,917.5	6,594	4.2
09-Nov-06	Pond 3	73	725,287.2	3,948,917.4	7,572	6.6
Step-out Sample Locations						
16-Nov-06	Pond 3 Step Ou	74	725336.7	3948790.3	15,883	11.5
16-Nov-06	Pond 3 Step Ou	75	725323.1	3948769.1	6,707	4.5
16-Nov-06	Pond 3 Step Ou	76	725343.1	3948768.4	8,057	7.7
16-Nov-06	Pond 3 Step Ou	77	725289.1	3948746.0	6,163	3.2
16-Nov-06	Pond 3 Step Ou	78	725316.2	3948748.1	10,638	3.1
16-Nov-06	Pond 3 Step Ou	79	725340.4	3948747.5	6,146	3.1
16-Nov-06	Pond 3 Step Ou	80	725299.1	3948725.5	10,045	2.2
16-Nov-06	Pond 3 Step Ou	81	725274.0	3948725.8	7,323	6.0
16-Nov-06	Pond 3 Step Ou	82	725237.9	3948703.4	6,400	3.8
17-Nov-06	Pond 3 Step Ou	83	725060.5	3948705.7	9,045	10.1
17-Nov-06	Pond 3 Step Ou	84	725047.6	3948703.9	7,028	5.3
17-Nov-06	Pond 3 Step Ou	85	725071.7	3948725.4	6,728	4.5
17-Nov-06	Pond 3 Step Ou	86	725093.0	3948747.1	6,858	4.9
17-Nov-06	Pond 3 Step Ou	87	725121.1	3948767.4	5,853	2.4
17-Nov-06	Pond 3 Step Ou	88	725153.5	3948810.4	5,035	<0.6
17-Nov-06	Pond 3 Step Ou	89	725155.4	3948831.4	5,338	1.2
17-Nov-06	Pond 3 Step Ou	90	725175.5	3948854.4	4,837	<0.6
17-Nov-06	Pond 3 Step Ou	91	725190.8	3948872.5	5,238	1.0
17-Nov-06	Pond 3 Step Ou	92	725212.0	3948895.4	5,872	2.5
17-Nov-06	Pond 3 Step Ou	93	725233.9	3948913.7	5,458	1.5
					Average	**20.6**
					Standard Deviation	**42.8**

Notes:
1. Locations for point #44, 45, 52 and 53 were under water.

Table 3.8 Sediment Pad Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Collimated 2x2 #408522-30)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-
Primary Sample Locations					
09-Nov-06	1	724,991.4	3,948,589.1	13,604	7.9
09-Nov-06	2	725,015.2	3,948,588.6	10,535	2.9
09-Nov-06	3	725,039.7	3,948,588.5	8,757	9.4
09-Nov-06	4	724,929.4	3,948,609.0	7,279	5.9
09-Nov-06	5	724,953.8	3,948,609.5	22,191	21.6
09-Nov-06	6	724,979.1	3,948,609.6	58,230	79.3
09-Nov-06	7	725,003.2	3,948,610.2	19,678	17.6
09-Nov-06	8	725,027.9	3,948,609.1	31,701	36.8
09-Nov-06	9	725,052.1	3,948,608.8	8,503	8.8
09-Nov-06	10	724,917.8	3,948,631.1	7,037	5.3
09-Nov-06	11	724,942.9	3,948,630.2	12,946	6.8
09-Nov-06	12	724,965.7	3,948,630.8	119,627	177.5
09-Nov-06	13	724,991.5	3,948,630.6	23,842	24.2
09-Nov-06	14	725,014.9	3,948,630.3	110,907	163.5
09-Nov-06	15	725,039.7	3,948,630.8	46,708	60.8
09-Nov-06	16	725,064.1	3,948,630.5	32,486	38.1
09-Nov-06	17	725,088.4	3,948,630.8	10,882	3.5
09-Nov-06	18	724,978.6	3,948,650.9	16,887	13.1
09-Nov-06	19	725,003.1	3,948,650.6	28,154	31.1
09-Nov-06	20	725,026.4	3,948,651.8	22,537	22.2
09-Nov-06	21	725,052.1	3,948,651.8	140,404	210.7
09-Nov-06	22	725,076.0	3,948,652.3	87,831	126.6
09-Nov-06	23	725,101.1	3,948,652.0	28,304	31.4
09-Nov-06	24	725,015.1	3,948,672.6	40,518	50.9
09-Nov-06	25	725,040.4	3,948,672.6	21,621	20.7
09-Nov-06	26	725,063.8	3,948,673.1	36,363	44.3
09-Nov-06	27	725,088.1	3,948,673.3	18,861	16.3
09-Nov-06	28	725,052.6	3,948,694.1	33,476	39.7
09-Nov-06	29	725,076.4	3,948,693.5	49,847	65.8
Step-out Sample Locations					
17-Nov-06	30	724894.5	3948629.9	4,844	<0.6
17-Nov-06	31	724870.2	3948631.1	5,015	<0.6
17-Nov-06	32	724846.8	3948631.9	4,499	<0.6
17-Nov-06	33	724857.1	3948651.4	5,341	1.2
17-Nov-06	34	724882.4	3948650.3	4,192	<0.6
17-Nov-06	35	724906.6	3948645.2	5,397	1.3
17-Nov-06	36	724929.2	3948636.4	6,099	3.0
17-Nov-06	37	724966.1	3948667.7	4,997	<0.6
17-Nov-06	38	724987.5	3948672.0	5,458	1.5
17-Nov-06	39	725027.1	3948694.1	7,091	5.4
17-Nov-06	40	725005.4	3948693.2	5,576	1.8
				Average	**34.0**
				Standard Deviation	**50.8**

Table 3.9 Vent Holes 3 & 8 Static Gamma Radiation Survey Results					
		Point Location Coordinates C351983 UTM (meters)		Gamma Rad Level (Uncollimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra 226 (pCi/gm)[1]
Vent Hole No. 3					
28-Nov-06	33	724,931.0	3,948,769.3	28,730	8.3
28-Nov-06	34	724,956.5	3,948,777.7	42,160	15.0
28-Nov-06	35	724,961.4	3,948,738.4	20,810	4.3
				Average	9.2
				Standard Deviation	5.4
Vent Hole No. 8					
28-Nov-06	1	724,723.2	3,948,840.9	11,591	<0.6
28-Nov-06	2	724,739.6	3,948,846.7	17,428	2.6
28-Nov-06	3	724,736.2	3,948,860.3	43,246	15.6
28-Nov-06	4	724,761.0	3,948,879.4	63,134	25.5
28-Nov-06	5	724,770.0	3,948,896.0	43,002	15.4
28-Nov-06	6	724,780.7	3,948,910.9	62,224	25.0
28-Nov-06	7	724,797.7	3,948,907.7	35,341	11.6
28-Nov-06	8	724,785.6	3,948,923.4	44,967	16.4
28-Nov-06	9	724,800.9	3,948,926.1	96,977	42.4
28-Nov-06	10	724,810.7	3,948,920.5	50,093	19.0
28-Nov-06	11	724,811.9	3,948,899.7	70,053	29.0
28-Nov-06	12	724,820.1	3,948,896.1	33,682	10.8
28-Nov-06	13	724,828.0	3,948,911.6	48,082	18.0
28-Nov-06	14	724,787.7	3,948,875.3	30,871	9.4
28-Nov-06	15	724,767.3	3,948,844.5	109,314	48.6
28-Nov-06	16	724,778.5	3,948,818.3	36,571	12.2
28-Nov-06	17	724,787.0	3,948,854.1	123,717	55.8
28-Nov-06	18	724,791.5	3,948,867.1	53,573	20.7
28-Nov-06	19	724,805.7	3,948,857.8	155,342	71.6
28-Nov-06	20	724,814.4	3,948,850.7	119,493	53.7
28-Nov-06	21	724,820.2	3,948,846.0	22,271	5.1
28-Nov-06	22	724,799.5	3,948,845.7	31,906	9.9
28-Nov-06	23	724,791.9	3,948,826.0	43,824	15.8
28-Nov-06	24	724,823.2	3,948,807.1	43,650	15.8
28-Nov-06	25	724,831.1	3,948,826.4	51,748	19.8
28-Nov-06	26	724,833.7	3,948,836.1	38,302	13.1
28-Nov-06	27	724,841.0	3,948,935.1	27,621	7.7
28-Nov-06	28	724,813.4	3,948,967.6	14,631	1.2
28-Nov-06	29	724,781.1	3,948,962.2	32,155	10.0
28-Nov-06	30	724,791.7	3,948,963.5	43,502	15.7
28-Nov-06	31	724,867.3	3,948,874.9	18,200	3.0
28-Nov-06	32	724,832.1	3,948,789.5	21,351	4.6
				Average	19.5
				Standard Deviation	17.2

Table 3.10 Trailer Park Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Uncollimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226
20-Nov-06	2	725793.0	3948953.7	51,040	19.5
20-Nov-06	3	725808.5	3948940.8	33,200	10.5
20-Nov-06	4	725796.5	3948937.8	40,166	14.0
20-Nov-06	5	725821.2	3948911.4	20,640	4.3
20-Nov-06	6	725795.1	3948909.6	23,165	5.5
20-Nov-06	7	725775.6	3948933.3	51,140	19.5
20-Nov-06	8	725747.6	3948948.8	40,170	14.0
20-Nov-06	9	725713.9	3948944.6	229,480	108.7
20-Nov-06	10	725712.8	3948927.2	26,810	7.3
20-Nov-06	11	725748.2	3948886.4	23,110	5.5
20-Nov-06	12	725754.8	3948913.6	27,060	7.5
20-Nov-06	13	725798.3	3948880.6	124,460	56.2
20-Nov-06	14	725804.9	3948886.7	35,940	11.9
20-Nov-06	15	725802.4	3948869.3	39,710	13.8
20-Nov-06	16	725785.9	3948863.4	43,430	15.6
20-Nov-06	17	725785.3	3948882.4	34,850	11.4
20-Nov-06	18	725770.5	3948890.8	21,020	4.4
20-Nov-06	20	725766.2	3948857.2	27,105	7.5
20-Nov-06	21	725753.9	3948865.8	21,460	4.7
20-Nov-06	22	725733.2	3948804.9	48,200	18.0
20-Nov-06	23	725770.4	3948801.1	18,100	3.0
20-Nov-06	24	725742.4	3948775.5	62,250	25.1
20-Nov-06	25	725731.4	3948761.4	46,388	17.1
20-Nov-06	26	725721.7	3948744.3	18,015	2.9
20-Nov-06	27	725703.2	3948704.7	17,070	2.5
20-Nov-06	28	725671.9	3948736.6	22,980	5.4
20-Nov-06	29	725675.2	3948753.7	21,940	4.9
20-Nov-06	30	725684.3	3948771.8	20,130	4.0
20-Nov-06	31	725707.0	3948800.4	20,110	4.0
20-Nov-06	32	725716.8	3948822.3	32,300	10.1
20-Nov-06	33	725725.4	3948863.8	23,300	5.6
20-Nov-06	34	725718.4	3948897.1	20,380	4.1
20-Nov-06	35	725714.7	3948917.9	21,840	4.9
27-Nov-06	36	725743.5	3948929.4	41,420	14.6
27-Nov-06	37	725728.8	3948906.5	67,531	27.7
27-Nov-06	38	725730.3	3948879.6	59,576	23.7
27-Nov-06	39	725778.1	3948858.7	67,501	27.7
27-Nov-06	40	725770.7	3948814.6	49,696	18.8
27-Nov-06	41	725732.8	3948782.5	170,865	79.4
				Average	**16.5**
				Standard Deviation	**21.2**

Table 3.11 Home Sites Static Gamma Radiation Survey Results					
		Point Location Coordinates D641983 UTM (meters)		Gamma Rad Level (Uncollimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Home Site 1					
15-Nov-06	1	725,610.7	3,949,463.6	13,251	0.6
15-Nov-06	2	725,607.7	3,949,447.6	13,027	<0.6
15-Nov-06	3	725,598.9	3,949,455.5	13,292	0.6
15-Nov-06	4	725,590.7	3,949,460.8	13,201	<0.6
15-Nov-06	5	725,620.7	3,949,475.3	12,831	<0.6
				Average	**<0.6**
				Standard Deviation	**0.0**
Home Site 2					
15-Nov-06	1	725,574.1	3,949,423.0	13,082	<0.6
15-Nov-06	2	725,580.6	3,949,414.9	12,914	<0.6
15-Nov-06	3	725,569.4	3,949,439.7	12,981	<0.6
15-Nov-06	4	725,565.8	3,949,416.2	13,256	<0.6
15-Nov-06	5	725,595.3	3,949,411.4	12,976	<0.6
				Average	**<0.6**
				Standard Deviation	**0.0**
Home Site 3					
15-Nov-06	1	725,582.2	3,949,380.8	13,426	0.6
15-Nov-06	2	725,584.2	3,949,375.9	14,174	1.0
15-Nov-06	3	725,596.6	3,949,391.5	13,349	0.6
15-Nov-06	4	725,601.9	3,949,409.7	13,360	0.6
15-Nov-06	5	725,595.3	3,949,411.4	13,875	0.9
				Average	**0.7**
				Standard Deviation	**0.2**
Home Site 4					
15-Nov-06	1	725,683.5	3,949,434.4	14,077	1.0
15-Nov-06	2	725,697.0	3,949,438.9	15,112	1.5
15-Nov-06	3	725,703.8	3,949,445.7	15,049	1.5
15-Nov-06	4	725,704.7	3,949,455.4	16,175	2.0
15-Nov-06	5	725,712.9	3,949,447.1	15,439	1.6
				Average	**1.5**
				Standard Deviation	**0.3**
Home Site 5					
15-Nov-06	1	725,667.2	3,949,412.5	13,931	0.9
15-Nov-06	2	725,678.3	3,949,400.5	15,079	1.5
15-Nov-06	3	725,705.0	3,949,398.3	14,931	1.4
15-Nov-06	4	725,690.7	3,949,417.1	13,290	0.6
15-Nov-06	5	725,696.0	3,949,431.8	15,939	1.9
				Average	**1.2**
				Standard Deviation	**0.5**

Table 3.11 Home Sites Static Gamma Radiation Survey Results					
		Point Location Coordinates D641983 UTM (meters)		Gamma Rad Level (Uncollimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
Home Site 6					
15-Nov-06	1	725,707.6	3,949,321.1	19,807	3.8
15-Nov-06	2	725,726.1	3,949,334.5	20,100	4.0
15-Nov-06	3	725,728.0	3,949,342.6	20,605	4.2
15-Nov-06	4	725,726.8	3,949,351.1	18,754	3.3
15-Nov-06	5	725,719.5	3,949,331.3	20,483	4.2
				Average	**3.9**
				Standard Deviation	**0.4**
Home Site 7					
15-Nov-06	1	725,728.9	3,949,283.0	17,088	2.5
15-Nov-06	2	725,689.1	3,949,281.8	24,045	6.0
15-Nov-06	3	725,682.8	3,949,273.5	34,047	11.0
15-Nov-06	4	725,720.2	3,949,297.0	18,024	2.9
15-Nov-06	5	725,685.3	3,949,321.8	20,174	4.0
				Average	**5.3**
				Standard Deviation	**3.4**
Home Site 8					
15-Nov-06	1	725,932.7	3,949,373.5	18,235	3.0
15-Nov-06	2	725,935.0	3,949,372.4	19,201	3.5
15-Nov-06	3	725,934.5	3,949,361.5	18,271	3.1
15-Nov-06	4	725,916.3	3,949,339.2	18,232	3.0
15-Nov-06	5	725,903.3	3,949,359.1	18,032	2.9
				Average	**3.1**
				Standard Deviation	**0.2**
Home Site 9					
15-Nov-06	1	725,926.9	3,949,319.8	17,057	2.5
15-Nov-06	2	725,945.1	3,949,318.6	18,128	3.0
15-Nov-06	3	725,951.5	3,949,315.7	18,609	3.2
15-Nov-06	4	725,945.1	3,949,312.3	18,115	3.0
15-Nov-06	5	725,920.2	3,949,312.1	16,910	2.4
				Average	**2.8**
				Standard Deviation	**0.4**

Table 3.12 Arroyo Bank Static Gamma Radiation Survey Results					
		Point Location Coordinates 1983 UTM (meters)		Gamma Rad Level (Uncollimated 2x2 #408522-33)	
Date	Point No.	Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]
IX Plant Area (north of arroyo adjacent to NECR-1)					
17-Nov-06	1	725248.8	3948912.4	8,814	9.5
17-Nov-06	2	725246.2	3948934.2	6,028	2.9
17-Nov-06	3	725266.1	3948934.7	6,445	3.9
17-Nov-06	4	725281.1	3948953.7	7,017	5.2
17-Nov-06	5	725255.3	3948954.6	6,701	4.5
17-Nov-06	6	725260.1	3948974.9	7,321	6.0
17-Nov-06	7	725297.1	3948976.4	6,108	3.1
17-Nov-06	8	725280.9	3948995.6	6,682	4.4
17-Nov-06	9	725310.2	3948997.8	7,018	5.2
17-Nov-06	10	725292.7	3949016.3	5,361	1.3
17-Nov-06	11	725320.2	3949016.0	6,542	4.1
17-Nov-06	12	725344.4	3949017.7	5,594	1.8
				Average	**4.3**
				Standard Deviation	**2.2**
Arroyo Bank from NECR-1 to Home Sites[1]					
17-Nov-06	13	725399.4	3949038.0	7,909	7.4
17-Nov-06	14	725367.6	3949037.4	5,182	0.8
17-Nov-06	15	725386.5	3949060.6	5,965	2.7
17-Nov-06	16	725422.0	3949059.9	8,571	9.0
17-Nov-06	17	725445.7	3949080.4	7,206	5.7
17-Nov-06	18	725419.6	3949084.5	6,397	3.7
17-Nov-06	19	725455.8	3949103.8	6,684	4.4
17-Nov-06	20	725433.9	3949101.4	6,123	3.1
17-Nov-06	21	725447.3	3949123.8	5,419	1.4
17-Nov-06	22	725462.6	3949122.5	6,275	3.5
17-Nov-06	23	725469.0	3949146.6	5,431	1.4
17-Nov-06	24	725481.0	3949167.3	5,628	1.9
17-Nov-06	25	725501.7	3949186.9	4,820	<0.6
17-Nov-06	26	725536.7	3949208.6	5,480	1.5
17-Nov-06	27	725559.5	3949229.8	5,089	0.6
17-Nov-06	28	725575.8	3949250.9	4,861	<0.6
17-Nov-06	29	725593.1	3949272.4	4,913	<0.6
17-Nov-06	30	725606.4	3949291.4	4,826	<0.6
17-Nov-06	31	725619.6	3949312.2	4,584	<0.6
17-Nov-06	32	725656.1	3949333.1	5,043	<0.6
17-Nov-06	33	725678.7	3949352.7	4,889	<0.6
17-Nov-06	34	725700.1	3949354.0	5,705	2.1
17-Nov-06	35	725684.0	3949329.7	9,940	12.2
17-Nov-06	36	725652.8	3949312.3	6,174	3.2
17-Nov-06	37	725631.7	3949290.2	4,904	<0.6
17-Nov-06	38	725619.5	3949269.9	4,807	<0.6
				Average	**2.7**
				Standard Deviation	**3.0**

Notes:

1. Points 13 through 33 were located on the north arroyo bank, and points 45 through 38 were located on the south arroyo bank.

Table 3.13
Gamma Radiation Survey Results Summary

Survey Area	Area (acs)	Static Gamma Radiation Survey Results					Surface Soil Sampling Results				
		Number of Points	Surface Soil Ra-226 (pCi/g)			% of Samples Above the FSL	Number of Samples	Surface Soil Ra-226 (pCi/g)			% of Samples Above the FSL
			Range	Average	Std Dev			Range	Average	Std Dev	
NECR-1 Initial Area	13	156	<0.6 to 218.8	29.8	32.5	98	31	6.5 to 93.3	39.1	24.7	100
NECR-1 Step-out Area		149	<0.6 to 85.8	8.9	12.2	85	17	1.2 to 81.5	9.5	20.2	47
NECR-1 Total (Revised Area)		305	<0.6 to 218.8	19.6	26.8	92	48	1.2 to 93.3	28.6	27	81
NECR-2 Initial Area	6.4	75	<0.6 to 215.2	22.6	35.3	85	15	1.5 to160.8	36.9	43.7	86
NECR-2 Step-out Area		43	<0.6 to 19.2	3.4	3.4	56	4	1.4 to 3.1	2.1	0.8	25
NECR-2 Total (Revised Area)		118	<0.6 to 215.2	15.6	29.7	75	19	1.4 to 160.8	27.7	40.9	68
Sandfill 1 Area	5.1	76	<0.6 to 76.0	9	16.3	57	18	0.8 to 47.3	9.3	11.3	72
Sandfill 2 Area	1.6	21	<0.6 to 26.0	5.6	7	57	13	0.8 to 36.4	9.7	11.6	69
Sandfill 3 Initial Area	2.2	28	<0.6 to 133.6	20.9	29.9	89	14	1.0 to 123.0	24.8	32.6	64
Sandfill 3 Step-out Area		15	<0.6 to 14.9	3.1	3.8	40	-				
Sandfill 3 Total (Revised Area)		43	<0.6 to 133.6	14.7	25.5	72	14	1.0 to 123.0	24.8	32.6	64
Ponds 1 & 2 Initial Area	5.6	85	<0.6 to 498.3	45.8	83.2	89	23	1.0 to 655.0	65.3	138.1	70
Pond 3/3a Initial Area	6	69	<0.6 to 293.6	25.5	47.6	97	14	1.4 to 875.0	115.8	230.9	93
Pond 3/3a Step-out Area		20	<0.6 to 11.5	4	3	70	-				
Pond 3/3a Total (Revised Area)		89	<0.6 to 293.6	20.6	42.8	91	14	1.4 to 875.0	115.8	230.9	93
Sediment Pad Initial Area	2.9	29	2.9 to 210.7	46.3	55	100	13	1.5 to 236.0	57.2	65.5	100
Sediment Pad Step-out Area		11	<0.6 to 5.4	1.6	1.5	18	-				
Sediment Pad Total (Revised Area)		40	<0.6 to 210.7	34	50.8	78	13	1.5 to 236.0	57.2	65.5	100
Vent Hole 3		3	4.3 to 15.0	9.2	5.4	(1)	1	1.4	1.4	-	(1)
Vent Hole 8		32	<0.6 to 71.6	19.5	17.2	(1)	4	2.2 to 137.0	39.1	65.5	(1)
Trailer Park		41	2.5 to 108.7	16.5	21.2	(1)	5	2.1 to 23.2	16.6	15.7	(1)
IX Plant Area		12	1.3 to 9.5	4.3	2.2	83	-				
Arroyo Bank		26	<0.6 to 12.2	2.7	3	38	-				
Home Site 1	0.5	5	<0.6	<0.6	-	(1)	5	0.9 to 1.5	1.2	0.2	(1)
Home Site 2	0.5	5	<0.6	<0.6	-	(1)	5	0.9 to 0.9	0.9	0	(1)
Home Site 3	0.5	5	0.6 to 1.0	0.7	0.2	(1)	5	0.9 to 1.2	1.1	0.1	(1)
Home Site 4	0.5	5	1.0 to 2.0	1.5	0.4	(1)	5	1.3 to 3.6	2.3	1	(1)
Home Site 5	0.5	5	<0.6 to 1.9	1.2	0.5	(1)	5	0.9 to 2.1	1.3	0.5	(1)
Home Site 6	0.5	5	3.3 to 4.2	3.9	0.4	(1)	5	5.6 to 14.9	9.4	3.9	(1)
Home Site 7	0.5	5	2.5 to 11.0	5.3	3.4	(1)	5	3.4 to 26.6	10.5	9.3	(1)
Home Site 8	0.5	5	2.9 to 3.5	3.1	0.2	(1)	5	2.3 to 5.6	3.4	1.3	(1)
Home Site 9	0.5	5	2.4 to 3.2	2.8	0.4	(1)	5	2.6 to 6.7	4.3	1.7	(1)

Notes:
1. All of these locations with the highest levels or above the FSL were identified by a gamma radiation scan prior to static survey and soil sampling.

Table 3.14
Gamma Radiation Survey and Soil Sampling Surface Soil Ra-226 Results Comparision

Date	Point No.	Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Survey Results		Soil Sample Ra-226 pCi/gm	% Difference
		Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]		
NECR-1							
08-Nov-06	5	725,389.2	3,948,829.0	8766	9.4	8.9	6%
08-Nov-06	16	725,366.1	3,948,869.8	80015	114.1	80.8	29%
08-Nov-06	18	725,413.4	3,948,868.3	18184	15.2	21.7	-43%
08-Nov-06	20	725,461.5	3,948,870.5	31670	36.8	46.2	-26%
08-Nov-06	23	725,325.9	3,948,890.8	24299	25.0	18.3	27%
08-Nov-06	26	725,398.9	3,948,891.2	55532	74.9	68.4	9%
08-Nov-06	28	725,445.8	3,948,890.3	16041	11.8	18.5	-57%
08-Nov-06	30	725,497.0	3,948,889.1	8914	9.8	6.5	34%
08-Nov-06	44	725,375.8	3,948,932.1	53006	70.9	47.9	32%
08-Nov-06	46	725,424.0	3,948,933.0	50688	67.2	58.8	12%
08-Nov-06	47	725,447.8	3,948,933.4	24256	24.9	31.3	-26%
08-Nov-06	49	725,496.6	3,948,932.5	12820	6.6	29.3	-344%
08-Nov-06	65	725,399.1	3,948,976.3	40047	50.2	28.4	43%
08-Nov-06	67	725,450.5	3,948,979.2	16829	13.0	38.3	-194%
08-Nov-06	68	725,472.6	3,948,976.3	26252	28.1	12.8	54%
08-Nov-06	70	725,521.7	3,948,975.0	17802	14.6	26.1	-79%
07-Nov-06	90	725,434.4	3,949,015.1	60717	83.2	84.8	-2%
07-Nov-06	92	725,472.3	3,949,016.5	6827	4.8	13.2	-176%
07-Nov-06	93	725,508.2	3,949,016.5	14402	9.1	35.7	-291%
07-Nov-06	95	725,546.1	3,949,017.9	88148	127.1	75.7	40%
07-Nov-06	101	725,692.5	3,949,017.0	10437	2.8	12.7	-355%
07-Nov-06	103	725,741.2	3,949,019.7	16490	12.5	20.9	-68%
08-Nov-06	126	725,446.6	3,949,060.4	41946	53.2	50.9	4%
08-Nov-06	127	725,476.2	3,949,063.5	62399	85.9	93.3	-9%
07-Nov-06	129	725,521.1	3,949,056.4	19698	17.6	7.0	60%
07-Nov-06	131	725,570.2	3,949,056.6	45205	58.4	41.5	29%
07-Nov-06	133	725,618.7	3,949,057.5	33370	39.5	54.7	-39%
07-Nov-06	135	725,668.4	3,949,058.9	34742	41.7	63.2	-52%
07-Nov-06	137	725,716.1	3,949,061.2	29493	33.3	52.6	-58%
07-Nov-06	138	725,743.8	3,949,059.2	37798	46.6	48.6	-4%
07-Nov-06	140	725,790.5	3,949,060.7	9890	12.1	15.8	-30%
NECR-1 Step-outs							
13-Nov-06	164	725,646.0	3,949,102.3	19872	17.9	35.7	-100%
13-Nov-06	173	725,509.1	3,949,123.2	9954	12.3	4.6	63%
13-Nov-06	184	725,776.8	3,949,123.0	5380	1.3	1.2	8%
13-Nov-06	207	725,680.8	3,949,163.4	5977	2.7	3.1	-13%
13-Nov-06	230	725,582.3	3,949,207.6	6557	4.1	6.9	-67%
13-Nov-06	238	725,776.9	3,949,205.9	5080	<0.6	1.6	-167%
13-Nov-06	240	725,828.1	3,949,207.5	5073	<0.6	1.5	-150%
13-Nov-06	262	725,754.1	3,949,246.6	5383	1.3	1.4	-7%
13-Nov-06	265	725,827.8	3,949,248.0	4908	<0.6	1.6	-167%
14-Nov-06	266	725,802.0	3,948,996.3	7610	6.7	1.7	74%
14-Nov-06	281	725,911.4	3,949,102.1	37406	45.9	80.5	-75%
14-Nov-06	289	725,875.4	3,949,165.3	5400	1.4	1.8	-33%
16-Nov-06	293	725,899.1	3,949,186.6	6158	3.2	7.0	-121%
16-Nov-06	307	725,989.4	3,949,248.1	5331	1.2	3.8	-220%
01-Dec-06	316	725,538.4	3,948,827.4	4865	<0.6	1.3	-117%
01-Dec-06	323	725,608.8	3,948,869.6	5789	2.3	2.6	-14%
01-Dec-06	326	725,619.2	3,948,891.3	7908	7.4	5.2	29%

Table 3.14
Gamma Radiation Survey and Soil Sampling Surface Soil Ra-226 Results Comparision

Date	Point No.	Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Survey Results		Soil Sample Ra-226 pCi/gm	% Difference
		Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]		
NECR-2							
09-Nov-06	4	725,000.4	3,948,247.9	6,256	3.4	1.2	65%
09-Nov-06	15	724,881.1	3,948,288.4	20,677	19.2	97.2	-407%
09-Nov-06	17	724,929.8	3,948,287.6	36,878	45.1	55.2	-22%
10-Nov-06	18	724,968.7	3,948,294.7	17,871	14.7	3.6	75%
09-Nov-06	20	725,023.0	3,948,286.7	24,011	24.5	38.1	-55%
09-Nov-06	27	724,962.9	3,948,310.2	21,010	19.7	35.3	-79%
09-Nov-06	33	724,850.2	3,948,330.6	4,837	<0.6	2.0	-233%
09-Nov-06	35	724,901.4	3,948,330.5	84,399	121.1	160.8	-33%
09-Nov-06	37	724,949.3	3,948,330.8	8,943	9.9	4.6	53%
09-Nov-06	39	725,000.3	3,948,330.0	19,939	18.0	35.4	-97%
09-Nov-06	50	724,829.4	3,948,372.2	6,122	3.1	1.2	61%
09-Nov-06	52	724,877.7	3,948,371.8	22,046	21.4	23.0	-8%
09-Nov-06	56	724,973.3	3,948,371.3	7,314	5.9	11.9	-100%
10-Nov-06	69	724,899.8	3,948,416.1	12,599	6.2	8.9	-42%
09-Nov-06	71	724,950.0	3,948,416.1	14,523	9.3	40.0	-329%
NECR-2 Step-outs							
14-Nov-06	83	725010.9	3948435.9	5,587	1.8	3.1	-72%
14-Nov-06	96	725012.3	3948481.0	5,429	1.4	1.4	2%
16-Nov-06	103	725108.5	3948437.6	4,999	<0.6	1.5	-150%
16-Nov-06	109	725072.7	3948522.6	4,945	<0.6	1.6	-167%
Pond 3/3a							
07-Nov-06	1	725,105.8	3,948,684.2	21,120	19.9	18.8	5%
07-Nov-06	7	725,141.3	3,948,704.2	84,406	121.1	259.0	-114%
07-Nov-06	14	725,176.1	3,948,725.0	191,805	293.0	875.0	-199%
07-Nov-06	15	725,202.5	3,948,726.5	12,447	6.0	18.8	-213%
08-Nov-06	27	725,177.1	3,948,768.1	11,737	4.9	4.7	3%
08-Nov-06	29	725,226.7	3,948,768.4	149,128	224.7	312.0	-39%
08-Nov-06	38	725,262.1	3,948,789.1	73,114	103.1	20.9	80%
08-Nov-06	42	725,200.8	3,948,809.4	8,802	9.5	1.4	85%
08-Nov-06	46	725,299.5	3,948,811.3	23,486	23.7	19.5	18%
09-Nov-06	57	725,225.2	3,948,852.2	12,207	5.6	2.8	50%
09-Nov-06	59	725,277.3	3,948,853.9	38,463	47.6	26.9	44%
09-Nov-06	61	725,323.6	3,948,850.4	40,887	51.5	17.3	66%
09-Nov-06	63	725,237.6	3,948,874.2	16,625	12.7	3.8	70%
09-Nov-06	65	725,287.7	3,948,872.7	24,776	25.7	39.6	-54%
Sandfill No. 1							
10-Nov-06	9	725,497.6	3,948,603.8	4,954	<0.6	1.8	-200%
10-Nov-06	11	725,546.5	3,948,604.3	7,128	5.5	5.8	-5%
10-Nov-06	17	725,559.2	3,948,625.5	4,933	<0.6	2.1	-250%
10-Nov-06	21	725,518.6	3,948,646.0	4,459	<0.6	2.3	-283%
10-Nov-06	27	725,509.6	3,948,667.6	4,975	<0.6	4.4	-633%
10-Nov-06	28	725,534.3	3,948,667.3	4,103	<0.6	0.8	-33%
10-Nov-06	30	725,582.5	3,948,667.6	12,777	6.5	14.3	-119%
10-Nov-06	32	725,630.2	3,948,667.2	5,666	2.0	3.8	-91%
10-Nov-06	41	725,486.9	3,948,709.8	4,649	<0.6	1.3	-117%
10-Nov-06	43	725,533.8	3,948,710.1	10,879	3.5	6.7	-92%
10-Nov-06	44	725,559.4	3,948,709.6	6,711	4.5	11	-145%
10-Nov-06	49	725,522.5	3,948,730.4	49,290	65.0	16.8	74%
10-Nov-06	50	725,545.4	3,948,731.5	12,689	6.4	15.7	-146%
10-Nov-06	51	725,571.7	3,948,731.3	6,237	3.4	1.9	43%
10-Nov-06	53	725,618.7	3,948,730.9	5,277	1.1	5.4	-411%
10-Nov-06	63	725,571.1	3,948,772.4	32,153	37.5	20.8	45%
10-Nov-06	65	725,621.3	3,948,771.9	6,188	3.2	4.3	-33%
10-Nov-06	68	725,583.4	3,948,794.0	45,274	58.5	47.3	19%

Table 3.14
Gamma Radiation Survey and Soil Sampling Surface Soil Ra-226 Results Comparision

Date	Point No.	Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Survey Results		Soil Sample Ra-226 pCi/gm	% Difference
		Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]		
Sandfill No. 2							
10-Nov-06	3	724,852.5	3,948,177.9	4,124	<0.6	3.3	-450%
10-Nov-06	4	724,872.8	3,948,178.3	5,211	0.9	2	-123%
10-Nov-06	6	724,839.3	3,948,200.3	4,288	<0.6	1.2	-100%
10-Nov-06	7	724,868.7	3,948,200.9	10,505	2.9	16.1	-455%
10-Nov-06	10	724,851.6	3,948,221.1	5,385	1.3	1.2	9%
10-Nov-06	11	724,876.7	3,948,221.0	15,448	10.8	6.2	43%
10-Nov-06	12	724,900.6	3,948,220.3	10,586	3.0	6.2	-105%
10-Nov-06	14	724,838.8	3,948,240.5	4,094	<0.6	0.8	-33%
10-Nov-06	15	724,865.1	3,948,243.6	6,792	4.7	4.4	6%
10-Nov-06	16	724,888.8	3,948,241.5	8,197	8.1	6.1	24%
10-Nov-06	17	724,912.4	3,948,241.1	20,647	19.1	36.4	-90%
10-Nov-06	19	724,900.2	3,948,262.9	24,945	26.0	21.6	17%
10-Nov-06	21	724,943.1	3,948,264.8	6,884	4.9	27.7	-464%
Sandfill No. 3							
09-Nov-06	2	724,895.0	3,948,478.2	10,387	2.7	15.3	-465%
09-Nov-06	4	724,858.3	3,948,500.6	5,280	1.1	1.4	-32%
09-Nov-06	5	724,881.8	3,948,498.5	62,004	85.3	66.9	22%
09-Nov-06	6	724,906.7	3,948,500.5	15,867	11.5	17.4	-52%
09-Nov-06	8	724,870.2	3,948,520.9	14,637	9.5	1.4	85%
09-Nov-06	9	724,894.9	3,948,520.6	16,019	11.7	31.9	-172%
09-Nov-06	10	724,918.3	3,948,521.1	15,681	11.2	33.4	-199%
09-Nov-06	12	724,858.0	3,948,542.0	5,935	2.6	1.4	47%
09-Nov-06	14	724,906.8	3,948,541.5	92,167	133.6	123	8%
09-Nov-06	17	724,870.5	3,948,562.1	5,074	<0.6	1	-67%
09-Nov-06	22	724,881.8	3,948,583.2	5,414	1.4	1.2	13%
09-Nov-06	24	724,931.2	3,948,584.8	16,201	12.0	27.4	-128%
09-Nov-06	25	724,955.0	3,948,584.4	24,640	25.5	26.9	-5%
09-Nov-06	26	724,979.0	3,948,584.3	21,274	20.1	19.6	3%
09-Nov-06	27	724,894.6	3,948,605.2	8,780	9.5	4.5	52%
Ponds 1 & 2							
10-Nov-06	9	725,184.3	3,948,591.1	5,461	1.5	1.7	-13%
10-Nov-06	11	725,231.2	3,948,590.1	6,902	5.0	1.1	78%
10-Nov-06	12	725,255.4	3,948,590.1	5,565	1.7	1.5	14%
10-Nov-06	14	725,377.1	3,948,590.6	44,649	57.5	96.9	-68%
10-Nov-06	19	725,221.0	3,948,612.4	17,022	13.3	4.7	65%
10-Nov-06	20	725,242.9	3,948,611.2	8,732	9.3	2.2	76%
10-Nov-06	23	725,364.4	3,948,611.5	48,888	64.3	62.4	3%
09-Nov-06	24	725,390.0	3,948,611.8	28,230	31.3	26.9	14%
10-Nov-06	32	725,280.0	3,948,632.9	5,670	2.0	1.6	20%
09-Nov-06	35	725,377.6	3,948,631.5	141,363	212.3	78.5	63%
10-Nov-06	41	725,193.4	3,948,654.6	7,325	6.0	3.0	50%
17-Nov-06	42	725,221.2	3,948,653.8	11,185	4.0	1.0	75%
09-Nov-06	47	725,343.9	3,948,654.4	62,918	86.8	73.1	16%
09-Nov-06	50	725,413.9	3,948,653.8	16,747	12.9	13.7	-6%
10-Nov-06	56	725,279.9	3,948,673.7	14,024	8.5	11.2	-31%
09-Nov-06	58	725,328.9	3,948,674.4	320,161	498.3	655.0	-31%
09-Nov-06	60	725,377.2	3,948,674.7	92,295	133.8	26.5	80%
10-Nov-06	63	725,448.0	3,948,674.4	5,911	2.6	1.2	53%
09-Nov-06	69	725,365.4	3,948,696.5	112,771	166.5	161.0	3%
09-Nov-06	71	725,413.9	3,948,695.7	40,879	51.5	49.9	3%
09-Nov-06	76	725,353.1	3,948,717.3	10,358	2.7	2.2	17%
09-Nov-06	77	725,378.0	3,948,717.6	112,122	165.5	48.7	71%
09-Nov-06	82	725,389.9	3,948,738.2	92,284	133.7	177.0	-32%

Table 3.14
Gamma Radiation Survey and Soil Sampling Surface Soil Ra-226 Results Comparision

Date	Point No.	Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Survey Results		Soil Sample Ra-226 pCi/gm	% Difference
		Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]		
Sediment Pad							
09-Nov-06	5	724,953.8	3,948,609.5	22,191	21.6	17.7	18%
09-Nov-06	6	724,979.1	3,948,609.6	58,230	79.3	38.8	51%
09-Nov-06	7	725,003.2	3,948,610.2	19,678	17.6	106.0	-503%
09-Nov-06	8	725,027.9	3,948,609.1	31,701	36.8	25.8	30%
09-Nov-06	11	724,942.9	3,948,630.2	12,946	6.8	3.8	44%
09-Nov-06	12	724,965.7	3,948,630.8	119,627	177.5	118.0	34%
09-Nov-06	14	725,014.9	3,948,630.3	110,907	163.5	236.0	-44%
09-Nov-06	15	725,039.7	3,948,630.8	46,708	60.8	33.4	45%
09-Nov-06	18	724,978.6	3,948,650.9	16,887	13.1	1.5	89%
09-Nov-06	20	725,026.4	3,948,651.8	22,537	22.2	12.8	42%
09-Nov-06	21	725,052.1	3,948,651.8	140,404	210.7	85.6	59%
09-Nov-06	25	725,040.4	3,948,672.6	21,621	20.7	36.7	-77%
09-Nov-06	26	725,063.8	3,948,673.1	36,363	44.3	27.1	39%
Trailer Park							
20-Nov-06	1	725773.5	3948947.0	42,600	15.2	12.5	18%
20-Nov-06	9	725713.9	3948944.6	229,480	108.7	33.2	69%
20-Nov-06	13	725798.3	3948880.6	124,460	56.2	33.2	41%
20-Nov-06	24	725742.4	3948775.5	62,250	25.1	2.1	92%
20-Nov-06	27	725703.2	3948704.7	17,070	2.5	2.1	15%
Vent Holes 3 & 8							
28-Nov-06	2	724,739.6	3,948,846.7	17,428	2.6	3.8	-44%
28-Nov-06	6	724,780.7	3,948,910.9	62,224	25.0	13.2	47%
28-Nov-06	19	724,805.7	3,948,857.8	155,342	71.6	137.0	-91%
28-Nov-06	31	724,867.3	3,948,874.9	18,200	3.0	2.2	27%
28-Nov-06	34	724,956.5	3,948,777.7	42,160	15.0	1.4	91%
Home Site #1							
15-Nov-06	1	725,610.7	3,949,463.6	13,251	0.6	1.2	-116%
15-Nov-06	2	725,607.7	3,949,447.6	13,027	0.4	0.9	-103%
15-Nov-06	3	725,598.9	3,949,455.5	13,292	0.6	1	-74%
15-Nov-06	4	725,590.7	3,949,460.8	13,201	<0.6	1.3	-145%
15-Nov-06	5	725,620.7	3,949,475.3	12,831	<0.6	1.5	-334%
Home Site #2							
15-Nov-06	1	725,574.1	3,949,423.0	13,082	<0.6	0.9	-91%
15-Nov-06	2	725,580.6	3,949,414.9	12,914	<0.6	0.9	-132%
15-Nov-06	3	725,569.4	3,949,439.7	12,981	<0.6	0.9	-114%
15-Nov-06	4	725,565.8	3,949,416.2	13,256	0.6	0.9	-61%
15-Nov-06	5	725,595.3	3,949,411.4	12,976	<0.6	0.9	-115%
Home Site #3							
15-Nov-06	1	725,582.2	3,949,380.8	13,426	0.6	0.9	-40%
15-Nov-06	2	725,584.2	3,949,375.9	14,174	1.0	1.1	-8%
15-Nov-06	3	725,596.6	3,949,391.5	13,349	0.6	1.1	-82%
15-Nov-06	4	725,601.9	3,949,409.7	13,360	0.6	1.2	-97%
15-Nov-06	5	725,595.3	3,949,411.4	13,875	0.9	1.1	-27%
Home Site #4							
15-Nov-06	1	725,683.5	3,949,434.4	14,077	1.0	1.3	-34%
15-Nov-06	2	725,697.0	3,949,438.9	15,112	1.5	2.1	-41%
15-Nov-06	3	725,703.8	3,949,445.7	15,049	1.5	1.6	-10%
15-Nov-06	4	725,704.7	3,949,455.4	16,175	2.0	3.6	-78%
15-Nov-06	5	725,712.9	3,949,447.1	15,439	1.6	3	-82%
Home Site #5							
15-Nov-06	1	725,667.2	3,949,412.5	13,931	0.9	1.0	-12%
15-Nov-06	2	725,678.3	3,949,400.5	15,079	1.5	1.4	5%
15-Nov-06	3	725,705.0	3,949,398.3	14,931	1.4	0.9	36%
15-Nov-06	4	725,690.7	3,949,417.1	13,290	0.6	1.3	-126%
15-Nov-06	5	725,696.0	3,949,431.8	15,939	1.9	2.1	-11%
Home Site #6							
15-Nov-06	1	725,707.6	3,949,321.1	19,807	3.8	6.1	-59%
15-Nov-06	2	725,726.1	3,949,334.5	20,100	4.0	11.4	-186%
15-Nov-06	3	725,728.0	3,949,342.6	20,605	4.2	5.6	-32%
15-Nov-06	4	725,726.8	3,949,351.1	18,754	3.3	8.9	-169%
15-Nov-06	5	725,719.5	3,949,331.3	20,483	4.2	14.9	-257%

Table 3.14
Gamma Radiation Survey and Soil Sampling Surface Soil Ra-226 Results Comparision

Date	Point No.	Point Location Coordinates 1983 UTM (meters)		Gamma Radiation Survey Results		Soil Sample Ra-226 pCi/gm	% Difference
		Easting	Northing	CPM	Equivalent Surface Soil Ra-226 (pCi/gm)[1]		
Home Site #7							
15-Nov-06	1	725,728.9	3,949,283.0	17,088	2.5	3.4	-37%
15-Nov-06	2	725,689.1	3,949,281.8	24,045	6.0	5.5	8%
15-Nov-06	3	725,682.8	3,949,273.5	34,047	11.0	26.6	-143%
15-Nov-06	4	725,720.2	3,949,297.0	18,024	2.9	9.4	-219%
15-Nov-06	5	725,685.3	3,949,321.8	20,174	4.0	7.4	-84%
Home Site #8							
15-Nov-06	1	725,932.7	3,949,373.5	18,235	3.0	2.3	25%
15-Nov-06	2	725,935.0	3,949,372.4	19,201	3.5	2.5	29%
15-Nov-06	3	725,934.5	3,949,361.5	18,271	3.1	3.2	-4%
15-Nov-06	4	725,916.3	3,949,339.2	18,232	3.0	5.6	-84%
15-Nov-06	5	725,903.3	3,949,359.1	18,032	2.9	3.3	-12%
Home Site #9							
15-Nov-06	1	725,926.9	3,949,319.8	17,057	2.5	3.4	-38%
15-Nov-06	2	725,945.1	3,949,318.6	18,128	3.0	3.3	-10%
15-Nov-06	3	725,951.5	3,949,315.7	18,609	3.2	6.7	-107%
15-Nov-06	4	725,945.1	3,949,312.3	18,115	3.0	5.4	-81%
15-Nov-06	5	725,920.2	3,949,312.1	16,910	2.4	2.6	-9%
				Average	**28.3**	**31.4**	**-55%**
				Standard Deviation	**55.8**	**83.2**	**122.4%**

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs

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
	NECR1-SS-307	C06120235-050	**3.8**	**13.3**	nd	1.1J-	6.8	41.0

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs

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-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

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 (outside & NW of Sandfill 3)	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
	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

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

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs

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
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
	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

Table 3.15
Summary of Surface Soil Analytical Results, Preliminary COPCs

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
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
	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

Table 3.15 Summary of Surface Soil Analytical Results, Preliminary COPCs								
			Analyte					
Area	Sample ID	Lab ID	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
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

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.

Table 3.16
Summary of Subsurface Soils Analytical Results, Preliminary COPCs

Area	Type	Sample ID	Lab 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
				Residential PRG	--	0.039	390	390	16	78
				Industrial PRG	--	1.6	5,100	5,100	200	1,000
				Background Mean	1.0	3.7	nd	0.4	1.1	26.7
				Screening Level	50	3.7	5,100	5,100	200	1,000
NECR-1	Soil Boring	NECR1-SB-016 [5.0]	C06111057-014	5.0-6.5	21.1	**3.8**	nd	9.5	99.5	34.2
		NECR1-SB-016 [10.0]	C06111057-015	10.0-11.5	**64.6**	nd	nd	29.6	141.0	54.4
		NECR1-SB-016 [15.0]	C06111057-016	15.0-16.5	**63.1**	nd	nd	32.8	144.0	35.0
		NECR1-SB-016 [20.0]	C06111057-017	20.0-21.5	1.4	**5.1**	nd	0.6	21.4	38.7
		NECR1-SB-046 [5.0]	C06111057-044	5.0-6.5	31.9	nd	nd	24.6	71.1	41.7
		NECR1-SB-046 [10.0]	C06111057-045	10.0-11.5	19.3	nd	nd	5.4	72.7	31.0
		NECR1-SB-046 [15.0]	C06111057-046	15.0-16.5	1.3	**6.9**	nd	1.4	**337.0**	41.5
		NECR1-SB-046 [20.0]	C06111057-047	20.0-21.5	1.0	**5.2**	nd	nd	3.4	34.4
		NECR1-SB-046 [25.0]	C06111057-048	25.0-26.5	1.1	**5.5**	nd	0.5	0.8	39.2
		NECR1-SB-046 [30.0]	C06111057-049	30.0-31.5	1.1	**6.2**	nd	nd	1.1	37.9
		NECR1-SB-90 [5.0]	C06111057-021	5.0-6.5	6.9	**4.4**	nd	1.9	8.5	41.2
		NECR1-SB-90 [10.0]	C06111057-022	10.0-11.5	4.2	3.1	nd	0.8	43.2	44.5
		NECR1-SB-90 [15.0]	C06111057-023	15.0-16.5	**103.0**	0.8	nd	20.6	125.0	89.5
		NECR1-SB-90 [20]	C06111057-024	20.0-21.5	**90.0**	0.9	nd	45.4	144.0	63.7
		NECR1-SB-90 [25]	C06111057-025	25.0-26.5	48.9	0.6	nd	47.0	**218.0**	83.3
		NECR1-SB-90 [30.0]	C06111057-026	30.0-31.5	1.7	**6.4**	nd	0.2	**313.0**	31.7
		NECR1-SB-90 [35.5]	C06111057-027	35.0-36.5	1.3	**4.9**	nd	0.4	**331.0**	34.5
		NECR1-SB-90 [40]	C06111057-028	40.0-41.5	1.2	**4.3**	nd	1.0	**240.0**	35.1
		NECR1-SB-90 [45]	C06111057-029	45.0-46.5	1.3	**5.3**	nd	0.8	165.0	42.0
		NECR1-SB-095 [5.0]	C06111057-018	5.0-6.5	27.7	**3.8**	nd	6.7	90.4	41.9
		NECR1-SB-095 [10.0]	C06111057-019	10.0-11.5	7.9	**7.9**	nd	1.1	11.4	48.4
		NECR1-SB-095 [14.0]	C06111057-020	14.0-15.5	1.8	**5.2**	nd	0.9	2.4	39.7
		NECR1-SB-131 [5.0]	C06111057-117	5.0-6.5	**67.4**	2.8	nd	15.4	58.6	47.8
		NECR1-SB-131 [10.0]	C06111057-118	10.0-11.5	1.9	**7.3**	nd	nd	59.4	40.7
		NECR1-SB-131 [15.0]	C06111057-119	15.0-16.5	1.8	**5.1**	nd	nd	19.2	31.5
		NECR1-SB-131 [20]	C06111057-120	20.0-21.5	1.2J	**7.9**	nd	nd	1.6	39.8
		NECR1-SB-131 [24]	C06111057-121	24.0-25.5	1.3	**5.2**	nd	nd	1.5	37.3
	Test Pit	NECR1-TP-138	C06120405-010	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	C06110906-015	1.0-1.5	10.4	2.9	nd	1.4	35.5	18.8
		NECR 2-TP-052	C06110906-016	1.5-2.0	12.6	3.4	nd	4.0	70.6	32.5
		NECR 2-TP-052	C06110906-017	4.0-5.0	2.9	3.2	nd	0.8	32.7	25.9
		NECR 2-TP-020	C06110906-018	1.0-1.5	1.2	3.2	nd	0.9	9.7	25.0
		NECR 2-TP-039	C06110906-019	1.0-1.5	5.5	3.6	nd	2.1	32.2	33.7
		NECR 2-TP-015	C06110906-021	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	C06120405-011	1.0-1.5	**113.0**	2.9	nd	15.8	31.7	45.7
		SAND1-TP-030	C06120405-020	3.5-4.0	4.8	**13.9**	nd	1.4	5.2	44.8
		SAND1-TP-043	C06120405-012	1.0-1.5	0.6	3.4	nd	0.4	0.8	17.4
		SAND1-TP-049	C06120405-013	1.0-1.5	**75.8**	3.4	nd	17.3	32.3	40.6
		SAND1-TP-049	C06120405-014	3.5-4.0	6.4	**4.4**	nd	2.4	3.0	23.9
		SAND1-TP-063	C06120405-016	0.5-1.0	**80.6**	1.1	nd	21.7	89.8	48.5
		SAND1-TP-063	C06120405-017	1.5-2.0	8.8	**9.2**	nd	4.6	60.5	28.3
		SAND1-TP-068	C06120405-018	0.5-1.0	**57.4**	2.5	nd	34.3	91.6	45.3
		SAND1-TP-068	C06120405-019	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

Table 3.16
Summary of Subsurface Soils Analytical Results, Preliminary COPCs

Area	Type	Sample ID	Lab 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
				Residential PRG	--	0.039	390	390	16	78
				Industrial PRG	--	1.6	5,100	5,100	200	1,000
				Background Mean	1.0	3.7	nd	0.4	1.1	26.7
				Screening Level	50	3.7	5,100	5,100	200	1,000
Sandfill 2	Test Pit	SAND 2-TP-011	C06110906-022	0.5-1.0	1.1	**5.3**	nd	0.5	2.5	41.7
		SAND 2-TP-012	C06110906-023	1.5-2.0	3.8	3.1	nd	nd	26.5	50.9
		SAND 2-TP-017	C06110906-024	1.5-2.0	1.9	**3.8**	nd	0.7	2.8	29.9
		SAND 2-TP-019	C06110906-025	1.0-1.5	1.8	3.6	nd	nd	3.2	35.2
		SAND 2-TP-008	C06110906-026	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	C06120235-066	0.5-1.0	40.8	0.8	nd	39.2	131.0	63.3
		SAND3-TP-005	C06120235-067	1.5-2.0	28.1	**4.3**	nd	3.6	78.8	33.9
		SAND3-TP-006	C06120235-068	0.5-1.0	8.4	**5.0**	nd	0.8	102.0	35.0
		SAND3-TP-009	C06120235-069	0.5-1.0	5.1	**6.9**	nd	1.7	90.6	38.0
		SAND3-TP-014	C06120235-070	0.5-1.0	1.2	**4.2**	nd	1.3	**227.0**	29.4
		SAND3-TP-014	C06120235-075	1.0-1.5	**84.1**	1.5	nd	29.0	**488.0**	52.2
		SAND3-TP-025	C06120235-071	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]	C06111057-070	5.0-6.5	0.9	**4.7**	nd	nd	1.3	30.2
		1/2-SB-71 [10.0]	C06111057-071	10.0-11.5	0.7	**5.5**	nd	nd	2.1	37.6
		1/2-SB-71 [15.0]	C06111057-072	15.0-16.5	1.0	**6.7**	nd	1.0	3.3	43.2
		1/2-SB-82 [5.0]	C06111057-074	5.0-6.5	14.4	**4.6**	nd	3.7	22.7	36.2
		1/2-SB-82 [10.0]	C06111057-075	10.0-11.5	12.2	**5.0**	nd	3.4	18.1	38.0
		1/2-SB-82 [15]	C06111057-076	15.0-16.5	1.1	**6.8**	nd	nd	5.0	42.6
		1/2-SB-82 [20]	C06111057-077	20.0-21.5	1.5	**5.1**	nd	nd	1.7	37.9
	Test Pit	POND12-TP-030	C06120235-057	2.0-3.0	41.3	**5.5**	nd	13.2J-	149.0	45.2
		POND12-TP-030	C06120235-058	4.5-5.0	6.2	**6.4**	nd	1.6J-	80.3	30.7
		POND12-TP-035	C06120235-059	1.0-1.5	**417.0**	3.2	nd	159.0J-	**286.0**	158.0
		POND12-TP-035	C06120235-060	2.0-2.5	41.5	1.4	nd	11.2J-	38.9J+	31.6J+
		POND12-TP-035	C06120235-061	9.0-9.5	19.6	**4.4**	nd	15.5	**206.0**	35.3
		POND12-TP-058	C06120235-062	4.5-5.0	**438.0**	**4.3**	nd	227.0	**760.0**	173.0
		POND12-TP-058	C06120235-063	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]	C06111057-112	5.5-7.0	0.9	**4.8**	nd	nd	1.3	29.6
		3/3a-SB-61 [10.0]	C06111057-113	10.0-11.5	1.1	**4.8**	nd	nd	1.0	27.9
		3/3a-SB-61 [15.0]	C06111057-114	15.0-16.5	1.5	**4.1**	nd	nd	1.0	29.7
		3/3a-SB-61 [20.0]	C06111057-115	20.0-21.5	1.0	**4.5**	nd	nd	1.1	34.5
		3/3a-SB-61 [25.0]	C06111057-116	25.0-26.5	1.3	**4.9**	nd	nd	1.0	35.0
	Test Pit	POND3-TP-007	C06120336-042	5.0-5.5	4.5	**4.9**	nd	3.1	24.4	35.8
		POND3-TP-007	C06120336-043	9.0-9.5	0.7	2.9	nd	nd	0.7	22.6
		POND3-TP-014	C06120336-044	6.5-7.0	0.8	3.3	nd	nd	1.5	25.6
		POND3-TP-014	C06120336-045	8.5-9.0	0.8	3.2	nd	nd	1.4	22.1
		POND3-TP-029	C06120336-046	3.0-3.5	14.3	**6.2**	nd	0.8	102.0	28.5
		POND3-TP-029	C06120336-047	6.0-6.5	15.7	**6.7**	nd	2.9	116.0	31.1
		POND3-TP-029	C06120336-048	9.0-9.5	2.1	**4.5**	nd	nd	30.8	33.7
		POND3-TP-037	C06120336-050	5.0-5.5	2.2	**6.6**	nd	1.0	16.3	45.7
		POND3-TP-037	C06120336-051	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

Table 3.16
Summary of Subsurface Soils Analytical Results, Preliminary COPCs

Area	Type	Sample ID	Lab 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
				Residential PRG	--	0.039	390	390	16	78
				Industrial PRG	--	1.6	5,100	5,100	200	1,000
				Background Mean	1.0	3.7	nd	0.4	1.1	26.7
				Screening Level	50	3.7	5,100	5,100	200	1,000
Sediment Pad	Test Pit	SEDPAD-TP-006	C06120405-001	1.5-2.0	**92.9**	0.6	nd	161.0	68.6	74.7
		SEDPAD-TP-006	C06120405-002	3.0-3.5	2.8	**4.2**	nd	2.4	88.7	29.0
		SEDPAD-TP-012	C06120405-003	1.0-1.5	**84.0**	0.8	nd	83.5	147.0	48.4
		SEDPAD-TP-012	C06120405-004	1.5-2.0	2.9	**4.3**	nd	2.7	158.0	30.7
		SEDPAD-TP-014	C06120405-005	0.5-1.0	**165.0**	2.7	nd	61.4	**252.0**	75.0
		SEDPAD-TP-014	C06120405-006	1.0-1.5	9.8	**3.8**	nd	3.4	18.9	31.5
		SEDPAD-TP-021	C06120405-007	5.0-5.5	**99.7**	1.9	nd	63.9	**357.0**	60.3
		SEDPAD-TP-021	C06120405-008	10.0-10.5	**86.3**	nd	nd	74.1	**270.0**	63.9
		SEDPAD-TP-026	C06120405-009	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	C06110906-028	1.0-1.5	45.8	0.8	nd	17.5	71.0	32.5
		NEMSA-TP-001	C06110906-029	4.0-5.0	**57.3**	1.5	nd	15.6	67.0	35.1
		NEMSA-TP-001	C06110906-030	6.0-6.5	1.3J	**4.9**	nd	0.4	**311.0**	28.5
		NEMSA-TP-002	C06120336-031	0.25-0.75	**46.6**	**0.7**	nd	19.0	79.5	41.7
		NEMSA-TP-002	C06120336-032	5.5-6.0	**68.8**	nd	nd	38.9	125.0	47.3
		NEMSA-TP-002	C06120336-033	7.0-7.5	1.1	3.7	nd	nd	**227.0**	25.6
		NEMSA-TP-003	C06120336-035	1.5-2.0	38.2	0.6	nd	24.2	17.6	36.4
		NEMSA-TP-003	C06120336-036	4.0-4.5	0.8	**4.0**	nd	nd	49.3	24.9
		NEMSA-TP-004	C06120336-052	1.0-1.5	**140.0**	0.8	nd	40.1	**390.0**	43.2
		NEMSA-TP-004	C06120336-053	6.0-6.5	**112.0**	nd	nd	132.0	75.8	38.5
		NEMSA-TP-004	C06120336-038	8.5-9.0	**68.8**	1.3	nd	112.0	136.0	44.0
		NEMSA-TP-005	C06120336-040	4.0-4.5	8.4	**4.5**	nd	0.5	27.3J+	32.8
		NEMSA-TP-005	C06120336-041	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	C06120235-021	1.0-1.5	1.3	**5.2**	nd	0.2	0.8	29.9
		YARD-TP-002	C06120235-024	1.5-2.0	1.1	**5.2**	nd	nd	1.5	31.1
		YARD-TP-002	C06120235-025	9.5-10.0	1.1	**4.0**	nd	nd	0.9	27.8
		YARD-TP-003	C06120235-027	1.0-1.5	1.2	**5.1**	nd	nd	1.0	37.8
		YARD-TP-004	C06120235-028	0.5-1.0	48.4	0.8	nd	24.3	12.5	36.9
		YARD-TP-004	C06120235-029	5.5-6.0	**50.7**	1.9	nd	33.4	**228.0**	33.9
		YARD-TP-004	C06120235-030	7.0-7.5	10.1	3.3	nd	3.1	**240.0**	22.2
		YARD-TP-004	C06120235-031	9.5-10.0	1.9	3.5	nd	0.8	5.5	24.7
		YARD-TP-005	C06120235-034	2.5-3.0	1.4	**4.0**	nd	1.2	5.6	25.2
		YARD-TP-005	C06120235-035	4.5-5.0	1.7	**4.0**	nd	0.3	4.3	24.7
		YARD-TP-005	C06120235-036	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

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Area	Type	Sample ID	Lab 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
				Residential PRG	--	0.039	390	390	16	78
				Industrial PRG	--	1.6	5,100	5,100	200	1,000
				Background Mean	1.0	3.7	nd	0.4	1.1	26.7
				Screening Level	50	3.7	5,100	5,100	200	1,000
Arroyo	Soil Boring	ARROYO-SB-001	C06120235-072	0.0-1.0	14.9	2.6	nd	4.4	29.0	27.1
		ARROYO-SB-001	C06120235-073	1.0-2.0	17.3	**5.4**	nd	3.7	27.3	29.6
		ARROYO-SB-001	C06120235-074	2.0-3.0	8.4	**7.8**	nd	2.1	14.3	32.6
		ARROYO-SB-002	C06120336-001	0.0-1.0	12.7	2.2	nd	5.9	15.6	24.0
		ARROYO-SB-002	C06120336-002	1.0-2.0	21.1	2.8	nd	8.0	21.7	28.1
		ARROYO-SB-002	C06120336-003	2.0-3.0	21.0	**6.1**	nd	11.1	108.0	34.2
		ARROYO-SB-003	C06120336-004	0.0-1.0	12.9	1.4	nd	nd	14.2	20.0
		ARROYO-SB-003	C06120336-005	1.0-2.0	13.3	3.6	nd	1.9	18.6	23.3
		ARROYO-SB-003	C06120336-006	2.0-3.0	12.4	**4.7**	nd	3.0	16.4	29.6
		ARROYO-SB-004	C06120336-007	0.0-1.0	12.5	1.2	nd	1.1	14.6	19.8
		ARROYO-SB-004	C06120336-008	1.0-2.0	14.9	2.9	nd	5.3	16.6	23.8
		ARROYO-SB-004	C06120336-009	2.0-3.0	18.5	**6.3**	nd	2.8	23.7	34.9
		ARROYO-SB-005	C06120336-010	0.0-1.0	18.1	2.2	nd	12.7	25.7	30.4
		ARROYO-SB-005	C06120336-011	1.0-2.0	30.2	**4.7**	nd	14.4	79.2	37.9
		ARROYO-SB-005	C06120336-012	2.0-3.0	10.3	**7.3**	nd	4.9	27.0	36.6
		ARROYO-SB-006	C06120336-013	0.0-1.0	11.2	1.7	nd	2.9	18.7	20.7
		ARROYO-SB-006	C06120336-014	1.0-2.0	11.8	3.3	nd	3.0	23.7	24.0
		ARROYO-SB-006	C06120336-015	2.0-3.0	11.1	**8.2**	nd	2.1	19.4	36.1
		ARROYO-SB-007	C06120336-016	0.0-1.0	14.8	1.8	nd	3.5	21.7	34.7
		ARROYO-SB-007	C06120336-017	1.0-2.0	11.1	2.6	nd	2.9	17.1	25.5
		ARROYO-SB-007	C06120336-018	2.0-3.0	35.7	**4.3**	nd	4.3	45.4	37.3
		ARROYO-SB-008	C06120336-019	0.0-1.0	17.6	1.9	nd	4.6	17.4	27.9
		ARROYO-SB-008	C06120336-020	1.0-2.0	21.5	2.1	nd	6.3	17.1	28.0
		ARROYO-SB-008	C06120336-021	2.0-3.0	24.5	2.1	nd	7.4	21.3	30.9
		ARROYO-SB-009	C06120336-024	0.0-1.0	11.7	2.2	nd	5.6	22.6	22.7
		ARROYO-SB-009	C06120336-025	1.0-2.0	15.5	1.3	nd	2.3	23.7	23.5
		ARROYO-SB-009	C06120336-026	2.0-3.0	15.5	3.5	nd	11.3	31.7	32.5
		ARROYO-SB-010	C06120336-027	0.0-1.0	18.5	2.6	nd	12.4	35.1	34.1
		ARROYO-SB-010	C06120336-028	1.0-2.0	18.6	1.9	nd	5.5	26.6	25.1
		ARROYO-SB-010	C06120336-029	2.0-3.0	12.9	1.5	nd	6.0	21.9	23.1
				Average	16.4	3.4	nd	5.4	27.2	28.6
				Standard Deviation	6.0	2.0	nd	3.7	19.7	5.5
				Site-Wide Statistical Summary						
				Number of Samples	146	146	146	146	146	146
				Minimum	0.6	<0.5	<5	<0.2	0.7	10.4
				Average	30.9	**4.0**	2.5	16.0	86.4	40.1
				Maximum	**438**	**13.9**	2.5	227	**760**	173
				Standard Deviation	56.7	2.2	0.0	31.9	109.3	19.4

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.

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.
1. Bolded and shaded values indicate exceedances of the field screening levels.
2. Statistical values based on one-half the reporting limits for "nd" results.
3. All test pit and soil boring samples collected at less than or equal to 0.5 feet bgs are included in Table 3.15.

Table 3.17
Summary of Synthetic Precipitation Leaching Procedure Analytical Results

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**
		Federal Maximum Contaminant Level	**5**	**0.01**	**n/a**	**0.05**	**0.03**
		New Mexico Human Health Standard for Groundwater	**30**	**0.1**	**1.0**	**0.05**	**0.03**
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"
3. Bolded values indicate exceedances of the Federal MCLs (40 CFR 141) or New Mexico health standards for groundwater (NMAC 20.6.2.3103).

Table 3.18
Summary of Toxicity Characteristic Leaching Procedure Analytical Results

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 3.19
Summary of Soils Analytical Results, Agronomic Data

Area	Loc ID	Lab ID	Calcium	Chloride	Potassium	Magnesium	Sodium	Nitrate/Nitrite	pH	Phosphorous	SAR	Specific Conductivity	Sulfate	Texture
			Analyte											
		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 4.1
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
NECR-1					
Arsenic	5.2	3.9E-01	**1.3E-05**	2.2E+01	0.24
Molybdenum	29	NA	NA	3.9E+02	0.07
Radium-226	39	1.1E+00	**3.5E-05**	NA	NA
Selenium	20	NA	NA	3.9E+02	0.05
Uranium	117	NA	NA	1.6E+01	**7.5**
Vanadium	42	NA	NA	7.8E+01	**0.54**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	**8**
NECR-2					
Arsenic	4.6	3.9E-01	**1.2E-05**	2.2E+01	0.21
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	39	1.1E+00	**3.5E-05**	NA	NA
Selenium	11	NA	NA	3.9E+02	0.03
Uranium	85	NA	NA	1.6E+01	**5.4**
Vanadium	40	NA	NA	7.8E+01	**0.51**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	**6**
PONDS 1 & 2					
Arsenic	4.9	3.9E-01	**1.3E-05**	2.2E+01	0.23
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	179	1.1E+00	**1.6E-04**	NA	NA
Selenium	43	NA	NA	3.9E+02	0.11
Uranium	223	NA	NA	1.6E+01	**14**
Vanadium	89	NA	NA	7.8E+01	**1.1**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-04**	**Noncancer HI:**	**16**
PONDS 3 & 3a					
Arsenic	6	3.9E-01	**1.5E-05**	2.2E+01	0.28
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	253	1.1E+00	**2.3E-04**	NA	NA
Selenium	21	NA	NA	3.9E+02	0.05
Uranium	1,141	NA	NA	1.6E+01	**73**
Vanadium	58	NA	NA	7.8E+01	**0.74**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-04**	**Noncancer HI:**	**74**
SED PAD					
Arsenic	4.5	3.9E-01	**1.2E-05**	2.2E+01	**0.21**
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	109	1.1E+00	**9.9E-05**	NA	NA
Selenium	43	NA	NA	3.9E+02	0.11
Uranium	513	NA	NA	1.6E+01	**32.79**
Vanadium	223	NA	NA	7.8E+01	**2.85**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-04**	**Noncancer HI:**	**36**

Table 4.1
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
SAND 1					
Arsenic	4.7	3.9E-01	**1.2E-05**	2.2E+01	**0.22**
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	15	1.1E+00	**1.4E-05**	NA	NA
Selenium	4.5	NA	NA	3.9E+02	0.01
Uranium	16	NA	NA	1.6E+01	**1.02**
Vanadium	35	NA	NA	7.8E+01	**0.45**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-05**	**Noncancer HI:**	**2**
SAND 2					
Arsenic	6.4	3.9E-01	**1.6E-05**	2.2E+01	**0.30**
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	19	1.1E+00	**1.7E-05**	NA	NA
Selenium	3.4	NA	NA	3.9E+02	0.01
Uranium	20	NA	NA	1.6E+01	**1.28**
Vanadium	42	NA	NA	7.8E+01	**0.54**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-05**	**Noncancer HI:**	**2**
SAND 3					
Arsenic	4	3.9E-01	**1.0E-05**	2.2E+01	0.18
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	69	1.1E+00	**6.3E-05**	NA	NA
Selenium	18	NA	NA	3.9E+02	0.05
Uranium	185	NA	NA	1.6E+01	**11.83**
Vanadium	55	NA	NA	7.8E+01	**0.70**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**7E-05**	**Noncancer HI:**	**13**
NEMSA					
Arsenic	4.3	3.9E-01	**1.1E-05**	2.2E+01	0.20
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	42	1.1E+00	**3.8E-05**	NA	NA
Selenium	12	NA	NA	3.9E+02	0.03
Uranium	75	NA	NA	1.6E+01	**4.8**
Vanadium	36	NA	NA	7.8E+01	**0.46**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	**5**
BONEYARD					
Arsenic	5.5	3.9E-01	**1.4E-05**	2.2E+01	0.25
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	46	1.1E+00	**4.2E-05**	NA	NA
Selenium	11	NA	NA	3.9E+02	0.03
Uranium	12	NA	NA	1.6E+01	**0.77**
Vanadium	37	NA	NA	7.8E+01	**0.47**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**6E-05**	**Noncancer HI:**	**2**

Table 4.1
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
VENTS 3 & 8					
Arsenic	4.4	3.9E-01	**1.1E-05**	2.2E+01	0.20
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	92	1.1E+00	**8.4E-05**	NA	NA
Selenium	27	NA	NA	3.9E+02	0.07
Uranium	224	NA	NA	1.6E+01	**14**
Vanadium	47	NA	NA	7.8E+01	**0.60**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**9E-05**	**Noncancer HI:**	**15**
TRAILER PARK					
Arsenic	6.1	3.9E-01	**1.6E-05**	2.2E+01	0.28
Molybdenum	ND	NA	NA	3.9E+02	ND
Radium-226	32	1.1E+00	**2.9E-05**	NA	NA
Selenium	71	NA	NA	3.9E+02	0.18
Uranium	96	NA	NA	1.6E+01	**6.1**
Vanadium	69	NA	NA	7.8E+01	**0.88**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**4E-05**	**Noncancer HI:**	**7**
EPA Risk Management Range:			10^{-6} - 10^{-4}		1

Notes
HI - Hazard index
HQ - Hazard quotient
mg/kg - Milligrams per kilogram.
NA - Not applicable.
PRG - Preliminary remediation goal.
USEPA - U.S. Environmental Protection Agency.
Bolding indicates a contribution to exceedence of the EPA screening-level carcinogenic risk criterion of $1x10^{-6}$ or noncancer HI of 1.
[a] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration.
[b] Cancer-based combined PRGs were obtained from USEPA's PRG Intercalc Tables: Soils (USEPA Region 9, 2004b), and include cancer-based PRGs for combined ingestion, dermal and inhalation exposure pathways. The screening-level risk for Ra-226 was calculated using the PRG for 'Ra-226 and daughters', as published in EPA (2004c) and the online calculator at http://rais.ornl.gov/rad-
[c] Noncancer-based combined PRGs are equal to chronic HQ values in the 2004 USEPA Region 9 residential soil intercalc table (mg/kg).

Table 4.2
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
NECR-1					
Arsenic	5.2	3.9E-01	**1.3E-05**	2.2E+01	0.24
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	46	1.1E+00	**4.2E-05**	NA	NA
Selenium	15	NA	NA	3.9E+02	0.04
Uranium	87	NA	NA	1.6E+01	**5.6**
Vanadium	46	NA	NA	7.8E+01	**0.59**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**6E-05**	**Noncancer HI:**	**6**
NECR-2					
Arsenic	3.5	3.9E-01	9.0E-06	2.2E+01	0.16
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	9.7	1.1E+00	8.8E-06	NA	NA
Selenium	2.7	NA	NA	3.9E+02	0.01
Uranium	50	NA	NA	1.6E+01	**3.2**
Vanadium	34	NA	NA	7.8E+01	0.43
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	**4**
PONDS 1 & 2					
Arsenic	5.3	3.9E-01	**1.4E-05**	2.2E+01	0.24
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	352	1.1E+00	**3.2E-04**	NA	NA
Selenium	168	NA	NA	3.9E+02	0.43
Uranium	380	NA	NA	1.6E+01	**24**
Vanadium	129	NA	NA	7.8E+01	**1.6**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-04**	**Noncancer HI:**	**27**
PONDS 3 & 3a					
Arsenic	5.5	3.9E-01	**1.4E-05**	2.2E+01	0.25
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	11	1.1E+00	**1.0E-05**	NA	NA
Selenium	2.3	NA	NA	3.9E+02	0.01
Uranium	93	NA	NA	1.6E+01	**5.9**
Vanadium	34	NA	NA	7.8E+01	**0.43**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	**7**
SED PAD					
Arsenic	3.8	3.9E-01	9.8E-06	2.2E+01	0.18
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	104	1.1E+00	**9.5E-05**	NA	NA
Selenium	86	NA	NA	3.9E+02	0.22
Uranium	230	NA	NA	1.6E+01	**15**
Vanadium	65	NA	NA	7.8E+01	**0.83**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-04**	**Noncancer HI:**	**16**

Table 4.2
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
SAND 1					
Arsenic	7.8	3.9E-01	**2.0E-05**	2.2E+01	0.36
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	106	1.1E+00	**9.6E-05**	NA	NA
Selenium	18	NA	NA	3.9E+02	0.05
Uranium	60	NA	NA	1.6E+01	**3.8**
Vanadium	43	NA	NA	7.8E+01	**0.55**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-04**	**Noncancer HI:**	**5**
SAND 2					
Arsenic	4.7	3.9E-01	**1.2E-05**	2.2E+01	0.22
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	3.2	1.1E+00	2.9E-06	NA	NA
Selenium	0.61	NA	NA	3.9E+02	0.0016
Uranium	20	NA	NA	1.6E+01	**1.3**
Vanadium	48	NA	NA	7.8E+01	**0.61**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-05**	**Noncancer HI:**	**2**
SAND 3					
Arsenic	5.4	3.9E-01	**1.4E-05**	2.2E+01	0.25
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	49	1.1E+00	**4.5E-05**	NA	NA
Selenium	39	NA	NA	3.9E+02	0.10
Uranium	356	NA	NA	1.6E+01	**23**
Vanadium	51	NA	NA	7.8E+01	**0.65**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**6E-05**	**Noncancer HI:**	**24**
NEMSA					
Arsenic	3.7	3.9E-01	9.5E-06	2.2E+01	0.17
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	69	1.1E+00	**6.3E-05**	NA	NA
Selenium	119	NA	NA	3.9E+02	0.30
Uranium	242	NA	NA	1.6E+01	**15**
Vanadium	39	NA	NA	7.8E+01	**0.50**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**7E-05**	**Noncancer HI:**	**16**

Table 4.2
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Residential
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
BONEYARD					
Arsenic	4.6	3.9E-01	**1.2E-05**	2.2E+01	0.21
Molybdenum	ND	NA	NA	3.9E+02	NA
Radium-226	36	1.1E+00	**3.3E-05**	NA	NA
Selenium	17	NA	NA	3.9E+02	0.043
Uranium	124	NA	NA	1.6E+01	**7.9**
Vanadium	32	NA	NA	7.8E+01	**0.41**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**4E-05**	**Noncancer HI:**	**9**
EPA Risk Management Range:			10^{-6} - 10^{-4}		1

Notes
HI - Hazard index
HQ - Hazard quotient
mg/kg - Milligrams per kilogram.
NA - Not applicable.
ND - Non-detect
PRG - Preliminary remediation goal.
USEPA - U.S. Environmental Protection Agency.
Bolding indicates a contribution to exceedence of the EPA screening-level carcinogenic risk criterion of $1x10^{-6}$ or noncancer HI of 1.
[a] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration.
[b] Cancer-based combined PRGs were obtained from USEPA's PRG Intercalc Tables: Soils (USEPA Region 9, 2004b), and include cancer-based PRGs for combined ingestion, dermal and inhalation exposure pathways. The screening-level risk for Ra-226 was calculated using the PRG for 'Ra-226 and daughters', as published in EPA (2004c) and the online calculator at http://rais.ornl.gov/rad-ssg/radssl1.shtml.
[c] Noncancer-based combined PRGs are equal to chronic HQ values in the 2004 USEPA Region 9 residential soil intercalc table (mg/kg).

Table 4.3
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
NECR-1					
Arsenic	5.2	1.6E+00	3.3E-06	2.6E+02	0.02
Molybdenum	29	NA	NA	5.1E+03	0.01
Radium-226	39	2.2E+00	**1.8E-05**	NA	NA
Selenium	20	NA	NA	5.1E+03	0.004
Uranium	117	NA	na	2.0E+02	0.57
Vanadium	42	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.6
NECR-2					
Arsenic	4.6	1.6E+00	2.9E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	NA
Radium-226	39	2.2E+00	**1.8E-05**	NA	NA
Selenium	11	NA	NA	5.1E+03	0.00
Uranium	85	NA	na	2.0E+02	0.42
Vanadium	40	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.5
PONDS 1 & 2					
Arsenic	4.9	1.6E+00	3.1E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	179	2.2E+00	**8.1E-05**	NA	NA
Selenium	43	NA	NA	5.1E+03	0.01
Uranium	223	NA	na	2.0E+02	**1.09**
Vanadium	89	NA	NA	1.0E+03	0.09
Screening Cumulative Risk/HI:		**Cancer Risk:**	**8E-05**	**Noncancer HI:**	**1.2**
PONDS 3 & 3a					
Arsenic	6	1.6E+00	3.8E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	253	2.2E+00	**1.2E-04**	NA	NA
Selenium	21	NA	NA	5.1E+03	0.00
Uranium	1,141	NA	na	2.0E+02	**5.58**
Vanadium	58	NA	NA	1.0E+03	0.06
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-04**	**Noncancer HI:**	**6**
SED PAD					
Arsenic	4.5	1.6E+00	2.8E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	109	2.2E+00	**5.0E-05**	NA	NA
Selenium	43	NA	NA	5.1E+03	0.01
Uranium	513	NA	na	2.0E+02	**2.51**
Vanadium	223	NA	NA	1.0E+03	**0.22**
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	**3**

Table 4.3
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
SAND 1					
Arsenic	4.7	1.6E+00	3.0E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	15	2.2E+00	6.8E-06	NA	NA
Selenium	4.5	NA	NA	5.1E+03	0.00
Uranium	16	NA	na	2.0E+02	0.08
Vanadium	35	NA	NA	1.0E+03	0.03
Screening Cumulative Risk/HI:		**Cancer Risk:**	10E-06	**Noncancer HI:**	0.1
SAND 2					
Arsenic	6.4	1.6E+00	4.0E-06	2.6E+02	0.03
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	19	2.2E+00	8.6E-06	NA	NA
Selenium	3.4	NA	NA	5.1E+03	0.00
Uranium	20	NA	na	2.0E+02	0.10
Vanadium	42	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**1E-05**	**Noncancer HI:**	0.2
SAND 3					
Arsenic	4	1.6E+00	2.5E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	69	2.2E+00	**3.1E-05**	NA	NA
Selenium	18	NA	NA	5.1E+03	0.00
Uranium	185	NA	na	2.0E+02	0.91
Vanadium	55	NA	NA	1.0E+03	0.05
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-05**	**Noncancer HI:**	1
NEMSA					
Arsenic	4.3	1.6E+00	2.7E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	42	2.2E+00	**1.9E-05**	NA	NA
Selenium	12	NA	NA	5.1E+03	0.00
Uranium	75	NA	na	2.0E+02	0.37
Vanadium	36	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.4
BONEYARD					
Arsenic	5.5	1.6E+00	3.5E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	46	2.2E+00	**2.1E-05**	NA	NA
Selenium	11	NA	NA	5.1E+03	0.00
Uranium	12	NA	na	2.0E+02	0.06
Vanadium	37	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.1

Table 4.3
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Surface Soil (0 to 0.5 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
VENTS 3 & 8					
Arsenic	4.4	1.6E+00	2.8E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	92	2.2E+00	**4.2E-05**	NA	NA
Selenium	27	NA	NA	5.1E+03	0.01
Uranium	224	NA	na	2.0E+02	**1.10**
Vanadium	47	NA	NA	1.0E+03	0.05
Screening Cumulative Risk/HI:		**Cancer Risk:**	**4E-05**	**Noncancer HI:**	**1.2**
TRAILER PARK					
Arsenic	6.1	1.6E+00	3.8E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	32	2.2E+00	**1.5E-05**	NA	NA
Selenium	71	NA	NA	5.1E+03	0.01
Uranium	96	NA	na	2.0E+02	0.47
Vanadium	69	NA	NA	1.0E+03	0.07
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.6
EPA Risk Management Range:			10^{-6} - 10^{-4}		1

Notes
HI - Hazard index
HQ - Hazard quotient
mg/kg - Milligrams per kilogram.
NA - Not applicable.
PRG - Preliminary remediation goal.
USEPA - U.S. Environmental Protection Agency.
Bolding indicates a contribution to exceedence of the EPA screening-level carcinogenic risk criterion of $1x10^{-6}$ or noncancer HI of 1.
[a] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration.
[b] Cancer-based combined PRGs were obtained from USEPA's PRG Intercalc Tables: Soils (USEPA Region 9, 2004b), and include cancer-based PRGs for combined ingestion, dermal and inhalation exposure pathways. The screening-level risk for Ra-226 was calculated using the PRG for 'Ra-226 and daughters', as published in EPA (2004c) and the online calculator at http://rais.ornl.gov/rad-
[c] Noncancer-based combined PRGs are equal to chronic HQ values in the 2004 USEPA Region 9 industrial soil intercalc table (mg/kg).

Table 4.4
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
NECR-1					
Arsenic	5.2	1.6E+00	3.3E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	NA
Radium-226	46	2.2E+00	**2.1E-05**	NA	NA
Selenium	15	NA	NA	5.1E+03	0.003
Uranium	87	NA	na	2.0E+02	0.43
Vanadium	46	NA	NA	1.0E+03	0.05
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.5
NECR-2					
Arsenic	3.5	1.6E+00	2.2E-06	2.6E+02	0.01
Molybdenum	ND	NA	NA	5.1E+03	NA
Radium-226	9.7	2.2E+00	4.4E-06	NA	NA
Selenium	2.7	NA	NA	5.1E+03	0.00
Uranium	50	NA	na	2.0E+02	0.24
Vanadium	34	NA	NA	1.0E+03	0.03
Screening Cumulative Risk/HI:		**Cancer Risk:**	7E-06	**Noncancer HI:**	0.3
PONDS 1 & 2					
Arsenic	5.3	1.6E+00	3.3E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	352	2.2E+00	**1.6E-04**	NA	NA
Selenium	168	NA	NA	5.1E+03	0.03
Uranium	380	NA	na	2.0E+02	**1.86**
Vanadium	129	NA	NA	1.0E+03	0.13
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-04**	**Noncancer HI:**	**2.0**
PONDS 3 & 3a					
Arsenic	5.5	1.6E+00	3.5E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	11	2.2E+00	5.0E-06	NA	NA
Selenium	2.3	NA	NA	5.1E+03	0.0005
Uranium	93	NA	na	2.0E+02	0.45
Vanadium	34	NA	NA	1.0E+03	0.03
Screening Cumulative Risk/HI:		**Cancer Risk:**	8E-06	**Noncancer HI:**	0.5

Table 4.4
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
SED PAD					
Arsenic	3.8	1.6E+00	2.4E-06	2.6E+02	0.01
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	104	2.2E+00	**4.7E-05**	NA	NA
Selenium	86	NA	NA	5.1E+03	0.02
Uranium	230	NA	na	2.0E+02	**1.13**
Vanadium	65	NA	NA	1.0E+03	0.06
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	**1.2**
SAND 1					
Arsenic	7.8	1.6E+00	4.9E-06	2.6E+02	0.03
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	106	2.2E+00	**4.8E-05**	NA	NA
Selenium	18	NA	NA	5.1E+03	0.00
Uranium	60	NA	na	2.0E+02	0.29
Vanadium	43	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**5E-05**	**Noncancer HI:**	0.4
SAND 2					
Arsenic	4.7	1.6E+00	3.0E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	3.2	2.2E+00	1.5E-06	NA	NA
Selenium	0.61	NA	NA	5.1E+03	0.00
Uranium	20	NA	na	2.0E+02	0.10
Vanadium	48	NA	NA	1.0E+03	0.05
Screening Cumulative Risk/HI:		**Cancer Risk:**	4E-06	**Noncancer HI:**	0.2
SAND 3					
Arsenic	5.4	1.6E+00	3.4E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	49	2.2E+00	**2.2E-05**	NA	NA
Selenium	39	NA	NA	5.1E+03	0.01
Uranium	356	NA	na	2.0E+02	**1.74**
Vanadium	51	NA	NA	1.0E+03	0.05
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-05**	**Noncancer HI:**	**1.8**

Table 4.4
Tier I Screening-Level Cumulative Risk & Hazard Calculations - Industrial
Subsurface Soil (>0.5 to 10 ft bgs.)

Surface Soil Analytes	EPC [a] (mg/kg)	Cancer-based Combined PRG / EPA SSL (mg/kg) [b]	Screening Cancer Risk	Noncancer-based Combined PRG / EPA SSL (mg/kg) [c]	Screening Noncancer Hazard
NEMSA					
Arsenic	3.7	1.6E+00	2.3E-06	2.6E+02	0.01
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	69	2.2E+00	**3.1E-05**	NA	NA
Selenium	119	NA	NA	5.1E+03	0.02
Uranium	242	NA	na	2.0E+02	**1.18**
Vanadium	39	NA	NA	1.0E+03	0.04
Screening Cumulative Risk/HI:		**Cancer Risk:**	**3E-05**	**Noncancer HI:**	**1.3**
BONEYARD					
Arsenic	4.6	1.6E+00	2.9E-06	2.6E+02	0.02
Molybdenum	ND	NA	NA	5.1E+03	ND
Radium-226	36	2.2E+00	**1.6E-05**	NA	NA
Selenium	17	NA	NA	5.1E+03	0.00
Uranium	124	NA	na	2.0E+02	0.61
Vanadium	32	NA	NA	1.0E+03	0.03
Screening Cumulative Risk/HI:		**Cancer Risk:**	**2E-05**	**Noncancer HI:**	0.7
EPA Risk Management Range:			10^{-6} - 10^{-4}		1

Notes
HI - Hazard index
HQ - Hazard quotient
mg/kg - Milligrams per kilogram.
NA - Not applicable.
PRG - Preliminary remediation goal.
USEPA - U.S. Environmental Protection Agency.
Bolding indicates a contribution to exceedence of the EPA screening-level carcinogenic risk criterion of $1x10^{-6}$ or noncancer HI of 1.
[a] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration.
[b] Cancer-based combined PRGs were obtained from USEPA's PRG Intercalc Tables: Soils (USEPA Region 9, 2004b), and include cancer based PRGs for combined ingestion, dermal and inhalation exposure pathways. The screening-level risk for Ra-226 was calculated using the PRG for 'Ra-226 and daughters', as published in EPA (2004c) and the online calculator at http://rais.ornl.gov/rad-ssg/radssl1.shtml.
[c] Noncancer-based combined PRGs are equal to chronic HQ values in the 2004 USEPA Region 9 industrial soil intercalc table (mg/kg).

Table 4.5
Exposure Parameters for Current/Future On-Site Maintenance Personnel

Parameter [a]		Units	Maintenance Personnel	
General				
Body Weight		kg	70	a
Averaging time				
	carcinogens	days	25,550	a
	noncarcinogens	days	9,125	a
Exposure Duration		years	25	b
Inhalation rate		m^3/day	20	c
Ingestion of soil/dust				
Soil ingestion rate		mg/day	100	b
Exposure frequency		day/yr	12	g
Dermal contact with soil/dust				
Dermal surface area		cm^2/event	3,300	d
Skin adherence factor		mg/cm^2	0.2	e
Skin absorption factor		unitless	*chemical specific*	
Exposure frequency		day/yr	12	g
Inhalation of particulates/dust				
Particulate Emission Factor		m^3/kg	1.30E+09	f
Exposure frequency		day/yr	12	g

Sources:
Unless otherwise noted, parameter values are from EPA (1998a, 1998b, 1997c, 1991a).
[a] Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual (Part A), Interim Final, EPA/540/1-89/002. December. (USEPA, 1989)
[b] Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. (USEPA, 1991a)
[c] Exposure Factors Handbook, Volume I: General Factors. Office of Emergency and Remedial Response. EPA/600/P-95/002 Fa. August. (USEPA, 1997a)
[d] Source: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites - Peer Review Draft (USEPA, 2002)
[e] Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment). EPA/540/R/99/005.
[f] Region 9 PRGs – 2004 Update. U.S. Environmental Protection Agency, Region 9. October. (USEPA Region 9, 2004a)

cm^2/event - Square centimeters per event.
mg/cm^2 -Milligrams per centimeters squared.
day/yr - Days per year.
m^3/day - Cubic meters per day.
kg - Kilogram.

Table 4.6
Exposure Parameters for a Hypothetical Future Livestock Grazer

Parameter		Units	Livestock Grazer	
General				
Body weight		kg	70	a
Averaging time				
	carcinogens	days	25,550	a
	noncarcinogens	days	9,125	a
Exposure Duration		years	25	b
Inhalation rate		m^3/day	20	c
Ingestion of soil/dust				
Soil ingestion rate		mg/day	100	b
Exposure frequency		day/yr	26	g
Dermal contact with soil/dust				
Dermal surface area		cm^2/event	3,300	d
Skin adherence factor		mg/cm^2	0.2	e
Skin absorption factor		unitless	chemical specific	
Exposure frequency		day/yr	26	g
Inhalation of particulates/dust				
Particulate Emission Factor		m^3/kg	1.30E+09	f
Exposure frequency		day/yr	26	g

Sources:
Unless otherwise noted, parameter values are from EPA (1998a, 1998b, 1997c, 1991a).
[a] Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual (Part A), Interim Final, EPA/540/1-89/002. December. (USEPA, 1989)
[b] Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. (USEPA, 1991a)
[c] Exposure Factors Handbook, Volume I: General Factors. Office of Emergency and Remedial Response. EPA/600/P-95/002 Fa. August. (USEPA, 1997a)
[d] Source: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites - Peer Review Draft (USEPA, 2002)
[e] Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment). EPA/540/R/99/005.
[f] Region 9 PRGs – 2004 Update. U.S. Environmental Protection Agency, Region 9. October. (USEPA Region 9, 2004a)

cm^2/event - Square centimeters per event.
mg/cm^2 -Milligrams per centimeters squared.
day/yr - Days per year.
m^3/day - Cubic meters per day.
kg - Kilogram.

Table 4.7
Exposure Parameters for a Hypothetical Future On-Site Resident and Current/Future Off-Site Resident

Parameter		Units	Adult Value	Child Value	
General					
Body weight		kg	70	15	a
Averaging time					
	carcinogens	days	25,550	25,550	a
	noncarcinogens	days	8,760	2,190	a
Exposure Duration		years	24	6	b
Inhalation rate		m^3/day	20	10	c
Ingestion of soil/sediment/dust					
Soil ingestion rate		mg/day	100	200	b
Exposure frequency		day/yr	350	350	b
Dermal contact with soil/sediment/dust					
Dermal surface area		cm^2/event	3,300	2,800	d
Skin adherence factor		mg/cm^2	0.2	0.2	e
Skin absorption factor		unitless	chemical specific	chemical specific	
Exposure frequency		day/yr	350	350	b
Inhalation of particulates for indoor dust					
Particulate Emission Factor		m^3/kg	1.30E+09	1.30E+09	f
Exposure frequency		day/yr	350	350	b
Ingestion of meat					
Meat ingestion rate		kg/yr	124.95	124.95	g
Ingestion of eggs					
Egg ingestion rate		kg/yr	14.9	2.3	h

Sources:
Unless otherwise noted, parameter values are from EPA (1998a, 1998b, 1997c, 1991a). If not specified, EPA PRG calculator default parameters were used.

[a] Risk Assessment Guidance for Superfund (RAGS). Volume I: Human Health Evaluation Manual (Part A), Interim Final, EPA/540/1-89/002. December. (USEPA, 1989)
[b] Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. (USEPA, 1991a)
[c] Exposure Factors Handbook, Volume I: General Factors. Office of Emergency and Remedial Response.
[d] Source: Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites - Peer Review Draft (USEPA, 2002)
[e] Risk Assessment Guidance for Superfund (RAGS) Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment). EPA/540/R/99/005. (USEPA, 2004)
[f] Region 9 PRGs – 2004 Update. U.S. Environmental Protection Agency, Region 9. October. (USEPA Region 9, 2004a)
[g] Total meat consumption at 95 percentile (USEPA, 1997c)
[h] Uranium-234 + Decay Chain ingestion rate used as a surrogate.

cm^2/event - Square centimeters per event.
day/yr - Days per year.
kg - Kilogram.
mg/cm^2 -Milligrams per centimeters squared.
m^3/day - Cubic meters per day.

Table 4.8
Toxicity Values for the Human Health Risk Assessment

COPC	Carcinogen Weight of Evidence	Cancer Slope Factor - CSF (mg/kg-d)[a] Oral		Dermal		Inhalation		Reference Dose - RfD (mg/kg-d)[a] Oral		Dermal		Inhalation	
Inorganics													
Arsenic	A [b]	1.5E+00	I	1.5E+00	R	1.5E+01	I	3.0E-04	I	3.0E-04	R	na	I
Molybdenum	D	na		na		na		5.0E-03	I	5.0E-03	R	na	I
Selenium	D	na		na		na		5.0E-03	I	5.0E-03	R	na	I
Uranium	na	na		na		na		2.0E-04	I	2.0E-04	R	na	I
Vanadium	na	na		na		na		7.0E-03	I	7.0E-03	R	na	I
Radionuclides													
Radium-226	A [b]												
Direct Contact		7.3E-10	c	na		1.2E-08	c	na		na		na	
Food Ingestion		5.2E-10	c	na		na		na		na		na	
External Exposure		na		8.5E-06	c	na		na		na		na	

Key:
CSF - Cancer slope factor
mg/kg-d - Milligram per kilogram per day
na - Not applicable
RfD - Reference dose

Source Data:
I Integrated Risk Information System (IRIS) Database (USEPA, 2007)
R Route extrapolation

[a] Calculated using the Reference Concentration (RfC) and equation RfD_{inh} (mg/kg-d) = (RfC(mg/mc^3) x 20m^3/day) / (70 kg) taken from IRIS (USEPA, 2005a).
[b] U.S. Environmental Protection Agency (USEPA) carcinogenicity classification.
[c] Based upon values used in the Soil Screening Guidance for Radionuclides: User's Guide (USEPA, 2000). Values are in risk/pCi for all except the external exposure pathway which is presented in risk/year - pCi/gram soil.

Table 4.9
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1									
Arsenic	5.2	1E-07	0.0008	4E-11	NA	1E-07	0.0008	2E-08	*-0.01*
Molybdenum	29	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	0.0003
Radium-226	39	8E-07	NA	7E-10	NA	8E-07	0	8E-07	0
Selenium	20	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.00008
Uranium	117	NA	0.009	NA	NA	0E+00	0.009	0E+00	0.007
Vanadium	42	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.01	7E-10	NA	1E-06	0.01	8E-07	*-0.01*
NECR-2									
Arsenic	4.6	1E-07	0.0007	4E-11	NA	1E-07	0.0007	5E-09	*-0.014*
Radium-226	39	9E-07	NA	7E-10	NA	9E-07	0	8E-07	0
Selenium	11	NA	0.0001	NA	NA	0E+00	0.0001	0E+00	0.0000008
Uranium	85	NA	0.007	NA	NA	0E+00	0.007	0E+00	0.005
Vanadium	40	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.008	7E-10	NA	1E-06	0.008	8E-07	*-0.01*
Ponds 1 & 2									
Arsenic	4.9	1E-07	0.0008	4E-11	NA	1E-07	0.0008	1E-08	*-0.01*
Radium-226	179	**4E-06**	NA	3E-09	NA	**4E-06**	0	**4E-06**	0
Selenium	43	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0003
Uranium	223	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	89	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	*-0.003*
Cumulative ILCR/HQ:		**4E-06**	0.02	3E-09	NA	**4E-06**	0.02	**4E-06**	*-0.001*

Table 4.9
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Pond 3/3a									
Arsenic	6.0	2E-07	0.0009	5E-11	NA	2E-07	0.0009	4E-08	-0.01
Radium-226	253	**6E-06**	NA	5E-09	NA	**6E-06**	0	**5E-06**	0
Selenium	21	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.00009
Uranium	1,141	NA	0.09	NA	NA	0E+00	0.09	0E+00	0.09
Vanadium	58	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	*-0.004*
Cumulative ILCR/HQ:		**6E-06**	0.09	5E-09	NA	**6E-06**	0.09	**6E-06**	0.07
Sediment Pad									
Arsenic	4.5	1E-07	0.0007	3E-11	NA	1E-07	0.0007	2E-09	*-0.01*
Radium-226	109	**2E-06**	NA	2E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	43	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0003
Uranium	513	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	223	NA	0.001	NA	NA	0E+00	0.001	0E+00	*-0.003*
Cumulative ILCR/HQ:		**2E-06**	0.04	2E-09	NA	**2E-06**	0.04	**2E-06**	0.02
Sandfill #1									
Arsenic	4.7	1E-07	0.0007	4E-11	NA	1E-07	0.0007	8E-09	*-0.01*
Radium-226	15	3E-07	NA	3E-10	NA	3E-07	0	3E-07	0
Selenium	4.5	NA	0.00004	NA	NA	0E+00	0.00004	0E+00	*-0.00006*
Uranium	16	NA	0.001	NA	NA	0E+00	0.001	0E+00	*-0.001*
Vanadium	35	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	*-0.004*
Cumulative ILCR/HQ:		4E-07	0.002	3E-10	NA	4E-07	0.002	3E-07	*-0.02*

Table 4.9
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #2									
Arsenic	6.4	2E-07	0.001	5E-11	NA	2E-07	0.001	5E-08	*-0.01*
Radium-226	19	4E-07	NA	3E-10	NA	4E-07	0	4E-07	0
Selenium	3.4	NA	0.00003	NA	NA	0E+00	0.00003	0E+00	*-0.0001*
Uranium	20	NA	0.002	NA	NA	0E+00	0.002	0E+00	*-0.0004*
Vanadium	42	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		6E-07	0.003	4E-10	NA	6E-07	0.003	4E-07	*-0.02*
Sandfill #3									
Arsenic	4.0	1E-07	0.0006	3E-11	NA	1E-07	0.001	*-1E-08*	*-0.01*
Radium-226	69	**2E-06**	NA	1E-09	NA	**2E-06**	0	1E-06	0
Selenium	18	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.00007
Uranium	185	NA	0.01	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	55	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	*-0.004*
Cumulative ILCR/HQ:		**2E-06**	0.02	1E-09	NA	**2E-06**	0.02	1E-06	*-0.005*
NEMSA									
Arsenic	4.3	1E-07	0.0007	3E-11	NA	1E-07	0.0007	*-3E-09*	*-0.01*
Radium-226	42	9E-07	NA	8E-10	NA	9E-07	0	9E-07	0
Selenium	12	NA	0.0001	NA	NA	0E+00	0.0001	0E+00	0.00001
Uranium	75	NA	0.006	NA	NA	0E+00	0.006	0E+00	0.004
Vanadium	36	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.007	8E-10	NA	1E-06	0.007	9E-07	*-0.01*

Table 4.9
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Boneyard									
Arsenic	5.5	1E-07	0.0009	4E-11	NA	1E-07	0.0009	3E-08	-0.01
Radium-226	46	1E-06	NA	8E-10	NA	1E-06	0	1E-06	0
Selenium	11	NA	0.0001	NA	NA	0E+00	0.0001	0E+00	*-0.000004*
Uranium	12	NA	0.0009	NA	NA	0E+00	0.0009	0E+00	*-0.001*
Vanadium	37	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.002	9E-10	NA	1E-06	0.002	1E-06	*-0.02*
Vents 3 & 8									
Arsenic	4.4	1E-07	0.0007	3E-11	NA	1E-07	0.0007	*-2E-09*	*-0.01*
Radium-226	92	**2E-06**	NA	2E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	27	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	0.0002
Uranium	224	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	47	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-06**	0.02	**2E-06**	*-0.002*
Trailer Park									
Arsenic	6.1	2E-07	0.001	5E-11	NA	2E-07	0.001	4E-08	*-0.01*
Radium-226	32	7E-07	NA	6E-10	NA	7E-07	0	7E-07	0
Selenium	71	NA	0.0007	NA	NA	0E+00	0.0007	0E+00	0.0006
Uranium	96	NA	0.008	NA	NA	0E+00	0.008	0E+00	0.006
Vanadium	69	NA	0.009	NA	NA	0E+00	0.009	0E+00	0.005
Cumulative ILCR/HQ:		8E-07	0.02	6E-10	NA	8E-07	0.02	7E-07	*-0.002*

Table 4.9
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
BACKGROUND									
Arsenic	4.4	1E-07	0.01	3E-11	NA	1E-07	0.01	NA	NA
Molybdenum	ND	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	2E-08	NA	2E-11	NA	2E-08	0	NA	NA
Selenium	0.53	NA	0.0001	NA	NA	0E+00	0.0001	NA	NA
Uranium	1.2	NA	0.002	NA	NA	0E+00	0.002	NA	NA
Vanadium	29	NA	0.004	NA	NA	0E+00	0.004	NA	NA
Cumulative ILCR/HQ:		1E-07	0.02	5E-11	NA	1E-07	0.02	NA	NA
USEPA Risk Range:						10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.

Table 4.10
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1											
Arsenic	5.2	1E-07	0.0008	4E-11	NA	NA	NA	1E-07	0.0008	2E-08	0.0001
Molybdenum	29	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	*-0.0004*
Radium-226	39	8E-07	NA	7E-10	NA	**8E-05**	NA	**9E-05**	0	**8E-05**	0
Selenium	20	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	117	NA	0.009	NA	NA	NA	NA	0E+00	0.009	0E+00	0.009
Vanadium	42	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00009
Cumulative ILCR/HQ:		1E-06	0.01	7E-10	NA	**8E-05**	NA	**9E-05**	0.01	**8E-05**	0.01
NECR-2											
Arsenic	4.6	1E-07	0.0007	4E-11	NA	NA	NA	1E-07	0.0007	5E-09	0.00003
Radium-226	39	9E-07	NA	7E-10	NA	**9E-05**	NA	**9E-05**	0	**8E-05**	0
Selenium	11	NA	0.0001	NA	NA	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	85	NA	0.007	NA	NA	NA	NA	0E+00	0.007	0E+00	0.007
Vanadium	40	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00008
Cumulative ILCR/HQ:		1E-06	0.008	7E-10	NA	**9E-05**	NA	**9E-05**	0.008	**8E-05**	0.007
Ponds 1 & 2											
Arsenic	4.9	1E-07	0.0008	4E-11	NA	NA	NA	1E-07	0.0008	1E-08	0.00007
Radium-226	179	**4E-06**	NA	3E-09	NA	**4E-04**	NA	**4E-04**	0	**4E-04**	0
Selenium	43	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	223	NA	0.02	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	89	NA	0.0006	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0004
Cumulative ILCR/HQ:		**4E-06**	0.02	3E-09	NA	**4E-04**	NA	**4E-04**	0.02	**4E-04**	0.02
Pond 3/3a											
Arsenic	6.0	2E-07	0.0009	5E-11	NA	NA	NA	2E-07	0.0009	4E-08	0.0002
Radium-226	253	**6E-06**	NA	5E-09	NA	**6E-04**	NA	**6E-04**	0	**6E-04**	0
Selenium	21	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	1,141	NA	0.09	NA	NA	NA	NA	0E+00	0.09	0E+00	0.09
Vanadium	58	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0002
Cumulative ILCR/HQ:		**6E-06**	0.09	5E-09	NA	**6E-04**	NA	**6E-04**	0.09	**6E-04**	0.09

Table 4.10
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sediment Pad											
Arsenic	4.5	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	2E-09	0.00001
Radium-226	109	**2E-06**	NA	2E-09	NA	**2E-04**	NA	**2E-04**	0	**2E-04**	0
Selenium	43	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	513	NA	0.04	NA	NA	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	223	NA	0.001	NA	NA	NA	NA	0E+00	0.001	0E+00	0.001
Cumulative ILCR/HQ:		**2E-06**	0.04	2E-09	NA	**2E-04**	NA	**2E-04**	0.04	**2E-04**	0.04
Sandfill #1											
Arsenic	4.7	1E-07	0.0007	4E-11	NA	NA	NA	1E-07	0.0007	8E-09	0.00005
Radium-226	15	3E-07	NA	3E-10	NA	**3E-05**	NA	**3E-05**	0	**3E-05**	0
Selenium	4.5	NA	0.00004	NA	NA	NA	NA	0E+00	0.00004	0E+00	0.00004
Uranium	16	NA	0.001	NA	NA	NA	NA	0E+00	0.001	0E+00	0.001
Vanadium	35	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.00004
Cumulative ILCR/HQ:		4E-07	0.002	3E-10	NA	**3E-05**	NA	**3E-05**	0.002	**3E-05**	0.001
Sandfill #2											
Arsenic	6.4	2E-07	0.001	5E-11	NA	NA	NA	2E-07	0.001	5E-08	0.0003
Radium-226	19	4E-07	NA	3E-10	NA	**4E-05**	NA	**4E-05**	0	**4E-05**	0
Selenium	3.4	NA	0.00003	NA	NA	NA	NA	0E+00	0.00003	0E+00	0.00003
Uranium	20	NA	0.002	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Vanadium	42	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0001
Cumulative ILCR/HQ:		6E-07	0.003	4E-10	NA	**4E-05**	NA	**4E-05**	0.003	**4E-05**	0.002
Sandfill #3											
Arsenic	4.0	1E-07	0.0006	3E-11	NA	NA	NA	1E-07	0.001	*-1E-08*	*-0.0001*
Radium-226	69	**2E-06**	NA	1E-09	NA	**2E-04**	NA	**2E-04**	0	**1E-04**	0
Selenium	18	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	185	NA	0.01	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	55	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0002
Cumulative ILCR/HQ:		**2E-06**	0.02	1E-09	NA	**2E-04**	NA	**2E-04**	0.02	**1E-04**	0.01

Table 4.10
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NEMSA											
Arsenic	4.3	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	*-3E-09*	*-0.00002*
Radium-226	42	9E-07	NA	8E-10	NA	**9E-05**	NA	**9E-05**	0	**9E-05**	0
Selenium	12	NA	0.0001	NA	NA	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	75	NA	0.006	NA	NA	NA	NA	0E+00	0.006	0E+00	0.006
Vanadium	36	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.00005
Cumulative ILCR/HQ:		1E-06	0.007	8E-10	NA	**9E-05**	NA	**9E-05**	0.007	**9E-05**	0.006
Boneyard											
Arsenic	5.5	1E-07	0.0009	4E-11	NA	NA	NA	1E-07	0.0009	3E-08	0.0002
Radium-226	46	1E-06	NA	8E-10	NA	**1E-04**	NA	**1E-04**	0	**1E-04**	0
Selenium	11	NA	0.0001	NA	NA	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	12	NA	0.0009	NA	NA	NA	NA	0E+00	0.0009	0E+00	0.0008
Vanadium	37	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00006
Cumulative ILCR/HQ:		1E-06	0.002	9E-10	NA	**1E-04**	NA	**1E-04**	0.002	**1E-04**	0.001
Vents 3 & 8											
Arsenic	4.4	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	*-2E-09*	-0.00001
Radium-226	92	**2E-06**	NA	2E-09	NA	**2E-04**	NA	**2E-04**	0	**2E-04**	0
Selenium	27	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0003
Uranium	224	NA	0.02	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	47	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0001
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-04**	NA	**2E-04**	0.02	**2E-04**	0.02
Trailer Park											
Arsenic	6.1	2E-07	0.001	5E-11	NA	NA	NA	2E-07	0.001	4E-08	0.0003
Radium-226	32	7E-07	NA	6E-10	NA	**7E-05**	NA	**7E-05**	0	**7E-05**	0
Selenium	71	NA	0.0007	NA	NA	NA	NA	0E+00	0.0007	0E+00	0.001
Uranium	96	NA	0.008	NA	NA	NA	NA	0E+00	0.008	0E+00	0.01
Vanadium	69	NA	0.0005	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.0003
Cumulative ILCR/HQ:		8E-07	0.01	6E-10	NA	**7E-05**	NA	**7E-05**	0.01	**7E-05**	0.009

Table 4.10
Summary of Human Health Risk Estimates - On-Site
Shallow Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
BACKGROUND											
Arsenic	4.4	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	2E-08	NA	2E-11	NA	**2E-06**	NA	**2E-06**	0	NA	NA
Selenium	0.53	NA	0.000005	NA	NA	NA	NA	0E+00	0.000005	NA	NA
Uranium	1.2	NA	0.00009	NA	NA	NA	NA	0E+00	0.00009	NA	NA
Vanadium	29	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	NA	NA
	Cumulative ILCR/HQ:	1E-07	0.001	5E-11	NA	**2E-06**	NA	**3E-06**	0.001	NA	NA
							USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

Table 4.11
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1									
Arsenic	5.2	1E-07	0.0008	4E-11	NA	1E-07	0.0008	2E-08	*-0.01*
Radium-226	46	1E-06	NA	8E-10	NA	1E-06	0	1E-06	0
Selenium	15	NA	0.0001	NA	NA	0E+00	0.0001	0E+00	0.00004
Uranium	87	NA	0.007	NA	NA	0E+00	0.007	0E+00	0.005
Vanadium	46	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.01	9E-10	NA	1E-06	0.01	1E-06	*-0.01*
NECR-2									
Arsenic	3.5	9E-08	0.0006	3E-11	NA	9E-08	0.0006	*-2E-08*	*-0.014*
Radium-226	10	2E-07	NA	2E-10	NA	2E-07	0	2E-07	0
Selenium	3	NA	0.0000	NA	NA	0E+00	0.00003	0E+00	*-0.00008*
Uranium	50	NA	0.004	NA	NA	0E+00	0.004	0E+00	0.002
Vanadium	34	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	*-0.004*
Cumulative ILCR/HQ:		3E-07	0.005	2E-10	NA	3E-07	0.005	2E-07	*-0.02*
Ponds 1 & 2									
Arsenic	5.3	1E-07	0.0008	4E-11	NA	1E-07	0.0008	2E-08	*-0.01*
Radium-226	352	**8E-06**	NA	6E-09	NA	**8E-06**	0	**8E-06**	0
Selenium	168	NA	0.0016	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	380	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	129	NA	0.0009	NA	NA	0E+00	0.0009	0E+00	*-0.003*
Cumulative ILCR/HQ:		**8E-06**	0.03	6E-09	NA	**8E-06**	0.03	**8E-06**	*0.01*

Table 4.11
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Pond 3/3a									
Arsenic	5.5	1E-07	0.0009	4E-11	NA	1E-07	0.0009	3E-08	*-0.01*
Radium-226	11	2E-07	NA	2E-10	NA	2E-07	0	2E-07	0
Selenium	2	NA	0.0000	NA	NA	0E+00	0.00002	0E+00	*-0.00008*
Uranium	93	NA	0.01	NA	NA	0E+00	0.007	0E+00	0.01
Vanadium	34	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	*-0.004*
Cumulative ILCR/HQ:		4E-07	0.01	2E-10	NA	4E-07	0.01	2E-07	*-0.01*
Sediment Pad									
Arsenic	3.8	1E-07	0.0006	3E-11	NA	1E-07	0.0006	-2E-08	*-0.01*
Radium-226	104	**2E-06**	NA	2E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	86	NA	0.0008	NA	NA	0E+00	0.0008	0E+00	0.0007
Uranium	230	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	65	NA	0.000	NA	NA	0E+00	0.0004	0E+00	*-0.004*
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-06**	0.02	**2E-06**	*-0.0007*
Sandfill #1									
Arsenic	7.8	2E-07	0.0012	6E-11	NA	2E-07	0.001	8E-08	*-0.01*
Radium-226	106	**2E-06**	NA	2E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	18.4	NA	0.00017	NA	NA	0E+00	0.0002	0E+00	0.00007
Uranium	60	NA	0.005	NA	NA	0E+00	0.005	0E+00	0.003
Vanadium	43	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		**2E-06**	0.006	2E-09	NA	**3E-06**	0.006	**2E-06**	*-0.01*

Table 4.11
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #2									
Arsenic	4.7	1E-07	0.001	4E-11	NA	1E-07	0.0007	6E-09	*-0.01*
Radium-226	3	7E-08	NA	6E-11	NA	7E-08	0	4E-08	0
Selenium	0.6	NA	0.00001	NA	NA	0E+00	0.000006	0E+00	*-0.0001*
Uranium	20	NA	0.002	NA	NA	0E+00	0.002	0E+00	*-0.0004*
Vanadium	48	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		2E-07	0.003	9E-11	NA	2E-07	0.003	5E-08	*-0.02*
Sandfill #3									
Arsenic	5.4	1E-07	0.0009	4E-11	NA	1E-07	0.0009	3E-08	*-0.01*
Radium-226	49	1E-06	NA	9E-10	NA	1E-06	0	1E-06	0
Selenium	39	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0003
Uranium	356	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	51	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		1E-06	0.03	9E-10	NA	1E-06	0.03	1E-06	0.009
NEMSA									
Arsenic	3.7	9E-08	0.0006	3E-11	NA	9E-08	0.0006	*-2E-08*	*-0.01*
Radium-226	69	**2E-06**	NA	1E-09	NA	**2E-06**	0	1E-06	0
Selenium	119	NA	0.0011	NA	NA	0E+00	0.001	0E+00	0.001
Uranium	242	NA	0.019	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	39	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	*-0.004*
Cumulative ILCR/HQ:		**2E-06**	0.021	1E-09	NA	**2E-06**	0.02	1E-06	0.0004

Table 4.11
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Boneyard									
Arsenic	4.6	1E-07	0.0007	3E-11	NA	1E-07	0.0007	4E-09	*-0.01*
Radium-226	36	8E-07	NA	7E-10	NA	8E-07	0	8E-07	0
Selenium	17	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.000060
Uranium	124	NA	0.0097	NA	NA	0E+00	0.01	0E+00	0.008
Vanadium	32	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	*-0.004*
Cumulative ILCR/HQ:		9E-07	0.011	7E-10	NA	9E-07	0.01	8E-07	*-0.01*
BACKGROUND									
Arsenic	4.4	1E-07	0.01	3E-11	NA	1E-07	0.01	NA	NA
Molybdenum	ND	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	2E-08	NA	2E-11	NA	2E-08	0	NA	NA
Selenium	0.53	NA	0.0001	NA	NA	0E+00	0.0001	NA	NA
Uranium	1.2	NA	0.002	NA	NA	0E+00	0.002	NA	NA
Vanadium	29	NA	0.004	NA	NA	0E+00	0.004	NA	NA
Cumulative ILCR/HQ:		1E-07	0.02	5E-11	NA	1E-07	0.02	NA	NA
USEPA Risk Range:						10-6 - 10-4	1	10-6 - 10-4	1

Table 4.11
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.

Table 4.12
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1											
Arsenic	5.2	1E-07	0.0008	4E-11	NA	NA	NA	1E-07	0.0008	2E-08	0.0001
Radium-226	46	1E-06	NA	8E-10	NA	**1E-04**	NA	**1E-04**	0	**1E-04**	0
Selenium	15	NA	0.0001	NA	NA	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	87	NA	0.007	NA	NA	NA	NA	0E+00	0.007	0E+00	0.007
Vanadium	46	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00012
Cumulative ILCR/HQ:		1E-06	0.01	9E-10	NA	**1E-04**	NA	**1E-04**	0.008	**1E-04**	0.007
NECR-2											
Arsenic	3.5	9E-08	0.0006	3E-11	NA	NA	NA	9E-08	0.0006	-2E-08	-0.0001
Radium-226	10	2E-07	NA	2E-10	NA	**2E-05**	NA	**2E-05**	0	**2E-05**	0
Selenium	3	NA	0.00003	NA	NA	NA	NA	0E+00	0.00003	0E+00	0.00002
Uranium	50	NA	0.004	NA	NA	NA	NA	0E+00	0.004	0E+00	0.004
Vanadium	34	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.00003
Cumulative ILCR/HQ:		3E-07	0.005	2E-10	NA	**2E-05**	NA	**2E-05**	0.005	**2E-05**	0.004
Ponds 1 & 2											
Arsenic	5.3	1E-07	0.0008	4E-11	NA	NA	NA	1E-07	0.0008	2E-08	0.0001
Radium-226	352	**8E-06**	NA	6E-09	NA	**8E-04**	NA	**8E-04**	0	**8E-04**	0
Selenium	168	NA	0.002	NA	NA	NA	NA	0E+00	0.002	0E+00	0.002
Uranium	380	NA	0.03	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	129	NA	0.0009	NA	NA	NA	NA	0E+00	0.0009	0E+00	0.0007
Cumulative ILCR/HQ:		**8E-06**	0.03	6E-09	NA	**8E-04**	NA	**8E-04**	0.03	**8E-04**	0.03

Table 4.12
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Pond 3/3a											
Arsenic	5.5	1E-07	0.0009	4E-11	NA	NA	NA	1E-07	0.0009	3E-08	0.0002
Radium-226	11	2E-07	NA	2E-10	NA	**2E-05**	NA	**2E-05**	0	**2E-05**	0
Selenium	2	NA	0.00002	NA	NA	NA	NA	0E+00	0.00002	0E+00	0.00002
Uranium	93	NA	0.01	NA	NA	NA	NA	0E+00	0.007	0E+00	0.007
Vanadium	34	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.00004
Cumulative ILCR/HQ:		4E-07	0.01	2E-10	NA	**2E-05**	NA	**2E-05**	0.008	**2E-05**	0.007
Sediment Pad											
Arsenic	3.8	1E-07	0.0006	3E-11	NA	NA	NA	1E-07	0.0006	*-2E-08*	*-0.00009*
Radium-226	104	**2E-06**	NA	2E-09	NA	**2E-04**	NA	**2E-04**	0	**2E-04**	0
Selenium	86	NA	0.0008	NA	NA	NA	NA	0E+00	0.0008	0E+00	0.0008
Uranium	230	NA	0.02	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	65	NA	0.000	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0002
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-04**	NA	**2E-04**	0.02	**2E-04**	0.02
Sandfill #1											
Arsenic	7.8	2E-07	0.001	6E-11	NA	NA	NA	2E-07	0.001	8E-08	0.0005
Radium-226	106	**2E-06**	NA	2E-09	NA	**2E-04**	NA	**2E-04**	0	**2E-04**	0
Selenium	18.4	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	60	NA	0.005	NA	NA	NA	NA	0E+00	0.005	0E+00	0.005
Vanadium	43	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00009
Cumulative ILCR/HQ:		**2E-06**	0.006	2E-09	NA	**2E-04**	NA	**2E-04**	0.006	**2E-04**	0.005
Sandfill #2											
Arsenic	4.7	1E-07	0.001	4E-11	NA	NA	NA	1E-07	0.0007	6E-09	0.00004
Radium-226	3	7E-08	NA	6E-11	NA	**7E-06**	NA	**7E-06**	0	**5E-06**	0
Selenium	0.6	NA	0.00001	NA	NA	NA	NA	0E+00	0.000006	0E+00	0.0000007
Uranium	20	NA	0.002	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Vanadium	48	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0001
Cumulative ILCR/HQ:		2E-07	0.003	9E-11	NA	**7E-06**	NA	**7E-06**	0.003	**5E-06**	0.002

Table 4.12
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #3											
Arsenic	5.4	1E-07	0.0009	4E-11	NA	NA	NA	1E-07	0.0009	3E-08	0.0002
Radium-226	49	1E-06	NA	9E-10	NA	**1E-04**	NA	**1E-04**	0	**1E-04**	0
Selenium	39	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	356	NA	0.03	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	51	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0001
Cumulative ILCR/HQ:		1E-06	0.03	9E-10	NA	**1E-04**	NA	**1E-04**	0.03	**1E-04**	0.03
NEMSA											
Arsenic	3.7	9E-08	0.0006	3E-11	NA	NA	NA	9E-08	0.0006	*-2E-08*	*-0.0001*
Radium-226	69	**2E-06**	NA	1E-09	NA	**2E-04**	NA	**2E-04**	0	**2E-04**	0
Selenium	119	NA	0.001	NA	NA	NA	NA	0E+00	0.001	0E+00	0.001
Uranium	242	NA	0.02	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	39	NA	0.0003	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.00007
Cumulative ILCR/HQ:		**2E-06**	0.02	1E-09	NA	**2E-04**	NA	**2E-04**	0.02	**2E-04**	0.02
Boneyard											
Arsenic	4.6	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	4E-09	0.00002
Radium-226	36	8E-07	NA	7E-10	NA	**8E-05**	NA	**8E-05**	0	**8E-05**	0
Selenium	17	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	124	NA	0.01	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	32	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.00002
Cumulative ILCR/HQ:		9E-07	0.01	7E-10	NA	**8E-05**	NA	**8E-05**	0.01	**8E-05**	0.01

Table 4.12
Summary of Human Health Risk Estimates - On-Site
Subsurface Soil - Current/Future On-site Maintenance Personnel - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
BACKGROUND											
Arsenic	4.4	1E-07	0.0007	3E-11	NA	NA	NA	1E-07	0.0007	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	2E-08	NA	2E-11	NA	**2E-06**	NA	**2E-06**	0	NA	NA
Selenium	0.53	NA	0.000005	NA	NA	NA	NA	0E+00	0.000005	NA	NA
Uranium	1.2	NA	0.00009	NA	NA	NA	NA	0E+00	0.00009	NA	NA
Vanadium	29	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	NA	NA
	Cumulative ILCR/HQ:	1E-07	0.001	5E-11	NA	**2E-06**	NA	**3E-06**	0.001	NA	NA
							USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.13
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

Location	Soil Concentration EPC[b]	Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
		Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
		ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1									
Arsenic	5.2	3E-07	0.002	9E-11	NA	3E-07	0.002	4E-08	0.0003
Molybdenum	29	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0006
Radium-226	39	2E-06	NA	2E-09	NA	2E-06	0	2E-06	0
Selenium	20	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	117	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	42	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		2E-06	0.02	2E-09	NA	2E-06	0.02	2E-06	0.02
NECR-2									
Arsenic	4.6	3E-07	0.002	8E-11	NA	3E-07	0.002	1E-08	0.0001
Radium-226	39	2E-06	NA	2E-09	NA	2E-06	0	2E-06	0
Selenium	11	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	85	NA	0.01	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	40	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		2E-06	0.02	2E-09	NA	2E-06	0.02	2E-06	0.01
Ponds 1 & 2									
Arsenic	4.9	3E-07	0.002	8E-11	NA	3E-07	0.002	3E-08	0.0002
Radium-226	179	**9E-06**	NA	7E-09	NA	**9E-06**	0	**8E-06**	0
Selenium	43	NA	0.0009	NA	NA	0E+00	0.0009	0E+00	0.0009
Uranium	223	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	89	NA	0.001	NA	NA	0E+00	0.001	0E+00	0.001
Cumulative ILCR/HQ:		**9E-06**	0.04	7E-09	NA	**9E-06**	0.04	**9E-06**	0.04
Pond 3/3a									
Arsenic	6.0	3E-07	0.002	1E-10	NA	3E-07	0.002	8E-08	0.0005
Radium-226	253	**1E-05**	NA	1E-08	NA	**1E-05**	0	**1E-05**	0
Selenium	21	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	1,141	NA	0.2	NA	NA	0E+00	0.2	0E+00	0.2
Vanadium	58	NA	0.0008	NA	NA	0E+00	0.0008	0E+00	0.0004
Cumulative ILCR/HQ:		**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	**1E-05**	0.2

TABLE 4.13
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sediment Pad									
Arsenic	4.5	2E-07	0.002	7E-11	NA	2E-07	0.002	4E-09	0.00002
Radium-226	109	**5E-06**	NA	4E-09	NA	**5E-06**	0	**5E-06**	0
Selenium	43	NA	0.0009	NA	NA	0E+00	0.0009	0E+00	0.0009
Uranium	513	NA	0.09	NA	NA	0E+00	0.09	0E+00	0.09
Vanadium	223	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.003
Cumulative ILCR/HQ:		**5E-06**	0.09	4E-09	NA	**5E-06**	0.09	**5E-06**	0.09
Sandfill #1									
Arsenic	4.7	3E-07	0.002	8E-11	NA	3E-07	0.002	2E-08	0.0001
Radium-226	15	7E-07	NA	6E-10	NA	7E-07	0	6E-07	0
Selenium	4.5	NA	0.00009	NA	NA	0E+00	0.00009	0E+00	0.00008
Uranium	16	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.002
Vanadium	35	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.00009
Cumulative ILCR/HQ:		1E-06	0.005	7E-10	NA	1E-06	0.005	7E-07	0.003
Sandfill #2									
Arsenic	6.4	3E-07	0.002	1E-10	NA	3E-07	0.002	1E-07	0.0007
Radium-226	19	9E-07	NA	8E-10	NA	9E-07	0	9E-07	0
Selenium	3.4	NA	0.00007	NA	NA	0E+00	0.00007	0E+00	0.00006
Uranium	20	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.003
Vanadium	42	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		1E-06	0.006	9E-10	NA	1E-06	0.006	1E-06	0.004
Sandfill #3									
Arsenic	4.0	2E-07	0.001	7E-11	NA	2E-07	0.001	*-2E-08*	*-0.0001*
Radium-226	69	**3E-06**	NA	3E-09	NA	**3E-06**	0	3E-06	0
Selenium	18	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	185	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	55	NA	0.0008	NA	NA	0E+00	0.0008	0E+00	0.0004
Cumulative ILCR/HQ:		**4E-06**	0.03	3E-09	NA	**4E-06**	0.03	3E-06	0.03

TABLE 4.13
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

Location	Soil Concentration EPC[b]	Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
		Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
		ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NEMSA									
Arsenic	4.3	2E-07	0.001	7E-11	NA	2E-07	0.001	*-8E-09*	*-0.00005*
Radium-226	42	2E-06	NA	2E-09	NA	2E-06	0	2E-06	0
Selenium	12	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	0.0002
Uranium	75	NA	0.01	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	36	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.0001
Cumulative ILCR/HQ:		2E-06	0.02	2E-09	NA	2E-06	0.02	2E-06	0.01
Boneyard									
Arsenic	5.5	3E-07	0.002	9E-11	NA	3E-07	0.002	6E-08	0.0004
Radium-226	46	2E-06	NA	2E-09	NA	2E-06	0	2E-06	0
Selenium	11	NA	0.0002	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	12	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.002
Vanadium	37	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.0001
Cumulative ILCR/HQ:		2E-06	0.005	2E-09	NA	2E-06	0.005	2E-06	0.003
Vents 3 & 8									
Arsenic	4.4	2E-07	0.001	7E-11	NA	2E-07	0.001	*-4E-09*	*-0.00003*
Radium-226	92	**4E-06**	NA	4E-09	NA	**4E-06**	0	**4E-06**	0
Selenium	27	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0005
Uranium	224	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	47	NA	0.0007	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**5E-06**	0.04	4E-09	NA	**5E-06**	0.04	**4E-06**	0.04

TABLE 4.13
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Trailer Park									
Arsenic	6.1	3E-07	0.002	1E-10	NA	3E-07	0.002	9E-08	0.001
Radium-226	32	2E-06	NA	1E-09	NA	2E-06	0	1E-06	0
Selenium	71	NA	0.001	NA	NA	0E+00	0.001	0E+00	0.001
Uranium	96	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	69	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Cumulative ILCR/HQ:		2E-06	0.04	1E-09	NA	2E-06	0.04	2E-06	0.04
BACKGROUND									
Arsenic	4.4	2E-07	0.002	7E-11	NA	2E-07	0.002	NA	NA
Molybdenum	ND	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	5E-08	NA	4E-11	NA	5E-08	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	0E+00	0.0004	NA	NA
Cumulative ILCR/HQ:		3E-07	0.002	1E-10	NA	3E-07	0.002	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.13
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.

TABLE 4.14
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]								Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1													
Arsenic	5.2	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	4E-08	0.0003
Molybdenum	29	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	*-0.0009*
Radium-226	39	**2E-06**	NA	**1E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**1E-03**	0
Selenium	20	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	117	NA	0.02	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	42	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		**2E-06**	0.02	**1E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.02	**1E-03**	0.02
NECR-2													
Arsenic	4.6	3E-07	0.002	NA	NA	8E-11	NA	NA	NA	3E-07	0.002	1E-08	0.00007
Radium-226	39	**2E-06**	NA	**1E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**1E-03**	0
Selenium	11	NA	0.0002	NA	NA	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	85	NA	0.01	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	40	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		**2E-06**	0.02	**1E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.02	**1E-03**	0.01
Ponds 1 & 2													
Arsenic	4.9	3E-07	0.002	NA	NA	8E-11	NA	NA	NA	3E-07	0.002	3E-08	0.0002
Radium-226	179	**9E-06**	NA	**6E-03**	NA	7E-09	NA	**9E-04**	NA	**7E-03**	0	**7E-03**	0
Selenium	43	NA	0.0009	NA	NA	NA	NA	NA	NA	0E+00	0.0009	0E+00	0.0009
Uranium	223	NA	0.04	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	89	NA	0.001	NA	NA	NA	NA	NA	NA	0E+00	0.001	0E+00	0.0009
Cumulative ILCR/HQ:		**9E-06**	0.04	**6E-03**		7E-09	NA	**9E-04**	NA	**7E-03**	0.04	**7E-03**	0.04
Pond 3/3a													
Arsenic	6.0	3E-07	0.002	NA	NA	1E-10	NA	NA	NA	3E-07	0.002	8E-08	0.0005
Radium-226	253	**1E-05**	NA	**9E-03**	NA	1E-08	NA	**1E-03**	NA	**1E-02**	0	**1E-02**	0
Selenium	21	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	1,141	NA	0.2	NA	NA	NA	NA	NA	NA	0E+00	0.2	0E+00	0.2
Vanadium	58	NA	0.0008	NA	NA	NA	NA	NA	NA	0E+00	0.0008	0E+00	0.0004
Cumulative ILCR/HQ:		**1E-05**	0.2	**9E-03**		1E-08	NA	**1E-03**	NA	**1E-02**	0.2	**1E-02**	0.2
Sediment Pad													
Arsenic	4.5	2E-07	0.002	NA	NA	7E-11	NA	NA	NA	2E-07	0.002	4E-09	0.00002
Radium-226	109	**5E-06**	NA	**4E-03**	NA	4E-09	NA	**5E-04**	NA	**4E-03**	0	**4E-03**	0
Selenium	43	NA	0.0009	NA	NA	NA	NA	NA	NA	0E+00	0.0009	0E+00	0.0009
Uranium	513	NA	0.09	NA	NA	NA	NA	NA	NA	0E+00	0.09	0E+00	0.09
Vanadium	223	NA	0.003	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.003
Cumulative ILCR/HQ:		**5E-06**	0.09	**4E-03**		4E-09	NA	**5E-04**	NA	**4E-03**	0.09	**4E-03**	0.09

TABLE 4.14
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]								Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #1													
Arsenic	4.7	3E-07	0.002	NA	NA	8E-11	NA	NA	NA	3E-07	0.002	2E-08	0.0001
Radium-226	15	7E-07	NA	**5E-04**	NA	6E-10	NA	**7E-05**	NA	**6E-04**	0	**5E-04**	0
Selenium	4.5	NA	0.00009	NA	NA	NA	NA	NA	NA	0E+00	0.00009	0E+00	0.00008
Uranium	16	NA	0.003	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.002
Vanadium	35	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.00009
Cumulative ILCR/HQ:		1E-06	0.005	**5E-04**		7E-10	NA	**7E-05**	NA	**6E-04**	0.005	**5E-04**	0.003
Sandfill #2													
Arsenic	6.4	3E-07	0.002	NA	NA	1E-10	NA	NA	NA	3E-07	0.002	1E-07	0.0007
Radium-226	19	9E-07	NA	**7E-04**	NA	8E-10	NA	**9E-05**	NA	**8E-04**	0	**7E-04**	0
Selenium	3.4	NA	0.00007	NA	NA	NA	NA	NA	NA	0E+00	0.00007	0E+00	0.00006
Uranium	20	NA	0.003	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.003
Vanadium	42	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		1E-06	0.006	**7E-04**		9E-10	NA	**9E-05**	NA	**8E-04**	0.006	**7E-04**	0.004
Sandfill #3													
Arsenic	4.0	2E-07	0.001	NA	NA	7E-11	NA	NA	NA	2E-07	0.001	*-2E-08*	*-0.0001*
Radium-226	69	**3E-06**	NA	**2E-03**	NA	3E-09	NA	**3E-04**	NA	**3E-03**	0	**3E-03**	0
Selenium	18	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	185	NA	0.03	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Vanadium	55	NA	0.0008	NA	NA	NA	NA	NA	NA	0E+00	0.0008	0E+00	0.0004
Cumulative ILCR/HQ:		**4E-06**	0.03	**2E-03**		3E-09	NA	**3E-04**	NA	**3E-03**	0.03	**3E-03**	0.03
NEMSA													
Arsenic	4.3	2E-07	0.001	NA	NA	7E-11	NA	NA	NA	2E-07	0.001	*-8E-09*	*-0.00005*
Radium-226	42	**2E-06**	NA	**1E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**2E-03**	0
Selenium	12	NA	0.0003	NA	NA	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0002
Uranium	75	NA	0.01	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	36	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.0001
Cumulative ILCR/HQ:		**2E-06**	0.02	**1E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.02	**2E-03**	0.01
Boneyard													
Arsenic	5.5	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	6E-08	0.0004
Radium-226	46	**2E-06**	NA	**2E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**2E-03**	0
Selenium	11	NA	0.0002	NA	NA	NA	NA	NA	NA	0E+00	0.0002	0E+00	0.0002
Uranium	12	NA	0.002	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.002
Vanadium	37	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.0001
Cumulative ILCR/HQ:		**2E-06**	0.005	**2E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.005	**2E-03**	0.003

TABLE 4.14
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]								Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Vents 3 & 8													
Arsenic	4.4	2E-07	0.001	NA	NA	7E-11	NA	NA	NA	2E-07	0.001	*-4E-09*	*-0.00003*
Radium-226	92	**4E-06**	NA	**3E-03**	NA	4E-09	NA	**4E-04**	NA	**4E-03**	0	**4E-03**	0
Selenium	27	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0005
Uranium	224	NA	0.04	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	47	NA	0.0007	NA	NA	NA	NA	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**5E-06**	0.04	**3E-03**		4E-09	NA	**4E-04**	NA	**4E-03**	0.04	**4E-03**	0.04
Trailer Park													
Arsenic	6.1	3E-07	0.002	NA	NA	1E-10	NA	NA	NA	3E-07	0.002	9E-08	0.0006
Radium-226	32	**2E-06**	NA	**1E-03**	NA	1E-09	NA	**2E-04**	NA	**1E-03**	0	**1E-03**	0
Selenium	71	NA	0.001	NA	NA	NA	NA	NA	NA	0E+00	0.001	0E+00	0.001
Uranium	96	NA	0.02	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	69	NA	0.001	NA	NA	NA	NA	NA	NA	0E+00	0.001	0E+00	0.0006
Cumulative ILCR/HQ:		**2E-06**	0.02	**1E-03**		1E-09	NA	**2E-04**	NA	**1E-03**	0.02	**1E-03**	0.02
BACKGROUND													
Arsenic	4.4	2E-07	0.002	NA	NA	7E-11	NA	NA	NA	2E-07	0.002	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	5E-08	NA	**4E-05**	NA	4E-11	NA	**5E-06**	NA	**4E-05**	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	NA	NA	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	NA	NA	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	NA	NA
Cumulative ILCR/HQ:		3E-07	0.002	**4E-05**		1E-10	NA	**5E-06**	NA	**4E-05**	0.002	NA	NA
									USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.15
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1									
Arsenic	5.2	3E-07	0.002	9E-11	NA	3E-07	0.002	4E-08	0.0003
Radium-226	46	**2E-06**	NA	2E-09	NA	**2E-06**	0	2E-06	0
Selenium	15	NA	0.0003	NA	NA	0E+00	0.0003	0E+00	0.00030
Uranium	87	NA	0.01	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	46	NA	0.0007	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-06**	0.02	2E-06	0.02
NECR-2									
Arsenic	3.5	2E-07	0.001	6E-11	NA	2E-07	0.001	*-5E-08*	*-0.0003*
Radium-226	10	5E-07	NA	4E-10	NA	5E-07	0	4E-07	0
Selenium	3	NA	0.0001	NA	NA	0E+00	0.00006	0E+00	0.00004
Uranium	50	NA	0.009	NA	NA	0E+00	0.009	0E+00	0.008
Vanadium	34	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.00007
Cumulative ILCR/HQ:		7E-07	0.01	4E-10	NA	7E-07	0.01	4E-07	0.01
Ponds 1 & 2									
Arsenic	5.3	3E-07	0.002	9E-11	NA	3E-07	0.002	5E-08	0.0003
Radium-226	352	**2E-05**	NA	1E-08	NA	**2E-05**	0	**2E-05**	0
Selenium	168	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.003
Uranium	380	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.06
Vanadium	129	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.001
Cumulative ILCR/HQ:		**2E-05**	0.07	1E-08	NA	**2E-05**	0.07	**2E-05**	0.07
Pond 3/3a									
Arsenic	5.5	3E-07	0.002	9E-11	NA	3E-07	0.002	6E-08	0.0004
Radium-226	11	5E-07	NA	5E-10	NA	5E-07	0	5E-07	0
Selenium	2	NA	0.00005	NA	NA	0E+00	0.00005	0E+00	*0.00004*
Uranium	93	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	34	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.00008
Cumulative ILCR/HQ:		8E-07	0.02	5E-10	NA	8E-07	0.02	5E-07	0.02

TABLE 4.15
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

Location	Soil Concentration EPC[b]	Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
		Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
		ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sediment Pad									
Arsenic	3.8	2E-07	0.001	6E-11	NA	2E-07	0.001	-3E-08	*-0.0002*
Radium-226	104	**5E-06**	NA	4E-09	NA	**5E-06**	0	**5E-06**	0
Selenium	86	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.002
Uranium	230	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	65	NA	0.001	NA	NA	0E+00	0.0009	0E+00	0.0005
Cumulative ILCR/HQ:		**5E-06**	0.04	4E-09	NA	**5E-06**	0.04	**5E-06**	0.04
Sandfill #1									
Arsenic	7.8	4E-07	0.003	1E-10	NA	4E-07	0.003	2E-07	0.001
Radium-226	106	**5E-06**	NA	4E-09	NA	**5E-06**	0	**5E-06**	0
Selenium	18.4	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	60	NA	0.010	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	43	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		**5E-06**	0.01	4E-09	NA	**5E-06**	0.01	**5E-06**	0.01
Sandfill #2									
Arsenic	4.7	3E-07	0.002	8E-11	NA	3E-07	0.002	1E-08	0.00008
Radium-226	3	2E-07	NA	1E-10	NA	2E-07	0	1E-07	0
Selenium	0.6	NA	0.00001	NA	NA	0E+00	0.00001	0E+00	0.000002
Uranium	20	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.003
Vanadium	48	NA	0.0007	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		4E-07	0.006	2E-10	NA	4E-07	0.006	1E-07	0.004
Sandfill #3									
Arsenic	5.4	3E-07	0.002	9E-11	NA	3E-07	0.002	5E-08	0.0003
Radium-226	49	**2E-06**	NA	2E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	39	NA	0.0008	NA	NA	0E+00	0.0008	0E+00	0.0008
Uranium	356	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.06
Vanadium	51	NA	0.0007	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**3E-06**	0.06	2E-09	NA	**3E-06**	0.06	**2E-06**	0.06

TABLE 4.15
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NEMSA									
Arsenic	3.7	2E-07	0.001	6E-11	NA	2E-07	0.001	*-4E-08*	*-0.0002*
Radium-226	69	**3E-06**	NA	3E-09	NA	**3E-06**	0	**3E-06**	0
Selenium	119	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.002
Uranium	242	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	39	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	0.0001
Cumulative ILCR/HQ:		**4E-06**	0.05	3E-09	NA	**4E-06**	0.05	**3E-06**	0.04
Boneyard									
Arsenic	4.6	3E-07	0.002	8E-11	NA	3E-07	0.002	8E-09	0.00005
Radium-226	36	**2E-06**	NA	1E-09	NA	**2E-06**	0	**2E-06**	0
Selenium	17	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.0003
Uranium	124	NA	0.02	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	32	NA	0.0005	NA	NA	0E+00	0.0005	0E+00	0.00005
Cumulative ILCR/HQ:		**2E-06**	0.02	2E-09	NA	**2E-06**	0.02	**2E-06**	0.02
BACKGROUND									
Arsenic	4.4	2E-07	0.002	7E-11	NA	2E-07	0.002	NA	NA
Molybdenum	ND	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	5E-08	NA	4E-11	NA	5E-08	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	0E+00	0.0004	NA	NA
Cumulative ILCR/HQ:		3E-07	0.002	1E-10	NA	3E-07	0.002	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.15
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.

TABLE 4.16
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]								Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1													
Arsenic	5.2	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	4E-08	0.0003
Radium-226	46	**2E-06**	NA	**2E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**2E-03**	0
Selenium	15	NA	0.0003	NA	NA	NA	NA	NA	NA	0E+00	0.0003	0E+00	0.0003
Uranium	87	NA	0.01	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	46	NA	0.0007	NA	NA	NA	NA	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**2E-06**	0.02	**2E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.02	**2E-03**	0.02
NECR-2													
Arsenic	3.5	2E-07	0.001	NA	NA	6E-11	NA	NA	NA	2E-07	0.001	*-5E-08*	*-0.0003*
Radium-226	10	5E-07	NA	**3E-04**	NA	4E-10	NA	**5E-05**	NA	**4E-04**	0	**3E-04**	0
Selenium	3	NA	0.00006	NA	NA	NA	NA	NA	NA	0E+00	0.00006	0E+00	0.00004
Uranium	50	NA	0.009	NA	NA	NA	NA	NA	NA	0E+00	0.009	0E+00	0.008
Vanadium	34	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.00007
Cumulative ILCR/HQ:		7E-07	0.010	**3E-04**		4E-10	NA	**5E-05**	NA	**4E-04**	0.01	**3E-04**	0.008
Ponds 1 & 2													
Arsenic	5.3	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	5E-08	0.0003
Radium-226	352	**2E-05**	NA	**1E-02**	NA	1E-08	NA	**2E-03**	NA	**1E-02**	0	**1E-02**	0
Selenium	168	NA	0.003	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.003
Uranium	380	NA	0.06	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.06
Vanadium	129	NA	0.002	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Cumulative ILCR/HQ:		**2E-05**	0.07	**1E-02**		1E-08	NA	**2E-03**	NA	**1E-02**	0.07	**1E-02**	0.07
Pond 3/3a													
Arsenic	5.5	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	6E-08	0.0004
Radium-226	11	5E-07	NA	**4E-04**	NA	5E-10	NA	**5E-05**	NA	**4E-04**	0	**4E-04**	0
Selenium	2	NA	0.00005	NA	NA	NA	NA	NA	NA	0E+00	0.00005	0E+00	0.00004
Uranium	93	NA	0.02	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	34	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.00008
Cumulative ILCR/HQ:		8E-07	0.02	**4E-04**		5E-10	NA	**5E-05**	NA	**4E-04**	0.02	**4E-04**	0.02
Sediment Pad													
Arsenic	3.8	2E-07	0.001	NA	NA	6E-11	NA	NA	NA	2E-07	0.001	*-3E-08*	*-0.00020*
Radium-226	104	**5E-06**	NA	**4E-03**	NA	4E-09	NA	**5E-04**	NA	**4E-03**	0	**4E-03**	0
Selenium	86	NA	0.002	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.002
Uranium	230	NA	0.04	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	65	NA	0.0009	NA	NA	NA	NA	NA	NA	0E+00	0.0009	0E+00	0.0005
Cumulative ILCR/HQ:		**5E-06**	0.04	**4E-03**		4E-09	NA	**5E-04**	NA	**4E-03**	0.04	**4E-03**	0.04

TABLE 4.16
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]								Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #1													
Arsenic	7.8	4E-07	0.003	NA	NA	1E-10	NA	NA	NA	4E-07	0.003	2E-07	0.001
Radium-226	106	**5E-06**	NA	**4E-03**	NA	4E-09	NA	**5E-04**	NA	**4E-03**	0	**4E-03**	0
Selenium	18.4	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0004
Uranium	60	NA	0.01	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Vanadium	43	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0002
Cumulative ILCR/HQ:		**5E-06**	0.01	**4E-03**		4E-09	NA	**5E-04**	NA	**4E-03**	0.01	**4E-03**	0.01
Sandfill #2													
Arsenic	4.7	3E-07	0.002	NA	NA	8E-11	NA	NA	NA	3E-07	0.002	1E-08	0.00008
Radium-226	3	2E-07	NA	**1E-04**	NA	1E-10	NA	**2E-05**	NA	**1E-04**	0	**8E-05**	0
Selenium	0.6	NA	0.00001	NA	NA	NA	NA	NA	NA	0E+00	0.00001	0E+00	0.000002
Uranium	20	NA	0.003	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.003
Vanadium	48	NA	0.0007	NA	NA	NA	NA	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		4E-07	0.006	**1E-04**		2E-10	NA	**2E-05**	NA	**1E-04**	0.006	**8E-05**	0.004
Sandfill #3													
Arsenic	5.4	3E-07	0.002	NA	NA	9E-11	NA	NA	NA	3E-07	0.002	5E-08	0.0003
Radium-226	49	**2E-06**	NA	**2E-03**	NA	2E-09	NA	**2E-04**	NA	**2E-03**	0	**2E-03**	0
Selenium	39	NA	0.0008	NA	NA	NA	NA	NA	NA	0E+00	0.0008	0E+00	0.0008
Uranium	356	NA	0.06	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.06
Vanadium	51	NA	0.0007	NA	NA	NA	NA	NA	NA	0E+00	0.0007	0E+00	0.0003
Cumulative ILCR/HQ:		**3E-06**	0.06	**2E-03**		2E-09	NA	**2E-04**	NA	**2E-03**	0.06	**2E-03**	0.06
NEMSA													
Arsenic	3.7	2E-07	0.001	NA	NA	6E-11	NA	NA	NA	2E-07	0.001	*-4E-08*	*-0.00023*
Radium-226	69	**3E-06**	NA	**2E-03**	NA	3E-09	NA	**3E-04**	NA	**3E-03**	0	**3E-03**	0
Selenium	119	NA	0.002	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.002
Uranium	242	NA	0.04	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.04
Vanadium	39	NA	0.0006	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	0.0001
Cumulative ILCR/HQ:		**4E-06**	0.05	**2E-03**		3E-09	NA	**3E-04**	NA	**3E-03**	0.05	**3E-03**	0.04
Boneyard													
Arsenic	4.6	3E-07	0.002	NA	NA	8E-11	NA	NA	NA	3E-07	0.002	8E-09	0.00005
Radium-226	36	**2E-06**	NA	**1E-03**	NA	1E-09	NA	**2E-04**	NA	**1E-03**	0	**1E-03**	0
Selenium	17	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.0003
Uranium	124	NA	0.02	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	0.02
Vanadium	32	NA	0.0005	NA	NA	NA	NA	NA	NA	0E+00	0.0005	0E+00	0.00005
Cumulative ILCR/HQ:		**2E-06**	0.02	**1E-03**		2E-09	NA	**2E-04**	NA	**1E-03**	0.02	**1E-03**	0.02

TABLE 4.16
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Subsurface Soil - Hypothetical Future On-site Livestock Grazer - Scenario 2

Location	Soil Concentration EPC[b]	Pathway-Specific Cancer Risk and Noncancer Hazard Estimates[a]								Combined Pathway Risk and Hazard Estimates			
		Ingestion of Soil		Ingestion of Meat		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard[c]	
		ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
BACKGROUND													
Arsenic	4.4	2E-07	0.002	NA	NA	7E-11	NA	NA	NA	2E-07	0.002	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	5E-08	NA	**4E-05**	NA	4E-11	NA	**5E-06**	NA	**4E-05**	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	NA	NA	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	NA	NA	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	NA	NA	NA	NA	0E+00	0.0004	NA	NA
	Cumulative ILCR/HQ:	3E-07	0.002	**4E-05**		1E-10	NA	**5E-06**	NA	**4E-05**	0.002	NA	NA
									USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
ND - Not detected in background samples.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.17
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1									
Arsenic	5.2	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	**2E-06**	0.03
Molybdenum	29	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.07
Radium-226	39	**4E-05**	NA	2E-08	NA	**4E-05**	0	**3E-05**	0
Selenium	20	NA	0.05	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	117	NA	**2**	NA	NA	0E+00	**2**	0E+00	**2**
Vanadium	42	NA	0.08	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		**5E-05**	**3**	4E-08	NA	**5E-05**	**3**	**4E-05**	**3**
NECR-2									
Arsenic	4.6	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	5E-07	0.009
Radium-226	39	**4E-05**	NA	2E-08	NA	**4E-05**	0	**3E-05**	0
Selenium	11	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	85	NA	**2**	NA	NA	0E+00	**2**	0E+00	**2**
Vanadium	40	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		**5E-05**	**2**	4E-08	NA	**5E-05**	**2**	**4E-05**	**2**
Ponds 1 & 2									
Arsenic	4.9	1E-05	0.2	1E-08	NA	1E-05	0.2	1E-06	0.02
Radium-226	179	**2E-04**	NA	1E-07	NA	**2E-04**	0	**2E-04**	0
Selenium	43	NA	0.1	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	223	NA	**5**	NA	NA	0E+00	**5**	0E+00	**5**
Vanadium	89	NA	0.2	NA	NA	0E+00	0.2	0E+00	0.1
Cumulative ILCR/HQ:		**2E-04**	**5**	1E-07	NA	**2E-04**	**5**	**2E-04**	**5**
Pond 3/3a									
Arsenic	6.0	**1E-05**	0.3	2E-08	NA	**1E-05**	0.3	**4E-06**	0.1
Radium-226	253	**2E-04**	NA	2E-07	NA	**2E-04**	0	**2E-04**	0
Selenium	21	NA	0.05	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	1,141	NA	**24**	NA	NA	0E+00	**24**	0E+00	**24**
Vanadium	58	NA	0.1	NA	NA	0E+00	0.1	0E+00	0.1
Cumulative ILCR/HQ:		**2E-04**	**25**	2E-07	NA	**2E-04**	**25**	**2E-04**	**24**
Sediment Pad									
Arsenic	4.5	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	2E-07	0.003
Radium-226	109	**1E-04**	NA	7E-08	NA	**1E-04**	0	**1E-04**	0
Selenium	43	NA	0.1	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	513	NA	**11**	NA	NA	0E+00	**11**	0E+00	**11**
Vanadium	223	NA	0.4	NA	NA	0E+00	0.4	0E+00	0.4
Cumulative ILCR/HQ:		**1E-04**	**12**	8E-08	NA	**1E-04**	**12**	**1E-04**	**11**
Sandfill #1									
Arsenic	4.7	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	7E-07	0.01
Radium-226	15	**1E-05**	NA	9E-09	NA	**1E-05**	0	**1E-05**	0
Selenium	4.5	NA	0.01	NA	NA	0E+00	0.01	0E+00	0.01
Uranium	16	NA	0.3	NA	NA	0E+00	0.3	0E+00	0.3
Vanadium	35	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.01
Cumulative ILCR/HQ:		**2E-05**	**1**	2E-08	NA	**2E-05**	**1**	**1E-05**	0.3
Sandfill #2									
Arsenic	6.4	**2E-05**	0.3	2E-08	NA	**2E-05**	0.3	**5E-06**	0.1
Radium-226	19	**2E-05**	NA	1E-08	NA	**2E-05**	0	**2E-05**	0
Selenium	3.4	NA	0.009	NA	NA	0E+00	0.009	0E+00	0.007
Uranium	20	NA	0.4	NA	NA	0E+00	0.4	0E+00	0.4
Vanadium	42	NA	0.08	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		**3E-05**	**1**	3E-08	NA	**3E-05**	**1**	**2E-05**	1
Sandfill #3									
Arsenic	4.0	**9E-06**	0.2	1E-08	NA	**9E-06**	0.2	*-1E-06*	*0.0*
Radium-226	69	**6E-05**	NA	4E-08	NA	**6E-05**	0	**6E-05**	0
Selenium	18	NA	0.05	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	185	NA	**4**	NA	NA	0E+00	**4**	0E+00	**4**
Vanadium	55	NA	0.1	NA	NA	0E+00	0.1	0E+00	0.0
Cumulative ILCR/HQ:		**7E-05**	**4**	5E-08	NA	**7E-05**	**4**	**6E-05**	**4**

TABLE 4.17
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NEMSA									
Arsenic	4.3	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	*-3E-07*	*0.0*
Radium-226	42	**4E-05**	NA	3E-08	NA	**4E-05**	0	**4E-05**	0
Selenium	12	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	75	NA	**2**	NA	NA	0E+00	**2**	0E+00	**2**
Vanadium	36	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.01
Cumulative ILCR/HQ:		**5E-05**	**2**	4E-08	NA	**5E-05**	**2**	**4E-05**	**2**
Boneyard									
Arsenic	5.5	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	**2E-06**	0.0
Radium-226	46	**4E-05**	NA	3E-08	NA	**4E-05**	0	**4E-05**	0
Selenium	11	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	12	NA	0.3	NA	NA	0E+00	0.3	0E+00	0.2
Vanadium	37	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		**5E-05**	**1**	4E-08	NA	**5E-05**	**1**	**4E-05**	0
Vents 3 & 8									
Arsenic	4.4	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	*-2E-07*	*0.0*
Radium-226	92	**8E-05**	NA	6E-08	NA	**8E-05**	0	**8E-05**	0
Selenium	27	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.07
Uranium	224	NA	**5**	NA	NA	0E+00	**5**	0E+00	**5**
Vanadium	47	NA	0.09	NA	NA	0E+00	0.09	0E+00	0.03
Cumulative ILCR/HQ:		**9E-05**	**5**	7E-08	NA	**9E-05**	**5**	**8E-05**	**5**
Trailer Park									
Arsenic	6.1	**1E-05**	0.3	2E-08	NA	**1E-05**	0.3	**4E-06**	0.1
Radium-226	32	**3E-05**	NA	2E-08	NA	**3E-05**	0	**3E-05**	0
Selenium	71	NA	0.2	NA	NA	0E+00	0.2	0E+00	0.2
Uranium	96	NA	**2**	NA	NA	0E+00	**2**	0E+00	**2**
Vanadium	69	NA	0.1	NA	NA	0E+00	0.1	0E+00	0.1
Cumulative ILCR/HQ:		**4E-05**	**3**	4E-08	NA	**4E-05**	**3**	**3E-05**	**2**
BACKGROUND									
Arsenic	4.4	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	NA	NA
Molybdenum	ND	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	1E-06	NA	7E-10	NA	1E-06	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		**1E-05**	0.3	1E-08	NA	**1E-05**	0.3	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.

TABLE 4.18
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - National Average Meat Ingestion

	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Combined Pathway Risk and Hazard Estimates: Total Cancer Risk and Hazard		Combined Pathway Risk and Hazard Estimates: Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1																	
Arsenic	5.2	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.03
Molybdenum	29	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.07
Radium-226	39	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	20	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	117	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	42	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	3	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	3	5E-03	3
NECR-2																	
Arsenic	4.6	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	5E-07	0.009
Radium-226	39	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	11	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	85	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	40	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	2	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	2	5E-03	2
Ponds 1 & 2																	
Arsenic	4.9	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	1E-06	0.02
Radium-226	179	2E-04	NA	3E-03	NA	6E-03	NA	1E-04	NA	1E-07	NA	1E-02	NA	2E-02	0	2E-02	0
Selenium	43	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	223	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	5	0E+00	5
Vanadium	89	NA	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.2	0E+00	0.1
Cumulative ILCR/HQ:		2E-04	5	3E-03	NA	6E-03	NA	1E-04	NA	1E-07	NA	1E-02	NA	2E-02	5	2E-02	5
Pond 3/3a																	
Arsenic	6.0	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.06
Radium-226	253	2E-04	NA	4E-03	NA	9E-03	NA	2E-04	NA	2E-07	NA	2E-02	NA	3E-02	0	3E-02	0
Selenium	21	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	1,141	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	24	0E+00	24
Vanadium	58	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.05
Cumulative ILCR/HQ:		2E-04	25	4E-03	NA	9E-03	NA	2E-04	NA	2E-07	NA	2E-02	NA	3E-02	25	3E-02	24
Sediment Pad																	
Arsenic	4.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-07	0.003
Radium-226	109	1E-04	NA	2E-03	NA	4E-03	NA	9E-05	NA	7E-08	NA	8E-03	NA	1E-02	0	1E-02	0
Selenium	43	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	513	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	11	0E+00	11
Vanadium	223	NA	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.4	0E+00	0.4
Cumulative ILCR/HQ:		1E-04	12	2E-03	NA	4E-03	NA	9E-05	NA	8E-08	NA	8E-03	NA	1E-02	12	1E-02	11
Sandfill #1																	
Arsenic	4.7	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	7E-07	0.01
Radium-226	15	1E-05	NA	2E-04	NA	5E-04	NA	1E-05	NA	9E-09	NA	1E-03	NA	2E-03	0	2E-03	0
Selenium	4.5	NA	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Uranium	16	NA	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.3	0E+00	0.3
Vanadium	35	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.01
Cumulative ILCR/HQ:		2E-05	0.6	2E-04	NA	5E-04	NA	1E-05	NA	2E-08	NA	1E-03	NA	2E-03	1	2E-03	0.3
Sandfill #2																	
Arsenic	6.4	2E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	2E-05	0.3	5E-06	0.08
Radium-226	19	2E-05	NA	3E-04	NA	7E-04	NA	2E-05	NA	1E-08	NA	1E-03	NA	2E-03	0	2E-03	0
Selenium	3.4	NA	0.009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.009	0E+00	0.007
Uranium	20	NA	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.4	0E+00	0.4
Vanadium	42	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		3E-05	0.8	3E-04	NA	7E-04	NA	2E-05	NA	3E-08	NA	1E-03	NA	2E-03	0.8	2E-03	1

TABLE 4.18
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - National Average Meat Ingestion

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #3																	
Arsenic	4.0	9E-06	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	9E-06	0.2	*-1E-06*	*-0.02*
Radium-226	69	6E-05	NA	1E-03	NA	2E-03	NA	6E-05	NA	4E-08	NA	5E-03	NA	9E-03	0	9E-03	0
Selenium	18	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	185	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	4	0E+00	4
Vanadium	55	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.05
Cumulative ILCR/HQ:		7E-05	4	1E-03	NA	2E-03	NA	6E-05	NA	5E-08	NA	5E-03	NA	9E-03	4	9E-03	4
NEMSA																	
Arsenic	4.3	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	*-3E-07*	*-0.006*
Radium-226	42	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	3E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	12	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	75	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	36	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.01
Cumulative ILCR/HQ:		5E-05	2	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	2	5E-03	2
Boneyard																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	46	4E-05	NA	7E-04	NA	2E-03	NA	4E-05	NA	3E-08	NA	4E-03	NA	6E-03	0	6E-03	0
Selenium	11	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	12	NA	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.3	0E+00	0.2
Vanadium	37	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	0.6	7E-04	NA	2E-03	NA	4E-05	NA	4E-08	NA	4E-03	NA	6E-03	1	6E-03	0.3
Vents 3 & 8																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	*-2E-07*	*-0.003*
Radium-226	92	8E-05	NA	1E-03	NA	3E-03	NA	7E-05	NA	6E-08	NA	7E-03	NA	1E-02	0	1E-02	0
Selenium	27	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.07
Uranium	224	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	5	0E+00	5
Vanadium	47	NA	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.09	0E+00	0.03
Cumulative ILCR/HQ:		9E-05	5	1E-03	NA	3E-03	NA	7E-05	NA	7E-08	NA	7E-03	NA	1E-02	5	1E-02	5
Trailer Park																	
Arsenic	6.1	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.07
Radium-226	32	3E-05	NA	5E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	2E-03	NA	4E-03	0	4E-03	0
Selenium	71	NA	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.2	0E+00	0.2
Uranium	96	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	69	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.07
Cumulative ILCR/HQ:		4E-05	3	5E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	2E-03	NA	4E-03	3	4E-03	2
BACKGROUND																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	8E-05	NA	1E-04	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	1E-08	NA	8E-05	NA	2E-04	0.3	NA	NA
													USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.18
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - National Average Meat Ingestion

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Hghlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.19
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - Native American Meat Ingestion

	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Combined Pathway Risk and Hazard Estimates: Total Cancer Risk and Hazard		Combined Pathway Risk and Hazard Estimates: Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
NECR-1																	
Arsenic	5.2	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.03
Molybdenum	29	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.07
Radium-226	39	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	20	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	117	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	42	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	3	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	3	5E-03	3
NECR-2																	
Arsenic	4.6	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	5E-07	0.009
Radium-226	39	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	11	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	85	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	40	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	2	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	2	5E-03	2
Ponds 1 & 2																	
Arsenic	4.9	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	1E-06	0.02
Radium-226	179	2E-04	NA	3E-03	NA	6E-03	NA	1E-04	NA	1E-07	NA	1E-02	NA	2E-02	0	2E-02	0
Selenium	43	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	223	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	5	0E+00	5
Vanadium	89	NA	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.2	0E+00	0.1
Cumulative ILCR/HQ:		2E-04	5	3E-03	NA	6E-03	NA	1E-04	NA	1E-07	NA	1E-02	NA	2E-02	5	2E-02	5
Pond 3/3a																	
Arsenic	6.0	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.06
Radium-226	253	2E-04	NA	4E-03	NA	9E-03	NA	2E-04	NA	2E-07	NA	2E-02	NA	3E-02	0	3E-02	0
Selenium	21	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	1,141	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	24	0E+00	24
Vanadium	58	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.05
Cumulative ILCR/HQ:		2E-04	25	4E-03	NA	9E-03	NA	2E-04	NA	2E-07	NA	2E-02	NA	3E-02	25	3E-02	24
Sediment Pad																	
Arsenic	4.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-07	0.003
Radium-226	109	1E-04	NA	2E-03	NA	4E-03	NA	9E-05	NA	7E-08	NA	8E-03	NA	1E-02	0	1E-02	0
Selenium	43	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.1
Uranium	513	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	11	0E+00	11
Vanadium	223	NA	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.4	0E+00	0.4
Cumulative ILCR/HQ:		1E-04	12	2E-03	NA	4E-03	NA	9E-05	NA	8E-08	NA	8E-03	NA	1E-02	12	1E-02	11
Sandfill #1																	
Arsenic	4.7	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	7E-07	0.01
Radium-226	15	1E-05	NA	2E-04	NA	5E-04	NA	1E-05	NA	9E-09	NA	1E-03	NA	2E-03	0	2E-03	0
Selenium	4.5	NA	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.01	0E+00	0.01
Uranium	16	NA	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.3	0E+00	0.3
Vanadium	35	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.01
Cumulative ILCR/HQ:		2E-05	0.6	2E-04	NA	5E-04	NA	1E-05	NA	2E-08	NA	1E-03	NA	2E-03	1	2E-03	0.3
Sandfill #2																	
Arsenic	6.4	2E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	2E-05	0.3	5E-06	0.08
Radium-226	19	2E-05	NA	3E-04	NA	7E-04	NA	2E-05	NA	1E-08	NA	1E-03	NA	2E-03	0	2E-03	0
Selenium	3.4	NA	0.009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.009	0E+00	0.007
Uranium	20	NA	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.4	0E+00	0.4
Vanadium	42	NA	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.08	0E+00	0.02
Cumulative ILCR/HQ:		3E-05	0.8	3E-04	NA	7E-04	NA	2E-05	NA	3E-08	NA	1E-03	NA	2E-03	0.8	2E-03	1

TABLE 4.19
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - Native American Meat Ingestion

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard[c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Sandfill #3																	
Arsenic	4.0	9E-06	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	9E-06	0.2	*-1E-06*	*-0.02*
Radium-226	69	6E-05	NA	1E-03	NA	2E-03	NA	6E-05	NA	4E-08	NA	5E-03	NA	9E-03	0	9E-03	0
Selenium	18	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	0E+00	0.05
Uranium	185	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	4	0E+00	4
Vanadium	55	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.05
Cumulative ILCR/HQ:		7E-05	4	1E-03	NA	2E-03	NA	6E-05	NA	5E-08	NA	5E-03	NA	9E-03	4	9E-03	4
NEMSA																	
Arsenic	4.3	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	*-3E-07*	*-0.006*
Radium-226	42	4E-05	NA	6E-04	NA	1E-03	NA	3E-05	NA	3E-08	NA	3E-03	NA	5E-03	0	5E-03	0
Selenium	12	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	75	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	36	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.01
Cumulative ILCR/HQ:		5E-05	2	6E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	3E-03	NA	5E-03	2	5E-03	2
Boneyard																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	46	4E-05	NA	7E-04	NA	2E-03	NA	4E-05	NA	3E-08	NA	4E-03	NA	6E-03	0	6E-03	0
Selenium	11	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.03
Uranium	12	NA	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.3	0E+00	0.2
Vanadium	37	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		5E-05	0.6	7E-04	NA	2E-03	NA	4E-05	NA	4E-08	NA	4E-03	NA	6E-03	1	6E-03	0.3
Vents 3 & 8																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	*-2E-07*	*-0.003*
Radium-226	92	8E-05	NA	1E-03	NA	3E-03	NA	7E-05	NA	6E-08	NA	7E-03	NA	1E-02	0	1E-02	0
Selenium	27	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.07
Uranium	224	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	5	0E+00	5
Vanadium	47	NA	0.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.09	0E+00	0.03
Cumulative ILCR/HQ:		9E-05	5	1E-03	NA	3E-03	NA	7E-05	NA	7E-08	NA	7E-03	NA	1E-02	5	1E-02	5
Trailer Park																	
Arsenic	6.1	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.07
Radium-226	32	3E-05	NA	5E-04	NA	1E-03	NA	3E-05	NA	2E-08	NA	2E-03	NA	4E-03	0	4E-03	0
Selenium	71	NA	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.2	0E+00	0.2
Uranium	96	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	2	0E+00	2
Vanadium	69	NA	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	0E+00	0.07
Cumulative ILCR/HQ:		4E-05	3	5E-04	NA	1E-03	NA	3E-05	NA	4E-08	NA	2E-03	NA	4E-03	3	4E-03	2
BACKGROUND																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	NA	NA
Molybdenum	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0	NA	NA
Radium-226	1.1	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	8E-05	NA	1E-04	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.1	NA	NA
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	1E-08	NA	8E-05	NA	2E-04	0.3	NA	NA
USEPA Risk Range:														10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.19
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - ON-SITE
Shallow Soil - Hypothetical Future On-Site Residential Receptor - Scenario 2 - Native American Meat Ingestion

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:
[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).
[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.
[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.
Boldface indicates ILCR or HQ estimates within USEPA's risk management range.
Italics indicates ILCR or HQ estimates less than zero.
Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.20
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #1									
Arsenic	4.6	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	5E-07	0.009
Radium-226	1.4	1E-06	NA	9E-10	NA	1E-06	0	3E-07	0
Selenium	0.25	NA	0.0006	NA	NA	0E+00	0.0006	0E+00	*-0.0007*
Uranium	1.2	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	30	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.003
Cumulative ILCR/HQ:		**1E-05**	0.3	1E-08	NA	**1E-05**	0.3	8E-07	0.01
HOME SITE #2									
Arsenic	5.5	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	2E-06	0.04
Radium-226	0.90	8E-07	NA	6E-10	NA	8E-07	0	***-2E-07***	0
Selenium	0.97	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.0	NA	0.02	NA	NA	0E+00	0.02	0E+00	*-0.004*
Vanadium	37	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		**1E-05**	0.3	2E-08	NA	**1E-05**	0.3	**2E-06**	0.06
HOME SITE #3									
Arsenic	5.5	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	**2E-06**	0.04
Radium-226	1.2	**1E-06**	NA	7E-10	NA	1E-06	0	**8E-08**	0
Selenium	0.62	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.0002
Uranium	1.3	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	40	NA	0.07	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		**1E-05**	0.3	2E-08	NA	**1E-05**	0.3	**3E-06**	0.07
HOME SITE #4									
Arsenic	3.9	**9E-06**	0.2	1E-08	NA	**9E-06**	0.2	-1E-06	-0.02
Radium-226	2.3	**2E-06**	NA	1E-09	NA	**2E-06**	0	**1E-06**	0
Selenium	0.8	NA	0.002	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.5	NA	0.03	NA	NA	0E+00	0.03	0E+00	0.01
Vanadium	34	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.009
Cumulative ILCR/HQ:		**1E-05**	0.3	1E-08	NA	**1E-05**	0.3	**-2E-07**	-0.01

TABLE 4.20
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #5									
Arsenic	6.2	**1E-05**	0.3	2E-08	NA	**1E-05**	0.3	4E-06	0.08
Radium-226	1.8	**2E-06**	NA	1E-09	NA	**2E-06**	0	6E-07	0
Selenium	1.1	NA	0.003	NA	NA	0E+00	0.003	0E+00	0.001
Uranium	1.9	NA	0.04	NA	NA	0E+00	0.04	0E+00	0.02
Vanadium	32	NA	0.06	NA	NA	0E+00	0.06	0E+00	0.006
Cumulative ILCR/HQ:		**2E-05**	0.4	2E-08	NA	**2E-05**	0.4	**5E-06**	0.1
BACKGROUND									
Arsenic	4.4	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	NA	NA
Radium-226	1.1	1E-06	NA	7E-10	NA	1E-06	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		**1E-05**	0.3	1E-08	NA	**1E-05**	0.3	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.

TABLE 4.21
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 - National Average Meat Consumption

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #1																	
Arsenic	4.6	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	5E-07	0.009
Radium-226	1.4	1E-06	NA	2E-05	NA	5E-05	NA	1E-06	NA	9E-10	NA	1E-04	NA	2E-04	0	4E-05	0
Selenium	0.25	NA	0.0006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	-0.0007
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	30	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.003
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	5E-05	NA	1E-06	NA	1E-08	NA	1E-04	NA	2E-04	0.3	4E-05	0.01
HOME SITE #2																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	0.90	8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	0	-3E-05	0
Selenium	0.97	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.0	NA	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	-0.004
Vanadium	37	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		1E-05	0.3	1E-05	NA	3E-05	NA	7E-07	NA	2E-08	NA	7E-05	NA	1E-04	0.3	-2E-05	0.06
HOME SITE #3																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	1.2	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	9E-05	NA	2E-04	0	1E-05	0
Selenium	0.62	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.0002
Uranium	1.3	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	40	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	2E-08	NA	9E-05	NA	2E-04	0.3	1E-05	0.07
HOME SITE #4																	
Arsenic	3.9	9E-06	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	9E-06	0.2	-1E-06	-0.02
Radium-226	2.3	2E-06	NA	3E-05	NA	8E-05	NA	2E-06	NA	1E-09	NA	2E-04	NA	3E-04	0	1E-04	0
Selenium	0.8	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.5	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.01
Vanadium	34	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.009
Cumulative ILCR/HQ:		1E-05	0.3	3E-05	NA	8E-05	NA	2E-06	NA	1E-08	NA	2E-04	NA	3E-04	0.3	1E-04	-0.01
HOME SITE #5																	
Arsenic	6.2	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.08
Radium-226	1.8	2E-06	NA	3E-05	NA	6E-05	NA	1E-06	NA	1E-09	NA	1E-04	NA	2E-04	0	9E-05	0
Selenium	1.1	NA	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.001
Uranium	1.9	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.02
Vanadium	32	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.006
Cumulative ILCR/HQ:		2E-05	0.4	3E-05	NA	6E-05	NA	1E-06	NA	2E-08	NA	1E-04	NA	2E-04	0.4	9E-05	0.1
BACKGROUND																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	NA	NA
Radium-226	1.1	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	8E-05	NA	1E-04	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	1E-08	NA	8E-05	NA	2E-04	0.3	NA	NA
													USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.21
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 - National Average Meat Consumption

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.22
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 - Native American Meat Consumption

Location	Soil Concentration EPC[b]	Ingestion of Soil ILCR	Ingestion of Soil HQ	Ingestion of Produce ILCR	Ingestion of Produce HQ	Ingestion of Meat ILCR	Ingestion of Meat HQ	Ingestion of Eggs ILCR	Ingestion of Eggs HQ	Inhalation of Fugitive Dust ILCR	Inhalation of Fugitive Dust HQ	External Exposure ILCR	External Exposure HQ	Combined Pathway Risk and Hazard Estimates: Total Cancer Risk and Hazard ILCR	Total Cancer Risk and Hazard HQ	Incremental Cancer Risk and Hazard[c] ILCR	Incremental Cancer Risk and Hazard[c] HQ
HOME SITE #1																	
Arsenic	4.6	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	5E-07	0.009
Radium-226	1.4	1E-06	NA	2E-05	NA	5E-05	NA	1E-06	NA	9E-10	NA	1E-04	NA	2E-04	0	4E-05	0
Selenium	0.25	NA	0.0006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.0006	0E+00	*-0.0007*
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	30	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.003
	Cumulative ILCR/HQ:	1E-05	0.3	2E-05	NA	5E-05	NA	1E-06	NA	1E-08	NA	1E-04	NA	2E-04	0.3	4E-05	0.01
HOME SITE #2																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	0.90	8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	0	*-3E-05*	0
Selenium	0.97	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.0	NA	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.02	0E+00	*-0.004*
Vanadium	37	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
	Cumulative ILCR/HQ:	1E-05	0.3	1E-05	NA	3E-05	NA	7E-07	NA	2E-08	NA	7E-05	NA	1E-04	0.3	*-2E-05*	0.06
HOME SITE #3																	
Arsenic	5.5	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	2E-06	0.04
Radium-226	1.2	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	9E-05	NA	2E-04	0	1E-05	0
Selenium	0.62	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.0002
Uranium	1.3	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.001
Vanadium	40	NA	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.07	0E+00	0.02
	Cumulative ILCR/HQ:	1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	2E-08	NA	9E-05	NA	2E-04	0.3	1E-05	0.07
HOME SITE #4																	
Arsenic	3.9	9E-06	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	9E-06	0.2	-1E-06	*-0.02*
Radium-226	2.3	2E-06	NA	3E-05	NA	8E-05	NA	2E-06	NA	1E-09	NA	2E-04	NA	3E-04	0	1E-04	0
Selenium	0.8	NA	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.002	0E+00	0.001
Uranium	1.5	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	0E+00	0.01
Vanadium	34	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.009
	Cumulative ILCR/HQ:	1E-05	0.3	3E-05	NA	8E-05	NA	2E-06	NA	1E-08	NA	2E-04	NA	3E-04	0.3	1E-04	*-0.01*
HOME SITE #5																	
Arsenic	6.2	1E-05	0.3	NA	NA	NA	NA	NA	NA	2E-08	NA	NA	NA	1E-05	0.3	4E-06	0.08
Radium-226	1.8	2E-06	NA	3E-05	NA	6E-05	NA	1E-06	NA	1E-09	NA	1E-04	NA	2E-04	0	9E-05	0
Selenium	1.1	NA	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.003	0E+00	0.001
Uranium	1.9	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.04	0E+00	0.02
Vanadium	32	NA	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.06	0E+00	0.006
	Cumulative ILCR/HQ:	2E-05	0.4	3E-05	NA	6E-05	NA	1E-06	NA	2E-08	NA	1E-04	NA	2E-04	0.4	9E-05	0.1
BACKGROUND																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	NA	NA
Radium-226	1.1	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	8E-05	NA	1E-04	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	NA	NA
	Cumulative ILCR/HQ:	1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	1E-08	NA	8E-05	NA	2E-04	0.3	NA	NA
													USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.22
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - WESTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 -Native American Meat Consumption

														Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.23
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - EASTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #6									
Radium-226	0.90	8E-07	NA	6E-10	NA	**8E-07**	0	**-2E-07**	0
Cumulative ILCR/HQ:		8E-07	NA	6E-10	NA	8E-07	NA	-1E-05	NA
HOME SITE #7									
Radium-226	0.78	7E-07	NA	5E-10	NA	**7E-07**	0	**-3E-07**	0
Cumulative ILCR/HQ:		7E-07	NA	5E-10	NA	7E-07	NA	**-1E-05**	NA
HOME SITE #8									
Radium-226	0.90	**8E-07**	NA	6E-10	NA	**8E-07**	0	**-2E-07**	0
Cumulative ILCR/HQ:		8E-07	NA	6E-10	NA	8E-07	NA	**-1E-05**	NA
HOME SITE #9									
Radium-226	0.84	**8E-07**	NA	5E-10	NA	**8E-07**	0	**-2E-07**	0
Cumulative ILCR/HQ:		8E-07	NA	5E-10	NA	8E-07	NA	**-1E-05**	NA
BACKGROUND									
Arsenic	4.4	**1E-05**	0.2	1E-08	NA	**1E-05**	0.2	NA	NA
Radium-226	1.1	1E-06	NA	7E-10	NA	1E-06	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		**1E-05**	0.3	1E-08	NA	**1E-05**	0.3	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

TABLE 4.23
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - EASTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.

TABLE 4.24
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - EASTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 - National Average Meat Consumption

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]												Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #6																	
Radium-226	0.90	8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	6E-10	NA	**7E-05**	NA	**1E-04**	0	-3E-05	0
Cumulative ILCR/HQ:		8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	6E-10	NA	**7E-05**	NA	**1E-04**	NA	-4E-05	NA
HOME SITE #7																	
Radium-226	0.78	7E-07	NA	**1E-05**	NA	3E-05	NA	6E-07	NA	5E-10	NA	**6E-05**	NA	**1E-04**	0	-4E-05	0
Cumulative ILCR/HQ:		7E-07	NA	**1E-05**	NA	3E-05	NA	6E-07	NA	5E-10	NA	**6E-05**	NA	**1E-04**	NA	-5E-05	NA
HOME SITE #8																	
Radium-226	0.90	8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	6E-10	NA	**7E-05**	NA	**1E-04**	0	-2E-05	0
Cumulative ILCR/HQ:		8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	6E-10	NA	**7E-05**	NA	**1E-04**	NA	-4E-05	NA
HOME SITE #9																	
Radium-226	0.84	8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	5E-10	NA	**6E-05**	NA	**1E-04**	0	-3E-05	0
Cumulative ILCR/HQ:		8E-07	NA	**1E-05**	NA	3E-05	NA	7E-07	NA	5E-10	NA	**6E-05**	NA	**1E-04**	NA	-4E-05	NA
BACKGROUND																	
Arsenic	4.4	**1E-05**	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	**1E-05**	0.2	NA	NA
Radium-226	1.1	1E-06	NA	**2E-05**	NA	**4E-05**	NA	9E-07	NA	7E-10	NA	**8E-05**	NA	**1E-04**	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		1E-05	0.3	**2E-05**	NA	**4E-05**	NA	9E-07	NA	1E-08	NA	**8E-05**	NA	**2E-04**	0.3	NA	NA
													USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.25
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - EASTERN HOME SITES
Post-Removal Shallow Soil - Residential Receptor - Scenario 2 - Native American Meat Consumption

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]												Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Ingestion of Produce		Ingestion of Meat		Ingestion of Eggs		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Location	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
HOME SITE #6																	
Radium-226	0.90	8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	0	-3E-05	0
Cumulative ILCR/HQ:		8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	NA	-4E-05	NA
HOME SITE #7																	
Radium-226	0.78	7E-07	NA	1E-05	NA	3E-05	NA	6E-07	NA	5E-10	NA	6E-05	NA	1E-04	0	-4E-05	0
Cumulative ILCR/HQ:		7E-07	NA	1E-05	NA	3E-05	NA	6E-07	NA	5E-10	NA	6E-05	NA	1E-04	NA	-5E-05	NA
HOME SITE #8																	
Radium-226	0.90	8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	0	-3E-05	0
Cumulative ILCR/HQ:		8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	6E-10	NA	7E-05	NA	1E-04	NA	-4E-05	NA
HOME SITE #9																	
Radium-226	0.84	8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	5E-10	NA	6E-05	NA	1E-04	0	-3E-05	0
Cumulative ILCR/HQ:		8E-07	NA	1E-05	NA	3E-05	NA	7E-07	NA	5E-10	NA	6E-05	NA	1E-04	NA	-4E-05	NA
BACKGROUND																	
Arsenic	4.4	1E-05	0.2	NA	NA	NA	NA	NA	NA	1E-08	NA	NA	NA	1E-05	0.2	NA	NA
Radium-226	1.1	1E-06	NA	2E-05	NA	4E-05	NA	9E-07	NA	7E-10	NA	8E-05	NA	1E-04	0	NA	NA
Selenium	0.53	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.001	NA	NA
Uranium	1.2	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.03	NA	NA
Vanadium	29	NA	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0E+00	0.05	NA	NA
Cumulative ILCR/HQ:		1E-05	0.3	2E-05	NA	4E-05	NA	9E-07	NA	1E-08	NA	8E-05	NA	2E-04	0.3	NA	NA
													USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Italics indicates ILCR or HQ estimates less than zero.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4 or HQ of 1.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.
USEPA - U. S. Environmental Protection Agency

TABLE 4.26
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - Unnamed Arroyo
Future Livestock Grazer - Scenario 1

		Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]				Combined Pathway Risk and Hazard Estimates			
	Soil Concentration	Ingestion of Soil		Inhalation of Fugitive Dust		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Depth	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Surface Soil									
Radium-226	19	9E-07	NA	8E-10	NA	9E-07	0	9E-07	0
Cumulative ILCR/HQ:		9E-07	NA	8E-10	NA	9E-07	0	6E-07	0
Subsurface Soil									
Arsenic	4.1	2E-07	0.001	7E-11	NA	2E-07	0.001	*-2E-08*	*-0.0001*
Radium-226	1.1	5E-08	NA	4E-11	NA	5E-08	0	0E+00	0
Selenium	6.9	NA	0.0001	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	33	NA	0.006	NA	NA	0E+00	0.006	0E+00	0.005
Vanadium	30	NA	0.0004	NA	NA	0E+00	0.0004	0E+00	0.00002
Cumulative ILCR/HQ:		3E-07	0.008	1E-10	NA	3E-07	0.008	*-2E-08*	0.005
BACKGROUND									
Arsenic	4.4	2E-07	0.002	7E-11	NA	2E-07	0.002	NA	NA
Radium-226	1.1	5E-08	NA	4E-11	NA	5E-08	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	0E+00	0.0004	NA	NA
Cumulative ILCR/HQ:		3E-07	0.002	1E-10	NA	3E-07	0.002	NA	NA
					USEPA Risk Range:	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.

TABLE 4.27
SUMMARY OF HUMAN HEALTH RISK ESTIMATES - Unnamed Arroyo
Future Livestock Grazer - Scenario 2

	Soil Concentration	Pathway-Specific Cancer Risk and Noncancer Hazard Estimates [a]						Combined Pathway Risk and Hazard Estimates			
		Ingestion of Soil		Inhalation of Fugitive Dust		External Exposure		Total Cancer Risk and Hazard		Incremental Cancer Risk and Hazard [c]	
Depth	EPC[b]	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ	ILCR	HQ
Surface Soil											
Radium-226	19	9E-07	NA	8E-10	NA	**9E-05**	NA	**9E-05**	0	**9E-05**	0
Cumulative ILCR/HQ:		9E-07	NA	8E-10	NA	**9E-05**	NA	**9E-05**	0	**9E-05**	0
Subsurface Soil		C									
Arsenic	4.1	2E-07	0.001	7E-11	NA	NA	NA	2E-07	0.001	*-2E-08*	*-0.0001*
Radium-226	1.1	5E-08	NA	4E-11	NA	**5E-06**	NA	**5E-06**	0	0E+00	0
Selenium	6.9	NA	0.0001	NA	NA	NA	NA	0E+00	0.0001	0E+00	0.0001
Uranium	33	NA	0.006	NA	NA	NA	NA	0E+00	0.006	0E+00	0.005
Vanadium	30	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	0E+00	0.00002
Cumulative ILCR/HQ:		3E-07	0.008	1E-10	NA	**5E-06**	NA	**6E-06**	0.008	*-2E-08*	0.005
BACKGROUND											
Arsenic	4.4	2E-07	0.002	7E-11	NA	NA	NA	2E-07	0.002	NA	NA
Radium-226	1.1	5E-08	NA	4E-11	NA	**5E-06**	NA	**5E-06**	0	NA	NA
Selenium	0.53	NA	0.00001	NA	NA	NA	NA	0E+00	0.00001	NA	NA
Uranium	1.2	NA	0.0002	NA	NA	NA	NA	0E+00	0.0002	NA	NA
Vanadium	29	NA	0.0004	NA	NA	NA	NA	0E+00	0.0004	NA	NA
Cumulative ILCR/HQ:		3E-07	0.002	1E-10	NA	**5E-06**	NA	**6E-06**	0.002	NA	NA
						USEPA Risk Range:	**USEPA Risk Range:**	10-6 - 10-4	1	10-6 - 10-4	1

Notes:

[a] Based on the Soil Screening Guidance for Radionuclides, Online SSL Calculator for chemicals and radionuclides (USEPA, 2007).

[b] The exposure point concentration (EPC) is the lower of the maximum or 95% UCL concentration. All results are in mg/kg with the exception of Radium-226 which is reported in pCi/g.

[c] Represents the chemical-specific and cumulative risk/hazard for each home site with the background risk/hazard removed.

Boldface indicates ILCR or HQ estimates within USEPA's risk management range.

Highlighting indicates potential cause for remedial action due to risk driving status for indicated pathway and/or analyte at a particular location. Risk exceeds USEPA range of 10-6 to 10-4.

HQ - Hazard quotient.
ILCR - Incremental lifetime cancer risk.
NA - Not applicable.