APPENDIX E

BORING LOGS FOR 50 SERIES COMPLEX

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B055SB001 Sheet 1 of 1

Boring Location: Building 55 - SE of former hydraulic press		Elevation and Datum: 28.31	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/17/99	Date Finished: 9/17/99
Drilling Equipment: Rhino	Borehole Diameter: 4.25"	Completed Depth: (feet) 12.0	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Split spoon sampler		WELL CONSTRUCTION	
Drilling Method: Hollow stem auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		SILTY CLAY w/gravel (CL/Fill): (5,10,85) 10YR5/4 yellowish brown, very fine to very coarse, <5% gravel, low to medium plasticity clay, 20-30% silt, low to medium dry strength, no dilatancy, dry, no odor, unconsolidated, low to medium permeability, lower contact sharp		S01A, S01D, S01B, S01E, S01C, S01F				0	S01A: metals list, CrVI, TPH-D, SVOCs, PAHs S01D: PAHs, split of S01A S01B: TPH-G S01E: TPH-G split of S01B S01C: VOCs S01F: VOCs split of S01C
		Weathered SANDSTONE: (0,55, 45) 10YR5/4 yellowish brown, very fine to fine grained, dry, no odor, slightly dense to 3 feet bgs then dense, weakly to moderately cemented						0	
5				G01				0	G01: TO-14
				S02A, S02D, S02B, S02C				0	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, PCBs S02D: PCBs duplicate of S02A S02B: TPH-G S02C: VOCs
10				S03A, S03B, S03C					S03A: metals list, CrVI, TPH-D, SVOCs, PAHs, PCBs S03B: TPH-G S03C: VOCs
		No water encountered in boring. Total Depth of Boring = 12 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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USAC BL BENICIA.GPJ

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056AHA001 Sheet 1 of 1

Boring Location: Building 56A - west end of hallway		Elevation and Datum: 15.10	
Drilling Contractor: NA	Driller: NA	Date Started: 9/24/99	Date Finished: 9/27/99
Drilling Equipment: NA	Borehole Diameter: 2"	Completed Depth: (feet) 5.4	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete		S01B, S01E, S01C, S01F					S01B: TPHg S01E: TPHg, duplicate of S01B S01C: VOCs S01F: VOCs, duplicate of S01C
		SILTY CLAY (CL/Fill): (0, 20, 80) 10YR5/4 yellowish brown, low plasticity clay, low dry strength, low dilatancy, soft, moist to dry, no odor, unconsolidated, low to medium permeability, sand up to 20% in intervals		S01A, S01D				0	S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01D: metals list, CrVI, TPHd, SVOCs, PAHs, pH, duplicate of S01A
		Weathered SANDSTONE (Fill): 2.5Y6/2 light brownish gray to 10YR5/4 yellow-brown, rock fragments, stiff clay at 4.5 feet bgs, strong odor and color change to 5GY5/1 greenish gray at 5 feet bgs, moist to wet at 5.4 feet bgs		S02A, G01, S02B, S02C				40 60	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH G01: TO-14 S02B: TPH-G S02C: VOCs
5		No water encountered in boring. Total depth of boring = 5.4 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056AHA003 Sheet 1 of 1

Boring Location: Void space beneath northern portion of Bldg 56A		Elevation and Datum: 16.50	
Drilling Contractor: NA	Driller: NA	Date Started: 9/24/99	Date Finished: 9/24/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 5.4	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Clayey GRAVELLY SILT (ML/Fill): (20, 20, 60) 10YR5/4 yellowish brown, very fine to fine to very coarse, medium to high plasticity clay, low dry, no dilatancy, loose, dry, no odor, unconsolidated, 10-20% angular gravel and sandstone fragments, medium to high permeability		S01B-C S01A					S01B: TPH-G S01C: VOCs S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		SILTY SAND/SANDY SILT (ML/SM): (0, 55, 45) 10YR5/4 yellowish brown, weathered sandstone, very fine, slightly dense to moderately dense, dry, no odor, moderate to high permeability						0	
				G01				0	G01: TO-14
5				S02A S02B S02C				0	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S02B: TPH-G S02C: VOCs
		No water encountered in boring. Total depth of boring = 5.4 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056AHA004 Sheet 1 of 1

Boring Location: Bldg 56A Equipment-near drain of AST stand		Elevation and Datum: 14.97	
Drilling Contractor: NA	Driller: NA	Date Started: 9/7/99	Date Finished: 9/7/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 4.6	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		Gravelly SANDY CLAY (CL/fill): (20,10,70) 10YR 5/4 yellowish brown, moist, <10% very fine sand, 15% medium plasticity clay, <1 inch diameter gravel, pieces of brick, low to moderate permeability		S01A-C				100	S01A: metals list, Cu, Pb, As, Sb, TPH-D, PAHs, anions S01B,C: depth = 0.8-0.85, TPH-G, VOCs
		SILTY CLAY (CL): (0,10,90) 10YR5/4 yellowish-brown, medium plasticity, low toughness, low dilatancy, "fruity" odor, low to moderate permeability							
		CLAYEY SILT (ML): (0,0,100) 10YR5/2 grayish-brown, <5% very fine sand, 10% low to medium plastic clay, dry, "fruity" odor, low to moderate permeability, color changes to 5GY5/1 (greenish gray) at 2.7 feet bgs with strong hydrocarbon odor of 2000+ ppm, gradational color change to 10YR5/2 (grayish brown) at 3.7 feet bgs (800 ppm)						2000	
				S02A				800	S02A: metals list, Cu, Pb, As, Sb, TPH-D, PAHs, anions S02B/C: TPH-G, VOCs
				S02B/C					
5		No water encountered in boring. Total depth of boring = 4.6 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056AHA005 Sheet 1 of 1

Boring Location: Bldg 56A transformer room		Elevation and Datum: 15.06	
Drilling Contractor: NA	Driller: NA	Date Started: 9/7/99	Date Finished: 9/7/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 5.3	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Sample	Lithology	Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		SANDY GRAVEL (GW/Fill): (70,20,10), 20% very fine to fine sand, <10% silt/clay, <1 inch diameter gravel		S01B/C					S01B/C: TPH-G, VOCs
		SILTY CLAY (CL): (0,0,100) 10YR5/3 brown, low to medium plasticity, moist, fruity odor, low permeability		S01A					S01A: lead, TPH-D, PCBs, PAHs
		CLAYEY SILT (ML): (0,10,90) 10YR5/3 brown, <15% medium plasticity clay, <5% very fine sand, dry, fruity odor, gradational contact, very dense to bedrock at 5.2-5.3 feet						0	
								0	
				S02B/C					S02B/C: TPH-G, VOCs
5				S02A/D					S02A: lead, TPH-D, PCBs, PAHs S02D: lead, TPH-D, PCBs, PAHs - split
		SANDSTONE: 10YR5/4, yellowish brown, very fine to fine grained, dry, no odor, no bedding evident, low to moderate permeability, weakly to moderately cemented, siliceous cementation.							
		No water encountered in boring.							
		Total depth of boring = 5.3 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056HA001 Sheet 1 of 1

Boring Location: Utility tunnel beneath Building 56		Elevation and Datum: 20.71	
Drilling Contractor: NA	Driller: NA	Date Started: 9/21/99	Date Finished: 9/22/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 3.7	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		SILTY SAND/SANDY SILT (ML/SM): (0,55,45) 10YR5/4 yellowish brown, very fine to fine, dry, no odor, weathered sandstone to ~1 foot		S01 S01B S01C					S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01B: VOCs S01C: Duplicate of S01A
		SANDSTONE: 10YR5/4, yellowish brown, very fine to fine grained, dry, no odor, no bedding evident, low to moderate permeability, weakly to moderately cemented, siliceous cementation.						0	
				S02A S02B				0	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S02B: VOCs
		No water encountered in boring. Total depth of boring = 3.7 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056HA002 Sheet 1 of 1

Boring Location: Utility tunnel beneath Building 56		Elevation and Datum: 19.37	
Drilling Contractor: NA	Driller: NA	Date Started: 9/22/99	Date Finished: 9/22/99
Drilling Equipment: NA	Borehole Diameter: 2"	Completed Depth: (feet) 3.5	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		SILTY SAND/SANDY SILT (ML/SM): (0,55,45) 10YR5/4 yellowish brown, very fine to fine grained, dry, no odor, weathered sandstone to ~1 foot		S01B S01A				0	S01B: VOCs S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		SANDSTONE: 10YR5/4, yellowish brown, very fine to fine grained, dry, no odor, no bedding evident, low to moderate permeability, weakly to moderately cemented, siliceous cementation.		S02B S02A				0	S02B: VOCs S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		No water encountered in boring. Total depth of boring = 3.5 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056HA003 Sheet 1 of 1

Boring Location: Utility tunnel beneath Building 56		Elevation and Datum: 19.66	
Drilling Contractor: NA	Driller: NA	Date Started: 9/22/99	Date Finished: 9/22/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 5.4	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		SILTY SAND/SANDY SILT (ML/SM/Fill): (0,40,60) 10YR5/4 yellowish brown, slightly compacted, moist to dry, no odor, moderate permeability, lower contact sharp, weathered sandstone		S01B S01A				0	S01B: VOCs S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		CLAY (CL): (0,0,100) 10YR3/2 dark brown, very fine, medium to high plasticity, low permeability, color changes to 10YR5/4 yellowish brown at 3.5 feet bgs, increasing silt content to 20% below 4 feet bgs		G01				0	G01: TO-14
				S02A S02C S02B S02D				0	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S02C: Duplicate of S02A S02B: VOCs S02D: Duplicate of S02B
5		No water encountered in boring. Total depth of boring = 5.4 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
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USAC BL BENICIA.GPJ 4/28/03

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B056HA004 Sheet 1 of 1

Boring Location: Utility tunnel beneath Building 56		Elevation and Datum: 22.71	
Drilling Contractor: NA	Driller: NA	Date Started: 9/23/99	Date Finished: 9/23/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 0.6	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		SANDSTONE - 10YR5/4, yellowish brown, very fine to fine grained, dry, no odor, no bedding evident, low to moderate permeability, weakly to moderately cemented, siliceous cementation. Oily substance covering bedrock.		S01A-C				50	S01A: depth 0.1 - 0.6 - metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01B: depth 0.1 - 0.3 - VOCs S01C: depth 0.3 - 0.6 - CrVI, duplicate of S01A
		No water encountered in boring.							
		Total depth of boring = 0.6 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
5									

SAC BL BENICIA.GPJ 4/20/03

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B056SB001 Sheet 1 of 1

Boring Location: Bldg 56 - west side of former dip tank		Elevation and Datum: 28.11	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/17/99	Date Finished: 9/17/99
Drilling Equipment: Rhino	Borehole Diameter: 2"	Completed Depth: (feet) 12.0	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Geoprobe sampler		WELL CONSTRUCTION	
Drilling Method: Direct push	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		GRAVELLY SILT with clay (ML/Fill): (20,10,70) 10YR5/4 yellowish brown, very fine to very coarse, low to medium plasticity (<5%), dry to moist, no odor, moderate to high permeability, aggregate fill		S01A, S01B				0	S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01B: VOCs
		Brick							
		SILTY CLAY (CL): (0,10,90) 10YR5/2 grayish brown, 10-20% silt, low to medium plasticity, low to moderate dry strength, low dilatancy, dry to moist from 3.5 to 12 feet bgs, no odor, low to moderate permeability							
5				S02A, S02C, S02B, S02D				0	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S02C: metals list, SVOCs, PAHs, pH - split of S02A S02B: VOCs S02D: VOCs - split of S02B
10									
		No water encountered in boring. Total depth of boring = 12 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
15									

USAC BL BENICIA.GPJ 4/28/03

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B056SB002 Sheet 1 of 1

Boring Location: Bldg 56 - south side of former dip tank		Elevation and Datum: 28.06	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/16/99	Date Finished: 9/16/99
Drilling Equipment: Rhino	Borehole Diameter: 2"	Completed Depth: (feet) 16.0	Water Depth (Feet): Static/First Encountered /14
Sampling Method: Geoprobe sampler		WELL CONSTRUCTION	
Drilling Method: Direct push	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		GRAVELLY SILT with clay (ML/Fill): (0,0,100) 10YR5/4 yellowish brown, very fine to very coarse, low to medium plasticity (<5%), dry to moist, no odor, moderate to high permeability, aggregate fill							
		Brick		S01A S01B					S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01B: VOCs
5		SILTY CLAY (CL): (0,10,90) 10YR5/2 grayish brown, 10-20% silt, low to medium plasticity, low to moderate dry strength, low dilatancy, dry to moist from 3.5 to 13 feet bgs, saturated at 13.5 feet bgs, no odor, low to moderate permeability, increased sand content to 40% at 13.5 to 15.5 feet bgs						0	
				S02B S02A				0	S02B: VOCs S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
10				W01A-E					W01A-E: metals list, CrVI, TPH-G, TPH-D, VOCs, SVOCs, PAHs, TDS, anions, alkalinity
15		CLAY (CL): (0,0,100) 10YR3/2 very dark grayish brown, high plasticity, very dense, no dilatancy, tough, moist, no odor, very low permeability							
		Total depth of boring = 16 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
20									
25									

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B056SB004 Sheet 1 of 1

Boring Location: Northern portion of Building 56		Elevation and Datum: 28.11	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/15/99	Date Finished: 9/15/99
Drilling Equipment: Rhino	Borehole Diameter: 4.25"	Completed Depth: (feet) 10.0	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Split spoon sampler		WELL CONSTRUCTION	
Drilling Method: Hollow stem auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		GRAVELLY CLAY with silt (CL/Fill): (10,10,80) 10YR5/4 yellowish brown, very fine to very coarse, medium plasticity, moderate dry strength, low dilatancy, tough, dry to moist, no odor, unconsolidated, moderate permeability, lower contact sharp		S01B				0	S01B: VOCs
				S01A					S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		SANDY SILT with clay (ML): (0,30,70) 10YR5/4 yellowish brown, very fine, low to medium plasticity clay (<5%), dry, wet to saturated at 10 feet bgs, mottled, red brown spotty staining, low to medium permeability, increasing clay content to 10% from 5 to 9 feet bgs (0, 20, 80).							
5				S02B				0	S02B: VOCs
				S02A					S02A: metals list, CrVI, TPH-D, SVOCs, PCBs, PAHs
				S03A				0	S03A: metals list, CrVI, TPH-D, SVOCs, PCBs, PAHs
				S03B					S03B: VOCs
10		No water encountered in boring.							
		Total depth of boring = 10 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
15									

USAC BL BENICIA.GPJ 4/28/03

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B057AHP007 Sheet 1 of 1

Boring Location: 18 feet west of Building 57		Elevation and Datum: 25.30	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/14/99	Date Finished: 9/14/99
Drilling Equipment: Rhino	Borehole Diameter: 4.25"	Completed Depth: (feet) 27.0	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Geoprobe (0-12 ft) Split spoon (12-27 ft)		WELL CONSTRUCTION	
Drilling Method: DP (0-12 ft) HSA (12-27ft)	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Asphalt							
		SANDY GRAVEL (GP/Fill): (40,30,30) 2.5Y3/2 very dark grayish brown, very fine to very coarse, <5% low plasticity clay, subangular-angular, dry, no odor, unconsolidated, moderate to high permeability, lower contact sharp						0	
				S01B					S01B: VOCs
				S01A				0	S01A: metals list, CrVI, TPH-D, PAHs, pH
		SANDY SILT (ML): (0,20,80) 10YR5/6 yellowish brown, very fine grained, <5% low plasticity clay at 2.5 to 3.5 feet bgs, increasing clay content to 10% below 3.5 feet bgs, low dry strength, no dilatancy, low toughness, dry, no odor, uniform, cemented at 5-5.5 feet bgs, lower contact sharp						0	
		CLAY (CL): (0,0,100) 10YR4/2 dark grayish-brown, minor silt, very fine, low to medium plasticity, low to moderate dry strength, low dilatancy, moderate toughness, dry to moist, color change to 10YR6/6 (brownish-yellow) and silt content to 10% below 7 feet bgs, lower contact gradational		S02D					S02D: VOCs - split of S02B
				S02B					S02B: VOCs
				S02C				0	S02C: metals list, CrVI, TPH-D, PAHs, pH - split of S02A
				S02A					S02A: metals list, CrVI, TPH-D, PAHs, pH
		SILTY SAND (SM) to SANDY SILT (ML): (0,50,50) 10YR6/6 brownish-yellow, minor clay, very fine grained, no odor, dry, low to moderate permeability, very dense partially cemented bedrock at 14 feet bgs, gradational and weathered contact 12 to 14 feet bgs		S02F					S02F: grain size
		SANDSTONE: 10YR5/4 yellowish-brown, weathered, dry, possibly fractured (unknown due to pounding of samplers), no bedding evident, siliceous cement, weakly to moderately cemented, low to medium permeability, lower contact sharp						0	
				S03B				20	S03B: VOCs
				S03A					S03A: metals list, CrVI, TPH-D, PAHs, pH
		QUARTZITE: 10GY6/1 greenish gray, highly cemented							

No water encountered in boring.

Total depth of boring = 27 feet bgs

The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures

USAC BL BENICIA.GPJ

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B057ASB001 Sheet 1 of 1

Boring Location: 60 feet south of entryway of Bldg 57A		Elevation and Datum: 27.91	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/16/99	Date Finished: 9/16/99
Drilling Equipment: Rhino	Borehole Diameter: 2"	Completed Depth: (feet) 20.0	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Geoprobe sampler		WELL CONSTRUCTION	
Drilling Method: Direct push	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete							
		SILTY SAND with gravel (SM/Fill): (0,50,50) 10YR5/2, grayish brown, very fine to very coarse, minor clay, loose to slightly dense, moist, no odor, unconsolidated, medium to high permeability, sharp contacts							
		Brick							
		SILTY CLAY (CL): (0,0,100) 10YR5/4, yellowish brown, low to medium plasticity, moderate dry strength, low dilatancy, low toughness, dry, no odor, low permeability		S01D S01B S01A S01C				0	S01D: VOCs, duplicate of S01B S01B: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH S01C: metals list, CrVI, TPH-D, SVOCs, PAHs, pH - duplicate of S01A
5		No Recovery (NR)		S01 G02				450	G01: TO-14 G02: TO-14 - duplicate of G01
		SILTY CLAY (CL): (0,0,100) 10YR3/1, very dark gray, high plasticity, very tough, moist, no odor, low permeability							
10				S02B S02A				190	S02B: VOCs S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
		NR							
15									
		SILTY CLAY (CL): (0,0,100) 10YR5/4, yellowish brown, moist, low to medium plastic clay, moderate dry strength, low to medium dilatancy, "fruity" odor, iron spotted staining, mottled, low to moderate permeability							
				S03B S03A				400	S03B: VOCs S03A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
20		No water encountered in boring. Total depth of boring = 20 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
25									

USAC BL BENICIA.GPJ 4/28/03

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: B057BHA001 Sheet 1 of 1

Boring Location: Utility tunnel beneath Bldg 57B		Elevation and Datum: 19.23	
Drilling Contractor: NA	Driller: NA	Date Started: 9/21/99	Date Finished: 9/21/99
Drilling Equipment: NA	Borehole Diameter: 4"	Completed Depth: (feet) 5.4	Water Depth (Feet): Static/First Encountered NA/
Sampling Method: Drive sampler		WELL CONSTRUCTION	
Drilling Method: Hand auger	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Soil cuttings		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Brick							
		Wood		S01B				0	S01B: VOCs
		SILTY CLAY (CL): (0,0,100) 10YR3/2, very dark grayish-brown, moist to dry, medium plasticity clay, medium to high dry strength, low dilatancy, tough, no odor, uniform, low permeability, color changed to 5GY5/1 (greenish-gray) at 5 feet bgs, hydrocarbon-like odor from greenish-gray clay		S01A					S01A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
				S02A				50	S02A: metals list, CrVI, TPH-D, SVOCs, PAHs, pH
				S02C					S02C: SVOCs - split of S02A
5				S02B					S02B: VOCs
		No water encountered in boring.							
		Total depth of boring = 5.4 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
10									

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: **Benicia Arsenal Restoration Project/50 Series** Project Number: **00701**

Soil Boring ☐ Hand Auger Boring ☒ Monitoring Well ☐ Boring/Well Number: **B065BHA002** Sheet **1** of **1**

Boring Location: **Middle of courtyard**		Elevation and Datum: **25.43**	
Drilling Contractor: **NA**	Driller: **NA**	Date Started: **9/8/99**	Date Finished: **9/13/99**
Drilling Equipment: **NA**	Borehole Diameter: **2"**	Completed Depth: (feet) **10.8**	Water Depth (Feet): Static/First Encountered **NA/**
Sampling Method: **Drive sampler**		WELL CONSTRUCTION	
Drilling Method: **Hand auger**	Drilling Fluid: **NA**	Type and Diameter of Well Casing: **NA**	
Backfill Material: **Soil cuttings**		Slot Size: **NA**	Filter Material: **NA**
Logged By: **W. Linck**	Checked By: **D. Zuber**	Development Method: **NA**	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Concrete (on top of concrete, very fine silt cyclone material - 4 inches thick)							
		GRAVELLY CLAY (CL/Fill): (20,20,60) 10YR5/4, yellowish brown, unconsolidated, dry		S01A	X			0	S01A: copper, lead, arsenic, antimony, anions
		SANDY SILT with gravel (ML/Fill): (10,20,70) 10YR5/2, grayish brown, <10% gravel, 20% very fine sand, unconsolidated, fill, pieces of brick, increasing clay content below 1 foot bgs to 10% medium plasticity clay, concrete piece (painted red on one side), no odor, dry							
		SANDY SILT (ML)/Fill: (0,30,70) 10YR5/2, grayish brown, 20-40% very fine sand, <5% low plasticity clay, low dry strength, dry, moderate permeability		S02A	X			0	S02A: copper, lead, arsenic, antimony, anions
5									
		SILTY CLAY (CL/fill): (0,0,100) 10YR5/2 (grayish brown) to 10YR2/2 (very dark brown), mixture of silt and clay, slight to moderate density, dry							
		SILTY CLAY (CL): (0,0,100) 10YR2/2, very dark brown, dry, dense, moderate to high plasticity, low dilatancy, high dry strength, no odor, very low permeability		S03A	X			0	S03A: lead, TPH-D, PAHs
10				S03B/C	X				S03B/C: TPHg, VOCs
		No water encountered in boring.							
		Total depth of boring = 10.8 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B120SB001 Sheet 1 of 1

Boring Location: 35 feet west of northeast corner of Bldg 120		Elevation and Datum: 18.93	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/17/99	Date Finished: 9/17/99
Drilling Equipment: Rhino	Borehole Diameter: 2"	Completed Depth: (feet) 8.0	Water Depth (Feet): Static/First Encountered /4
Sampling Method: Geoprobe sampler		WELL CONSTRUCTION	
Drilling Method: Direct push	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Asphalt							
		SANDY CLAYEY GRAVEL (GC/fill): (60,10,30) 10YR5/4 to 5GY5/1, yellowish brown to greenish gray, very fine to very coarse, 5-10% low plasticity clay, low dry strength, low toughness, no odor, dry to moist, unconsolidated, brick pieces, lower contact sharp							
		SILTY CLAY (CL): (0,0,100) 5GY5/1, greenish gray, low to medium plasticity, moderate dry strength, low to medium dilatancy, low toughness, moist to saturated, moderate hydrocarbon-like? odor, low to moderate permeability		S01A				200	S01A: TPH-D, lead, PAHs
5				S01D					S01D: lead - split of S01A
				S01B					S01B: TPH-G
				S01E					S01E: TPHg - split of S01B
				S01C					S01C: VOCs
				S01F					S01F: VOCs - split of S01C
				W01A-C				200	W01A-C: lead, TPHg, TPHd, VOCs, PAHs
		Total depth of boring = 8 feet bgs							
		The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
10									

BORING LOG

US Army Corp of Engineers, Sacramento District

Project Name: Benicia Arsenal Restoration Project/50 Series Project Number: 00701

Soil Boring [X] Hand Auger Boring [ ] Monitoring Well [ ] Boring/Well Number: B120SB002 Sheet 1 of 1

Boring Location: 65 feet west of northeast corner of Bldg 120		Elevation and Datum: 18.83	
Drilling Contractor: Gregg Drilling	Driller: B. Deason	Date Started: 9/17/99	Date Finished: 9/17/99
Drilling Equipment: Rhino	Borehole Diameter: 2"	Completed Depth: (feet) 8.0	Water Depth (Feet): Static/First Encountered /4
Sampling Method: Geoprobe sampler		WELL CONSTRUCTION	
Drilling Method: Direct push	Drilling Fluid: NA	Type and Diameter of Well Casing: NA	
Backfill Material: Neat cement grout		Slot Size: NA	Filter Material: NA
Logged By: W. Linck	Checked By: D. Zuber	Development Method: NA	

Depth (feet)	USCS Soil Type	Description (group name, gradation [%gravel, %sands, %fines] munsell color, color, soil characteristics)	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Boring/Well Completion	PID Readings PPM	Remarks
		Asphalt							
		SANDY CLAYEY GRAVEL (GC/fill): (60,10,30) 10YR5/4 yellowish brown to 5GY5/1 greenish gray, very fine to very coarse, 10-20% low to medium plasticity clay, 10-20% sand, <1 inch angular gravel, dry to moist, unconsolidated, high to moderate permeability, lower contact sharp							
		SILTY CLAY (CL): (0,0,100) 5GY5/1, greenish gray, low to medium plasticity, moderate dry strength below 6 feet bgs, uniform, low permeability							
				S01A					S01A: TPH-D, lead, PAHs
				S01B				200	S01B: TPH-G
				S01C					S01C: VOCs
5									
				W01A-C					W01A-C: lead, TPH-D, TPH-G, VOCs, PAHs
		Total depth of boring = 8 feet bgs The group names, descriptions, and USCS Classifications are based entirely on visual-manual procedures							
10									

USAC BL BENICIA.GPJ 4/28/03

APPENDIX F

IDW MANIFESTS

Bay Soil Remediation Services
Non-Hazardous Soils

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #

Generator's Name and Billing Address: U.S. Army Corps of Engineers, 1325 J Street, Sacramento, CA 95814	Generator's Phone #: (916) 557-7986	Generator's US EPA ID No.: Non-HAZ, N/A
	Person to Contact: Bruce Handel	
	FAX#:	Customer Account Number with TPS:
Consultant's Name and Billing Address: Brown & Caldwell, 2701 Prospect Park Dr. Ste. 100, Rancho Cordova, CA 95670-6025	Consultant's Phone #: (916) 444-0123	
	Person to Contact: Brad Ziegler	
	FAX#: (916) 635-8805	Customer Account Number with TPS:
Generation Site (Transport from): *(name & address)* Benicia Arsenal Env. Restoration, 940 Tyler Street, Benicia, CA	Site Phone #:	BTEX Levels
	Person to Contact: Brad Ziegler	TPH Levels
	FAX#:	AVG. Levels
Designated Facility (Transport to): *(name & address)* Bay Soil Remediation Services, 20 Recycling Lane, Richmond, CA 94801	Facility Phone #: (510) 235-8778	Facility Permit Numbers
	Person to Contact: David W. Crilley	
	FAX#: (510) 231-4154	
Transporter Name and Mailing Address: IWM, Inc., 950 Ames Avenue, Milpitas, CA 95035-6303	Transporter's Phone #: (408) 942-8955	Transporter's US EPA ID No.: CAD983653627
	Person to Contact: Jay De Leon	Transporter's DOT No.:
	FAX#: (408) 942-1499	Customer Account Number with TPS:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☑ 20% - over ☐	Gas ☑ Diesel ☑ Other ☑					
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					

List any exception to items listed above: Primary source UST, suspected other source is industrial process using chlorinated solvents, see attached lab analysis.

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☑ Consultant ☐	Signature and date:	Month	Day	Year
Martin Fahning for USACE Sacramento District	Martin Fahning	12	20	00

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. NA	Manifest Document No.	2. Page 1 of 1

3. Generator's Name and Mailing Address
US Army Corps of Engineers Attn: Bruce Handel
1325 J Street, Sacramento, CA 95314
4. Generator's Phone (916) 557-7986

5. Transporter 1 Company Name	6. US EPA ID Number	
IWM, Inc.	CAD983653627	408-942-8955
7. Transporter 2 Company Name	8. US EPA ID Number	

9. Designated Facility Name and Site Address	10. US EPA ID Number	
Seaport Environmental 675 Seaport Blvd Redwood City, CA 94063		A. Transporter's Phone B. Transporter's Phone C. Facility's Phone 650-364-1024

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous Waste Liquid (Water)		DM	Est.	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Wear appropriate safety gear when handling material. Site: 940 Tyler St
24 Hr. Emergency 408-942-8955 Benicia, CA

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Martin Fahning for USACE - Sacramento District	Martin	12	20	00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

ORIGINAL - RETURN TO GENERATOR

APPENDIX G

PARTICLE SIZE ANALYSIS REPORT

TS Laboratories, Inc.

echnical Services

8100 Secura Way • Santa Fe Springs • CA 9067
Phone (562) 907-3607 • Fax (562) 907-3610

October 11, 1999

Mr. Dave Zuber
Brown & Caldwell
9616 Micron Ave. #600
Sacramento, CA 95827

Re: 50 Series
PTS File: 29406

Dear Mr. Zuber:

Enclosed are final data for samples submitted from your 50 Series Project # 701. All analyses were performed by applicable ASTM, EPA or API methodology. Samples will be retained for 30 days before disposal unless other arrangements are made.

We appreciate the opportunity to be of service and trust these data will prove beneficial in the development of this project. Please feel free to call myself or Larry Kunkel, District Manager, should you have any questions or require additional information.

Sincerely,

PTS Laboratories, Inc.

Rick Young
Project Manager

RY/vk

ncl.

PTS Laboratories, Inc.

Brown & Caldwell
PTS File No: 29406

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D4464)

PROJECT NAME: 50 Series
PROJECT NO: 701

Sample ID	Depth, ft.	Description USCS/ASTM (1)	Median Grain Size mm	Particle Size Distribution, wt. percent					
				Gravel	Sand Size			Silt	Clay
					Coarse	Medium	Fine		
BO57HPOO7-SO2F	n/a	Silt	0.045	0.00	0.00	0.04	28.30	61.47	10.20
BO57AHPOO5-SO1D	n/a	Silt	0.029	0.00	0.00	11.90	18.14	53.53	16.44

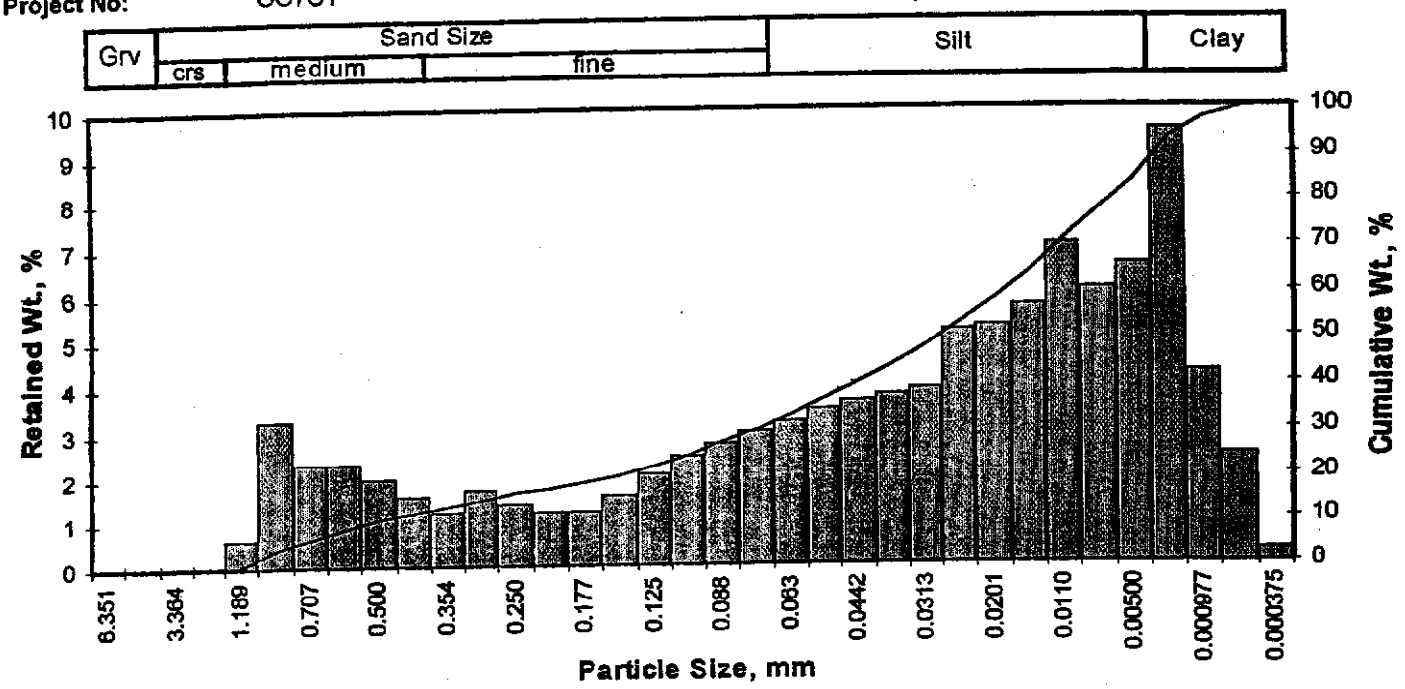
(1) based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client: Brown & Caldwell
Project: 50 Series
Project No: 00701

PTS File No: 29406
Sample ID: B057AHP005-S01D
Depth, ft: n/a



Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.61	0.61	0.61
0.0331	0.841	0.25	20	3.24	3.24	3.85
0.0278	0.707	0.50	25	2.28	2.28	6.13
0.0234	0.595	0.75	30	2.31	2.31	8.44
0.0197	0.500	1.00	35	1.92	1.92	10.36
0.0166	0.420	1.25	40	1.54	1.54	11.90
0.0139	0.354	1.50	45	1.19	1.19	13.09
0.0117	0.297	1.75	50	1.67	1.67	14.76
0.0098	0.250	2.00	60	1.35	1.35	16.11
0.0083	0.210	2.25	70	1.18	1.18	17.28
0.0070	0.177	2.50	80	1.17	1.17	18.45
0.0059	0.149	2.75	100	1.53	1.53	19.98
0.0049	0.125	3.00	120	2.02	2.02	22.00
0.0041	0.105	3.25	140	2.42	2.42	24.42
0.0035	0.088	3.50	170	2.68	2.68	27.10
0.0029	0.074	3.75	200	2.93	2.93	30.03
0.0025	0.063	4.00	230	3.19	3.19	33.22
0.0021	0.053	4.25	270	3.43	3.43	36.65
0.00174	0.0442	4.50	325	3.61	3.61	40.26
0.00146	0.0372	4.75	400	3.75	3.75	44.01
0.00123	0.0313	5.00	450	3.87	3.87	47.88
0.000986	0.0250	5.32	500	5.15	5.15	53.03
0.000790	0.0201	5.64	635	5.25	5.25	58.28
0.000615	0.0156	6.00		5.67	5.67	63.95
0.000435	0.0110	6.50		7.01	7.01	70.96
0.000308	0.00781	7.00		6.04	6.04	77.00
0.000197	0.00500	7.65		6.56	6.56	83.56
0.000077	0.00195	9.00		9.51	9.51	93.07
0.000038	0.000977	10.00		4.24	4.24	97.31
0.000019	0.000488	11.00		2.43	2.43	99.74
0.000015	0.000375	11.38		0.26	0.26	100.00
TOTALS				100.01	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	0.38	0.0303	0.770
10	0.95	0.0203	0.516
16	1.98	0.0100	0.253
25	3.30	0.0040	0.101
40	4.48	0.0018	0.045
50	5.13	0.0011	0.029
60	5.75	0.0007	0.019
75	6.83	0.0003	0.009
84	7.71	0.0002	0.005
90	8.56	0.0001	0.003
95	9.46	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.13	5.13	5.13
Median, in.	0.0011	0.0011	0.0011
Median, mm	0.029	0.029	0.029
Mean, phi	4.18	4.84	4.94
Mean, in.	0.0022	0.0014	0.0013
Mean, mm	0.055	0.035	0.033
Sorting	0.294	2.864	2.807
Skewness	1.044	-0.100	-0.074
Kurtosis	0.090	0.585	1.054
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	11.90
Fine Sand	200	18.14
Silt	>0.005 mm	53.53
Clay	<0.005 mm	16.44
	Total	100

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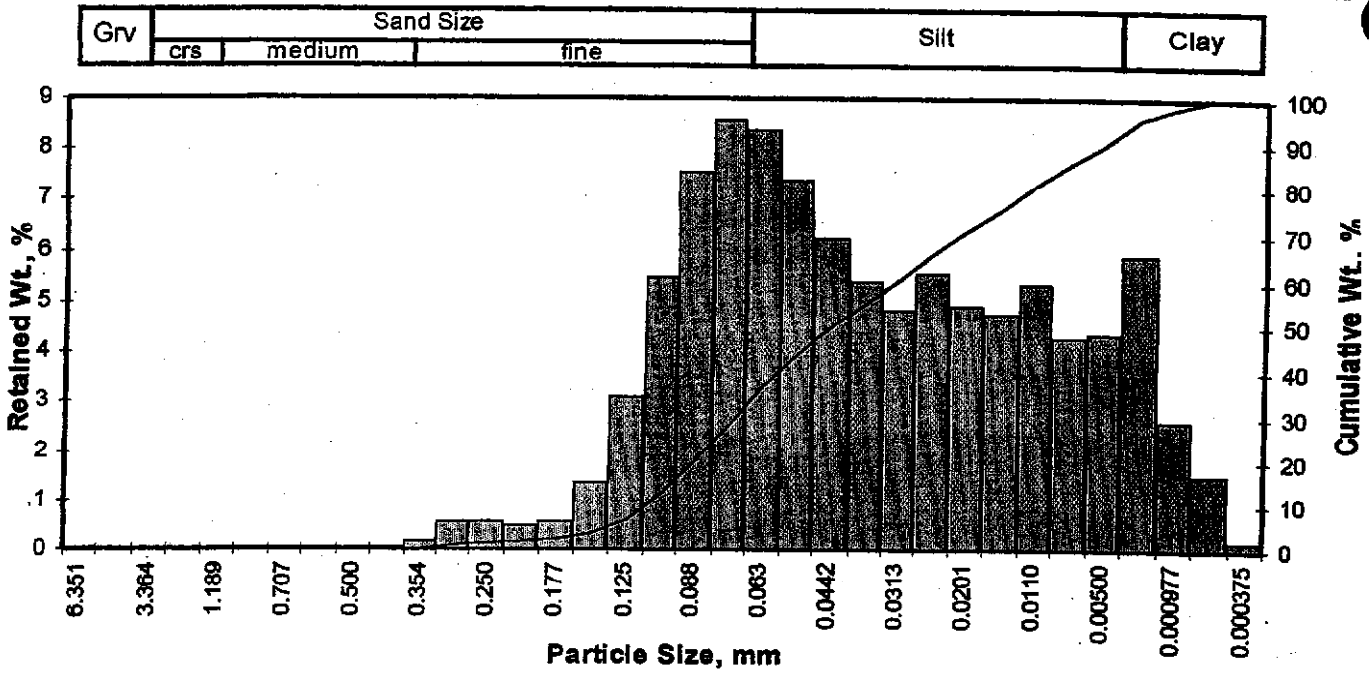
Particle Size Analysis - ASTM D4464M

Client:	Brown & Caldwell	**PTS File No:**	2940
Project:	50 Series	**Sample ID:**	BO57HPOO7-SO2
Project No:	OO7O1	**Depth, ft:**	n/



Opening Inches	Opening Millimeters	Phi of Screen	U.S. No.	Sample Weight, grams	Increment Weight, percent	Cumulative Weight, percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	0.00	0.00	0.00
0.0278	0.707	0.50	25	0.00	0.00	0.00
0.0234	0.595	0.75	30	0.00	0.00	0.00
0.0197	0.500	1.00	35	0.00	0.00	0.00
0.0166	0.420	1.25	40	0.03	0.03	0.04
0.0139	0.354	1.50	45	0.17	0.17	0.21
0.0117	0.297	1.75	50	0.56	0.56	0.77
0.0098	0.250	2.00	60	0.57	0.57	1.33
0.0083	0.210	2.25	70	0.47	0.47	1.80
0.0070	0.177	2.50	80	0.54	0.54	2.34
0.0059	0.149	2.75	100	1.33	1.33	3.67
0.0049	0.125	3.00	120	3.09	3.09	6.76
0.0041	0.105	3.25	140	5.47	5.47	12.23
0.0035	0.088	3.50	170	7.53	7.53	19.76
0.0029	0.074	3.75	200	8.57	8.57	28.33
0.0025	0.063	4.00	230	8.35	8.35	36.68
0.0021	0.053	4.25	270	7.38	7.38	44.06
0.00174	0.0442	4.50	325	6.24	6.24	50.30
0.00146	0.0372	4.75	400	5.41	5.41	55.71
0.00123	0.0313	5.00	450	4.83	4.83	60.54
0.000986	0.0250	5.32	500	5.57	5.57	66.11
0.000790	0.0201	5.64	635	4.90	4.90	71.01
0.000615	0.0156	6.00		4.76	4.76	75.77
0.000435	0.0110	6.50		5.37	5.37	81.14
0.000308	0.00781	7.00		4.30	4.30	85.44
0.000197	0.00500	7.65		4.36	4.36	89.80
0.000077	0.00195	9.00		5.89	5.89	95.69
0.000038	0.000977	10.00		2.63	2.63	98.32
0.000019	0.000488	11.00		1.52	1.52	99.84
0.000015	0.000375	11.38		0.16	0.16	100.00
TOTALS				100.01	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size Inches	Particle Size Millimeters
5	2.86	0.0054	0.138
10	3.15	0.0044	0.113
16	3.38	0.0038	0.096
25	3.65	0.0031	0.080
40	4.11	0.0023	0.058
50	4.49	0.0018	0.045
60	4.97	0.0013	0.032
75	5.94	0.0006	0.016
84	6.83	0.0003	0.009
90	7.69	0.0002	0.005
95	8.84	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	4.49	4.49	4.49
Median, in.	0.0018	0.0018	0.0018
Median, mm	0.045	0.045	0.045
Mean, phi	4.38	5.10	4.90
Mean, in.	0.0019	0.0011	0.0013
Mean, mm	0.048	0.029	0.034
Sorting	0.452	1.729	1.771
Skewness	0.807	0.356	0.406
Kurtosis	0.293	0.731	1.071
Grain Size Description (ASTM-USCS Scale)		Silt (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	0.04
Fine Sand	200	28.30
Silt	>0.005 mm	61.47
Clay	<0.005 mm	10.20
	Total	100

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Client: USACE		Area: I	COC # 0047
Project: 50 Series		Project #: 00701	
PM: Dave Zuber Brown and Caldwell	Tel: 916.854.5318 Fax: 916.856.5277	Samplers: WENDY LINCK JOAN NIELSEN	Lab Batch Control # 0047A

ID No.	Sample ID No.	SAMPLING: # of containers	Container Size/Type	Time	Beginning Depth	PID	Matrix Code	Preservative Code	Metals	Hexavalent Chromium SW7196	TPHG SW8015B	TPHD SW8015B	VOC SW8260B	BTEX, Oxygenates SW8260B	Semi-VOCs SW8270C	PCBs SW8082	PAHs SW8310	pH SW9040B SW9045C	Nitroaromatics, Nitroamines SW8330	Pesticides SW8141A	ASTM OXR2				TO-14	Comments
				9/14/99																						
1	B057HP007-S02F	1	SL	905			SS	NP													X					
2	B057AHP005-S01D	1	SL	9/10/99 835			SS	NP													X					
3																										
4																										
5																										
6																										
7																										
8																										
9																										
0																										

TAT Rush ____ days 7 14 (21) 30 days

Special Instructions

Condition of samples:

Cooler Temp. (°C):

Courier/Airbill: Ref. No - 351397

Relinquished By	Date	Time	Received By	Date	Time
[signature]	9/17/99	1617	[signature]	18SEP99	12:10

Sample ID No. Example: ABBBBCCDDD-EFGG

Matrix Codes: DW = Drinking Water, GW = Groundwater, WW = Wastewater, AR = Air, WP = [illegible] as, SS = Soil/Sediment, SD = Solid Waste, SL = Sludge, PP = Pure Products, OT = Other

Preservative Codes: IC = Ice, HC = HCl, HS = H_2SO_4, HN = HNO_3, SH = NaOH, ST = Na[illegible] = ZnAc

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM
B026TR001-A-S02	14500	< 7.13	22.7	101	0.825	0.603
B026TR001-A-S04	12600	< 3.25	16.6	125	0.622	0.222
B053SB001-S01A						
B053SB002-S01A						
B053TR001-S07						
B054HA001-A-S02	11100	< 5.05	5.1	77.4	0.416	30
B054HA002-A-S02	6350	< 3.04		43.8	< 0.336*	0.23
B055HA001-S01A	11300		12.9	236	0.397	6.78
B055HA002-S01A	14000	8.63	11.5	110	0.45	0.361
B055HA002-S02A	11000	< 3.91	20.3	44	0.5	0.0868
B055HA003-S01A	9200		3.06	75	0.22	0.0897
B055SB001-S01A	12900	6.05	9.62	148	0.564	0.186
B055SB001-S02A	15000	< 3.71	8.7	62.9	0.705	< 0.161
B055SB001-S03A	12400	< 3.8	6.53	34.3	0.555	< 0.164
B056AHA001-S01A	15000		10.7	89.4	0.582	0.243
B056AHA001-S02A	17100		5.13	92	0.709	< 0.19
B056AHA002-S01A	15400		9.77	97.2	0.636	< 0.181
B056AHA002-S02A	17300		10.2	101	0.5	< 0.187
B056AHA003-S01A	16200		9.4	83.5	0.655	< 0.171
B056AHA003-S02A	14900		9.37	63.1	0.584	< 0.169
B056AHA004-S01A			10.4			
B056AHA004-S02A			9.65			
B056AHA005-S01A						
B056AHA005-S02A						
B056BHA001-S01A	14500		11.8	85.3	0.604	< 0.163
B056BHA002-S01A	14600		7.96	72.4	0.551	0.18
B056BHA002-S02A	25100		2.22	45.8	0.542	0.276
B056BHA003-S01A	15500		8.74	77.1	0.543	< 0.174
B056BHA003-S02A	12800		65.2	42.8	0.579	0.173
B056BHA004-S01A	15000		8.5	57.5	0.524	< 0.172
B056BHA004-S02A	14800		14.9	52.2	0.597	< 0.165
B056HA001-S01A	13600	55.9	7.74	71.2	0.436	0.237
B056HA001-S02A	16300	8.1	11.5	69.6	0.593	< 0.166
B056HA002-S01A	12300	5.2	10.6	94.5	0.449	0.425
B056HA002-S02A	16800	5.84	17	78.8	0.621	0.278
B056HA003-S01A	17200	< 4	9.88	81.3	0.619	< 0.173
B056HA003-S02A	18900	6.91	16.5	79.2	0.719	< 0.183
B056HA004-S01A	12700		9.84	57.1	0.519	< 0.162
B056SB001-S01A	14800	4.22	9.91	124	0.599	0.59
B056SB001-S02A	19100	7.92	9.85	111	0.668	0.891
B056SB002-S01A	26100		15.9	47.5	0.549	0.553
B056SB002-S02A	22300		2.63	70.4	0.704	0.334
B056SB003-S01A	26800		9.92	120	0.715	< 0.199
B056SB003-S02A	24600		10.9	55.3	0.485	< 0.215
B056SB004-S01A	14700		11.7	74.3	0.582	0.231
B056SB004-S02A	23400		6.08	52.3	0.605	< 0.207
B056SB004-S03A	18400		3.78	82	0.51	< 0.191
B057AHP001-S01A	12800		4.7	44	0.724	< 0.176
B057AHP001-S02A	12700		7.82	53.1	0.581	< 0.162
B057AHP001-S03A	14900		7.53	55.1	0.617	< 0.18
B057AHP002-S01A	18900	13.1	9.77	102	0.806	1.38
B057AHP002-S02A	18100	< 4.01	8.2	74.2	0.795	< 0.174

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM
B057AHP002-S03A	13900	< 3.76	9.8	68	0.537	0.165
B057AHP002-S04A	16300	< 3.7	14.2	58	0.665	< 0.16
B057AHP003-S01A	11400		7.72	32.8	0.538	< 0.185
B057AHP003-S02A	12400		14.1	36.7	0.588	< 0.172
B057AHP003-S03A	14800		8.8	60.6	0.613	< 0.202
B057AHP004-S01A	14200		19.2	70.2	0.613	0.907
B057AHP005-S01A	13000		7.72	390	0.6	0.0984
B057AHP006-S01A	13000	6.67	6.15	110	0.6	0.192
B057AHP007-S01A	16100		9.16	72.6	0.543	< 0.181
B057AHP007-S02A	16000		12.7	63.1	0.726	< 0.165
B057AHP007-S03A	13600		8.78	47.6	0.702	0.212
B057AHP008-S01A	949	< 3.79	0.388	16.5	0.0399	< 0.164
B057ASB001-S01A	21300		15.2	197	0.638	< 0.192
B057ASB001-S02A	22200		7.8	175	0.717	< 0.19
B057ASB001-S03A	14200		9.69	73	0.505	0.257
B057BHA001-S01A	21300		8.96	154	0.665	< 0.184
B057BHA001-S02A	26200		10.6	136	0.615	< 0.2
B057HA004-S01A		6.57	8.93			
B057HA005-S01A		4.74	11.7			
B057HA005-S02A		< 4.94	23.9			
B065BHA002-S01A		8.32	44.5			
B065BHA002-S02A		< 3.99	10.2			
B065BHA002-S03A		< 4.34				
B065BHA003-S01A		8.71				
B065BHA003-S02A		8.45				
B065BHA004-S01A	17000	4.19	12.4	100	0.61	0.501
B065BHA004-S02A	15000	< 3.84	8.4	65	0.59	0.157
B066ASB001-S01A	10600	< 3.74	7.92	42.7	0.48	< 0.162
B066ASB001-S02A	15700	< 3.76	9.72	63.7	0.619	< 0.163
B066ASB001-S03A	14700		6.97	62.7	0.609	< 0.163
B073TR001-S03						0.28
B103TR003-S03						
B103TR003-S06						
B120SB001-S01A						
B120SB002-S01A						
B152HA001-A-S02	17300	< 3.12	10.6	67.6	0.663	0.145
B154TR002-S03						
B154TR003-S03						
B154TR006-S03						
B154TR007-S03						
B178HA001-A-S02	30800	< 11.5*	9.44	189	0.774	0.174
B178HA001-A-S04	18000	< 4.42	5.67	137	0.562	0.442
L001TR002-A-S01	15000	< 3.29	7.62	54.8	0.775	0.128
L001TR002-A-S02	25200	4.41	7.76	70.7	0.539	0.308
L001TR007-A-S02	12500	< 3.24	5.2	69.5	0.467	0.392
L001TR007-A-S04	15800	6.82	19.2	67.9	0.726	0.304
L001TR008-A-S02	29400	< 3.95	7.64	496	0.828	0.152
L002SC001-A-S02	16000	3.17	8.93	72.7	0.661	0.426
L002SC002-A-S02	14400	3.39	6.18	96.6	0.632	0.442
L002SC003-A-S02	16800	5.96	9.42	90.5	0.636	0.462
L002SC004-A-S02	15500	4.66	10.4	96.2	0.646	0.885
L002SC005-A-S02	17200	3.54	9.52	97	0.767	0.361

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM
L002SC006-A-S02	15200	5.2	9.52	159	0.737	0.714
L002SC007-A-S02	19600	3.82	10.3	104	0.742	0.557
L002SC008-A-S02	17700	8.19	10.9	87.1	0.602	1.25
L002SC009-A-S02	22300	3.74	5.22	56.9	0.604	0.255
L002SC010-A-S02	19500	3.47	3.46	54.9	0.408	0.307
L002TP001-A-S01	9200	12.9	9.31	189	0.462	0.145
L002TP002-A-S01	10800	< 3.57	7.84	127	0.391	0.258
L002TP002-A-S02	9780	< 3.57	6.84	154	0.435	0.14
L002TP002-A-S03	8450	< 3.5	8.75	87.5	0.335	0.137
L002TP005-A-S01	13200	< 3.24	4.03	87.1	0.418	< 0.0836
L002TR002-A-S01	15600	< 3.39	3.52	18.7	0.514	0.179
L002TR002-A-S02	9260	< 3.49	7.89	25.2	0.493	0.254
L002TR002-A-S03	10900	< 3.43	5.71	42.8	0.492	0.47
L002TR003-A-S02	10400	< 3.6	6.48	88.4	0.313	0.153
Q003TR001-A-S02	18000	5.54	39.1	158	0.933	1.85
Q003TR002-A-S02	10500	< 2.94	20.2	85.7	0.544	0.81
Q003TR005-A-S02	17600	< 3.13	7.33	116	0.663	0.529
SHMPZ001-A-S01A	10000	< 2.01	6.62	51.3	0.411	0.207
SHMPZ001-A-S02A	35100	3.13	14.5	132	0.562	0.069
SHMPZ002-A-S01A	12000	2.91	8.02	73.8	0.445	0.294
SHMPZ002-A-S02A	11300	< 2.11	6.51	64.2	0.449	0.0624
SHMPZ003-A-S01A	4450	2.03	2.76	45.3	0.739	0.202
SHMPZ003-A-S02A	13000	2.84	4.98	75.6	0.452	0.159
SHMPZ004-A-S01A	13100	5.48	4.7	84.9	0.426	0.434
SHMPZ004-A-S02A	47600	< 3.42	17.2	99.4	0.977	0.368
SHMPZ005-A-S01A	17700	< 2.31	2.23	39.7	0.518	0.0603
SHMPZ005-A-S02A	42800	< 2.48	4.89	119	0.956	0.0902
SHMPZ006-A-S01A	20500	< 2.34	1.16	41.3	0.595	0.0716
SHMPZ006-A-S02A	20600	< 2.1	9.95	88.1	0.671	0.28
SHMPZ007-A-S01A	24400	3.75	8.54	308	0.591	< 0.0366
SHMPZ007-A-S02A	22000	3.08	11.3	393	0.605	< 0.0389
SHMPZ009-A-S01A	33000	< 2.15	7.26	305	0.726	0.178
SHMPZ009-A-S02A	31000	< 2.1	8.87	639	0.708	< 0.0368
SHMPZ010-A-S01A	27900	2.2	7.91	268	0.701	0.226
SHMPZ010-A-S02A	24600	2.59	6.14	369	0.644	< 0.037
SHMPZ011-A-S01A	25700	< 2.13	7.46	152	0.513	< 0.0373
SHMPZ011-A-S02A	33900	< 2.09	7.31	226	0.68	0.18
SHMPZ012-A-S01A	36000	2.3	4.68	232	0.662	< 0.0375
SHMPZ012-A-S02A	9420	< 2.03	4.03	85.4	0.212	< 0.0356
SHMPZ017-A-S01A	31100	< 2.13	7.84	128	0.568	< 0.0373
SHMPZ017-A-S02A	41000	3.52	6.7	220	0.882	< 0.0383
SHMPZ019-A-S01A	33000	< 2.05	8.5	185	0.849	< 0.0359
SHMPZ019-A-S02A	34400	< 2.13	8.69	402	0.82	< 0.0373
SHMPZ020-A-S01A	18800	2.62	11	171	0.766	0.415
SHMPZ020-A-S02A	40100	3.97	11.4	379	0.857	0.0882

* Elevated detection limit - not included in expanded data.

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	CHROMIUM	COBALT	COPPER	IRON	LEAD	MANGANESE
B026TR001-A-S02	54.2	7.73	17.5	51100	6.15	554
B026TR001-A-S04	47.6	2.66	12.9	20300	5.26	71.8
B053SB001-S01A					95.9	
B053SB002-S01A					6.03	
B053TR001-S07					5.51	
B054HA001-A-S02	41	9.64	18.1	25400	26.1	374
B054HA002-A-S02	13.9	6.35	8.72	12200	7.17	105
B055HA001-S01A	266	15.2	2790	58600	1360	1150
B055HA002-S01A	34	8.8	460	30000	1640	310
B055HA002-S02A	24	6.4	16	26000	7.01	550
B055HA003-S01A	40	9	15	14000	3.69	190
B055SB001-S01A	32.5	7.83	31.1	27700	32.8	332
B055SB001-S02A	38.4	8.22	11.5	40500	9.72	200
B055SB001-S03A	33.4	4.77	8.76	25200	5.02	156
B056AHA001-S01A	36	10.2	318	30200	306	692
B056AHA001-S02A	39.9	8.91	16.1	27000	8.68	167
B056AHA002-S01A	35.7	13.5	59.7	33500	397	541
B056AHA002-S02A	40.2	10.3	226	32500	126	435
B056AHA003-S01A	39.2	11.6	21.2	61400	21.1	474
B056AHA003-S02A	34.8	9.95	14.9	27900	10	278
B056AHA004-S01A			26		59.2	
B056AHA004-S02A			16		8.99	
B056AHA005-S01A			13		12	
B056AHA005-S02A					9.7	
B056BHA001-S01A	35.7	9.54	83.6	30800	12.1	261
B056BHA002-S01A	30	7.32	26.2	31400	9.41	348
B056BHA002-S02A	58	7.34	38.5	25000	10.5	141
B056BHA003-S01A	33.9	7.67	24.3	29200	14.6	271
B056BHA003-S02A	31.6	8.43	13.8	27200	58.5	209
B056BHA004-S01A	32.5	6.56	16	29900	10.2	257
B056BHA004-S02A	38.9	12.5	13	42000	10.1	270
B056HA001-S01A	42.3	6.33	66.9	26800	2100	279
B056HA001-S02A	38.3	8.09	58.8	34300	36.3	255
B056HA002-S01A	36.5	6.68	116	24600	979	368
B056HA002-S02A	37.5	7.75	387	36000	94.1	315
B056HA003-S01A	33.7	7.05	16.9	29600	8.3	372
B056HA003-S02A	41.6	8.93	18.5	34600	17.5	198
B056HA004-S01A	29.3	7.39	25.3	29900	9.06	387
B056SB001-S01A	37.4	9.96	170	38900	6360	346
B056SB001-S02A	52.9	38.3	38.3	45500	7.55	1410
B056SB002-S01A	74.5	9.09	44.1	40100	12.5	216
B056SB002-S02A	58	12.7	52.4	45600	12	835
B056SB003-S01A	71.4	8.73	57.8	50000	9.73	195
B056SB003-S02A	65.2	10.1	56.8	37700	7.39	202
B056SB004-S01A	34.2	8.13	107	29100	36.9	503
B056SB004-S02A	61.5	18.6	55.3	39800	10.3	330
B056SB004-S03A	45.9	33.8	42.1	29600	9.08	1010
B057AHP001-S01A	29.9	16.3	12	22900	7.09	244
B057AHP001-S02A	29.7	8.27	12.4	28200	6.54	211
B057AHP001-S03A	36.6	7.1	13.5	33200	7.06	261
B057AHP002-S01A	37.1	7.2	792	37700	369	417
B057AHP002-S02A	40.1	7.37	11.1	36800	7.88	281

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	CHROMIUM	COBALT	COPPER	IRON	LEAD	MANGANESE
B057AHP002-S03A	29.2	7.3	10.5	29100	6.63	246
B057AHP002-S04A	37.9	7.8	14.7	28100	8.3	240
B057AHP003-S01A	27.5	8.16	20	24200	5.94	242
B057AHP003-S02A	25.2	6.56	11.1	29900	6.05	468
B057AHP003-S03A	36.5	7.63	13.4	32000	8.46	252
B057AHP004-S01A	33.8	9.24	19	31800	35.1	552
B057AHP005-S01A	28	13	26	26000	7.14	590
B057AHP006-S01A	79	14	25	28000	16.7	510
B057AHP007-S01A	41.8	6.51	26	30900	8.17	161
B057AHP007-S02A	38.5	10.6	13.1	43000	6.97	245
B057AHP007-S03A	32.6	9.42	11.9	56100	6.64	258
B057AHP008-S01A	2.69	0.444	0.799	1170	< 0.421	34.9
B057ASB001-S01A	53.6	12.7	32.2	37100	10.6	433
B057ASB001-S02A	56.2	20.2	36.2	32500	8.25	567
B057ASB001-S03A	34.4	14.3	31.5	36300	6.7	591
B057BHA001-S01A	43.2	11	28.6	30800	10.1	443
B057BHA001-S02A	55	11.8	53.8	39200	8.57	296
B057HA004-S01A			24.6		22.2	
B057HA005-S01A			39.2		120	
B057HA005-S02A			57.9		9.24	
B065BHA002-S01A			84		481	
B065BHA002-S02A			22		30.6	
B065BHA002-S03A					15.2	
B065BHA003-S01A					550	
B065BHA003-S02A					164	
B065BHA004-S01A	40	9.4	34	30000	276	370
B065BHA004-S02A	35	7.3	11	26000	6.79	700
B066ASB001-S01A	31.4	7.17	9.54	21100	6.59	292
B066ASB001-S02A	36.8	7.86	14.6	32200	7.96	232
B066ASB001-S03A	34.5	7.46	13.9	30100	7.75	208
B073TR001-S03	31				9	
B103TR003-S03					11	
B103TR003-S06					13	
B120SB001-S01A					12	
B120SB002-S01A					31.7	
B152HA001-A-S02	36.6	7.73	13.6	31000	7.81	249
B154TR002-S03					17.5	
B154TR003-S03					18.2	
B154TR006-S03					14.4	
B154TR007-S03					9.81	
B178HA001-A-S02	356	30.8	37.4	44800	7.81	743
B178HA001-A-S04	126	18.1	26.4	28000	44.2	554
L001TR002-A-S01	35.2	8	2.75	32600	11.6	236
L001TR002-A-S02	75.9	20.8	46.8	38900	8.45	387
L001TR007-A-S02	24.8	10.2	22.4	20100	70	642
L001TR007-A-S04	44	7.66	8.76	25800	31.5	149
L001TR008-A-S02	55	17	44.9	34800	16.9	976
L002SC001-A-S02	35.6	23.3	21	33100	12.8	920
L002SC002-A-S02	47.6	11.9	17.4	25900	17.6	420
L002SC003-A-S02	43.4	7.74	17.2	30100	68.3	290
L002SC004-A-S02	42.6	7.22	30	26000	152	321
L002SC005-A-S02	61.7	15.1	24.5	31500	142	383

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	CHROMIUM	COBALT	COPPER	IRON	LEAD	MANGANESE
L002SC006-A-S02	40.5	8.3	94.6	26900	225	441
L002SC007-A-S02	46.2	8.31	29.2	29700	109	444
L002SC008-A-S02	47.7	7.63	38.3	28000	190	381
L002SC009-A-S02	31.5	19.9	36.1	46500	9.92	647
L002SC010-A-S02	18.1	22.2	38	46000	9.71	830
L002TP001-A-S01	26.9	9.67	51.2	52100	813	319
L002TP002-A-S01	30	4.76	17.1	23900	11.1	190
L002TP002-A-S02	25.3	3.54	14.6	18600	10.2	59.2
L002TP002-A-S03	23.8	2.3	11.2	35000	7.69	67
L002TP005-A-S01	30.9	6.23	12.4	21700	45.5	219
L002TR002-A-S01	23	2.92	11.1	15400	3.85	80.7
L002TR002-A-S02	28.1	4.97	5.84	24600	6.77	186
L002TR002-A-S03	13.3	9.65	10.9	27300	5.78	250
L002TR003-A-S02	31.1	7.13	19.2	20300	23.3	280
Q003TR001-A-S02	112	5.47	8.3	65600	24.5	123
Q003TR002-A-S02	41.6	5.44	11.2	28800	62.9	185
Q003TR005-A-S02	38.1	8.08	10.5	27500	29.1	702
SHMPZ001-A-S01A	19.4	6.58	15.9	17300	6.8	177
SHMPZ001-A-S02A	79.3	10.7	54.7	45700	18.6	243
SHMPZ002-A-S01A	30.1	9.28	25.3	22300	84.9	290
SHMPZ002-A-S02A	19.4	6.98	17.7	23700	5.73	143
SHMPZ003-A-S01A	7.8	2.9	11.3	21100	30.7	349
SHMPZ003-A-S02A	24.3	9.8	20.5	25800	26.8	325
SHMPZ004-A-S01A	36.2	15	25.1	34100	62.8	515
SHMPZ004-A-S02A	102	22.6	73.6	40100	25.7	270
SHMPZ005-A-S01A	25.2	7.75	15.8	25900	4.04	132
SHMPZ005-A-S02A	79.6	30.5	48.6	41400	8.52	284
SHMPZ006-A-S01A	25.3	7.99	18.6	27700	4.44	99.2
SHMPZ006-A-S02A	54.6	6.98	16.4	29500	15.1	293
SHMPZ007-A-S01A	39.9	16.3	44.5	34900	10.2	1040
SHMPZ007-A-S02A	35.6	20.4	50.1	39000	10.3	1400
SHMPZ009-A-S01A	53.5	16.1	57.1	43400	12.5	721
SHMPZ009-A-S02A	64.1	16.6	55.8	52300	8.8	1000
SHMPZ010-A-S01A	48.2	14.9	57.5	42400	19.2	713
SHMPZ010-A-S02A	41	18.9	48.5	38400	9.07	1090
SHMPZ011-A-S01A	47.4	15.8	57.5	41000	9.18	555
SHMPZ011-A-S02A	56.3	18.1	75.7	56000	11.5	681
SHMPZ012-A-S01A	68	25.6	58.9	44500	7.88	1450
SHMPZ012-A-S02A	53.2	9.14	14.3	18200	2.64	223
SHMPZ017-A-S01A	79.7	19.4	54.9	42100	8.5	990
SHMPZ017-A-S02A	73	27.2	71.1	49200	11.7	1130
SHMPZ019-A-S01A	51.4	19.8	91.6	46100	12.6	534
SHMPZ019-A-S02A	57.7	18.2	64.7	45700	11.4	738
SHMPZ020-A-S01A	63.3	11.1	26.7	44500	95.7	763
SHMPZ020-A-S02A	57.8	20.3	72.5	45700	11.1	778
	* Elevated detection limit - not included in expanded data.					

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	MERCURY	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM
B026TR001-A-S02	< 0.0183	< 3.94*	30	0.417	< 0.398	0.838
B026TR001-A-S04	< 0.0181	< 1.81	10.1	0.816	< 0.394	0.625
B053SB001-S01A						
B053SB002-S01A	< 0.0279					
B053TR001-S07						
B054HA001-A-S02	0.4	< 0.729	48.1	0.173	0.397	0.485
B054HA002-A-S02	0.097	< 0.737	16.1	< 0.108	< 0.368	0.366
B055HA001-S01A		38.6	246	0.165	1.63	0.594
B055HA002-S01A	2.24	< 0.83	32	< 0.28	< 0.42	0.567
B055HA002-S02A	< 0.0262	< 0.79	16	< 0.2	< 0.4	0.627
B055HA003-S01A	0.06	< 0.74	53	< 0.13	< 0.37	0.419
B055SB001-S01A	10.4	< 0.767	23.5	< 0.112	0.542	0.764
B055SB001-S02A	< 0.0248	< 0.751	17.5	< 0.11	0.879	0.535
B055SB001-S03A	< 0.0254	< 0.768	9.39	< 0.113	0.868	0.521
B056AHA001-S01A	< 0.0284	< 0.858	28.2	0.245	< 0.429	0.6
B056AHA001-S02A	< 0.0294	< 0.889	22	0.32	0.592	0.6
B056AHA002-S01A	< 0.0279	< 0.846	25.4	0.189	< 0.423	0.547
B056AHA002-S02A	0.194	< 0.875	22.9	< 0.128	0.499	0.538
B056AHA003-S01A	< 0.0264	< 0.799	23.7	0.362	< 0.4	0.502
B056AHA003-S02A	< 0.026	< 0.787	20.3	1.17	< 0.394	0.547
B056AHA004-S01A						
B056AHA004-S02A						
B056AHA005-S01A						
B056AHA005-S02A						
B056BHA001-S01A	0.382	< 0.763	19.2	0.204	0.552	0.618
B056BHA002-S01A	< 0.0267	< 0.809	18.9	0.273	< 0.405	0.605
B056BHA002-S02A	< 0.0317	< 0.96	44	1.22	< 0.48	0.579
B056BHA003-S01A	< 0.0269	< 0.813	19.3	0.336	< 0.598	0.649
B056BHA003-S02A	< 0.0263	< 0.796	14.1	< 0.117	0.786	0.579
B056BHA004-S01A	< 0.0265	< 0.803	18	0.274	< 0.401	0.576
B056BHA004-S02A	< 0.0255	< 0.772	22	0.284	< 0.386	0.591
B056HA001-S01A	< 0.0279	< 0.846	22.8	< 0.124	< 0.423	0.726
B056HA001-S02A	< 0.0257	< 0.778	20.6	< 0.114	< 0.389	0.648
B056HA002-S01A	0.168	< 0.947	19.8	0.261	< 0.473	0.537
B056HA002-S02A	< 0.0258	< 0.782	30.7	< 0.115	< 0.391	0.698
B056HA003-S01A	< 0.0267	< 0.808	19	< 0.118	< 0.404	0.602
B056HA003-S02A	< 0.0282	< 0.854	21.5	0.488	< 0.427	0.607
B056HA004-S01A	< 0.025	< 0.756	18.9	0.212	< 0.378	0.619
B056SB001-S01A	0.398	< 0.836	36.1	< 0.122	1.79	0.579
B056SB001-S02A	0.059	< 0.95	67.4	< 0.139	< 0.475	0.802
B056SB002-S01A	0.037	< 0.965	64.7	< 0.141	< 0.483	0.577
B056SB002-S02A	< 0.0311	< 0.942	78.4	< 0.138	1.31	0.502
B056SB003-S01A	0.067	< 0.929	65.1	< 0.136	0.533	0.934
B056SB003-S02A	< 0.0332	< 1.01	68	< 0.147	0.818	0.702
B056SB004-S01A	0.16	< 0.779	22.5	< 0.114	< 0.39	0.493
B056SB004-S02A	0.081	< 0.967	66.6	< 0.142	< 0.483	0.576
B056SB004-S03A	0.076	< 0.891	74.5	< 0.131	< 0.446	0.543
B057AHP001-S01A	0.032	< 0.821	28.8	< 0.12	< 0.41	0.507
B057AHP001-S02A	0.0251	< 0.759	15.4	0.347	< 0.379	0.629
B057AHP001-S03A	0.038	< 0.84	14.3	0.816	< 0.42	0.589
B057AHP002-S01A	0.713	< 0.83	29.4	0.161	0.931	0.634
B057AHP002-S02A	< 0.0268	< 0.812	20.8	< 0.119	< 0.406	0.688

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	MERCURY	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM
B057AHP002-S03A	< 0.0251	< 0.76	16.2	< 0.111	< 0.38	0.724
B057AHP002-S04A	0.029	< 0.749	19.4	0.219	< 0.375	0.434
B057AHP003-S01A	0.06	< 0.862	24.5	< 0.126	< 0.431	0.431
B057AHP003-S02A	0.042	< 0.802	15.8	0.135	< 0.401	0.511
B057AHP003-S03A	0.039	< 0.944	13.2	0.27	< 0.472	0.552
B057AHP004-S01A	0.066	< 0.817	22.5	0.352	< 0.408	0.632
B057AHP005-S01A	< 0.028	1	32	< 0.22	< 0.42	0.526
B057AHP006-S01A	0.157	1.2	110	< 0.21	< 0.4	0.509
B057AHP007-S01A	0.049	< 0.848	22	0.198	< 0.424	0.651
B057AHP007-S02A	0.033	< 0.772	23.3	0.186	< 0.386	0.68
B057AHP007-S03A	0.039	< 0.764	23	0.216	< 0.382	0.623
B057AHP008-S01A	< 0.0254	< 0.767	1.23	< 0.112	< 0.384	< 0.0706
B057ASB001-S01A	0.229	< 0.898	53.8	< 0.132	< 0.449	0.634
B057ASB001-S02A	< 0.0293	< 0.887	56.8	< 0.13	0.491	0.625
B057ASB001-S03A	< 0.0295	< 0.892	47.8	< 0.131	< 0.446	0.689
B057BHA001-S01A	< 0.0284	< 0.86	39	< 0.126	< 0.43	0.621
B057BHA001-S02A	< 0.0308	< 0.933	71.4	< 0.137	< 0.466	0.621
B057HA004-S01A						
B057HA005-S01A						
B057HA005-S02A						
B065BHA002-S01A						
B065BHA002-S02A						
B065BHA002-S03A						
B065BHA003-S01A						
B065BHA003-S02A						
B065BHA004-S01A	0.379	< 1.9	24	< 0.26	< 0.41	0.539
B065BHA004-S02A	< 0.0256	< 0.78	16	< 0.11	< 0.39	0.519
B066ASB001-S01A	0.0403	< 0.757	15.9	< 0.111	< 0.378	0.335
B066ASB001-S02A	0.037	< 0.761	21	0.153	< 0.381	0.599
B066ASB001-S03A	0.036	< 0.763	20.5	0.167	< 0.382	0.546
B073TR001-S03			25			
B103TR003-S03						
B103TR003-S06						
B120SB001-S01A	0.074					
B120SB002-S01A	0.074					
B152HA001-A-S02	< 0.0174	< 0.757	19.3	3.25	< 0.378	0.697
B154TR002-S03						
B154TR003-S03						
B154TR006-S03						
B154TR007-S03						
B178HA001-A-S02	0.158	< 1.47	513	0.249	< 0.363	0.637
B178HA001-A-S04	0.142	< 0.787	175	0.327	< 0.394	0.6
L001TR002-A-S01	0.021	< 0.798	19.6	0.265	< 0.399	0.542
L001TR002-A-S02	0.058	1.91	93.5	0.366	< 0.53	0.553
L001TR007-A-S02	0.048	< 0.786	18.9	0.182	< 0.393	0.382
L001TR007-A-S04	0.079	1.14	28.5	0.443	< 0.428	0.535
L001TR008-A-S02	0.028	0.984	57.8	0.203	< 0.479	0.608
L002SC001-A-S02	0.117	3.19	51.6	2.23	< 0.377	0.83
L002SC002-A-S02	0.032	2.57	28.9	0.778	< 0.379	0.615
L002SC003-A-S02	0.104	1.54	18.2	0.837	< 0.365	0.72
L002SC004-A-S02	0.166	1.4	19.6	0.565	< 0.365	0.795
L002SC005-A-S02	0.127	2.08	26.7	< 0.12	< 0.372	0.731

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	MERCURY	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM
L002SC006-A-S02	0.324	1.3	20.2	< 0.12	< 0.378	0.678
L002SC007-A-S02	0.106	1.59	18.9	0.787	< 0.362	0.787
L002SC008-A-S02	0.109	1.57	21.8	< 0.12	< 0.361	0.81
L002SC009-A-S02	0.344	2.25	25.1	0.663	< 0.391	0.653
L002SC010-A-S02	0.339	1.86	23.4	1.02	< 0.39	0.574
L002TP001-A-S01	0.931	< 0.844	21.9	0.328	< 0.422	< 0.0776
L002TP002-A-S01	0.054	2.69	17.8	1.73	< 0.432	0.228
L002TP002-A-S02	< 0.0202	2.39	11.6	1.01	< 0.433	0.206
L002TP002-A-S03	< 0.0197	3.34	5.92	3.99	< 0.424	0.108
L002TP005-A-S01	0.366	< 0.786	13.8	0.161	< 0.393	< 0.0723
L002TR002-A-S01	< 0.0191	1.14	10.5	0.274	< 0.411	0.164
L002TR002-A-S02	< 0.0197	1.89	16.4	0.357	< 0.423	0.118
L002TR002-A-S03	< 0.0194	1.58	21.4	0.666	< 0.416	
L002TR003-A-S02	0.111	1.6	21.8	0.805	< 0.437	0.0972
Q003TR001-A-S02	0.089	2	25.2	0.586	< 0.378	0.139
Q003TR002-A-S02	0.065	1.79	13.5	0.403	< 0.357	0.17
Q003TR005-A-S02	0.177	2.54	18.2	0.35	< 0.379	0.436
SHMPZ001-A-S01A	0.0383	< 0.704	18.6	0.246	0.801	0.667
SHMPZ001-A-S02A	0.257	2.17	57.6	0.449	1.49	1.04
SHMPZ002-A-S01A	0.0381	< 0.709	25.6	0.159	1.07	0.665
SHMPZ002-A-S02A	< 0.0302	< 0.741	16.6	0.108	0.803	0.495
SHMPZ003-A-S01A	0.0527	1.64	6.36	0.133	1.03	0.529
SHMPZ003-A-S02A	< 0.0305	< 0.748	17.6	0.163	1.24	0.562
SHMPZ004-A-S01A	0.207	< 0.726	40	0.213	1.84	0.641
SHMPZ004-A-S02A	0.498	3.01	102	0.22	1.76	0.817
SHMPZ005-A-S01A	0.123	< 0.81	29.3	< 0.108	1.24	0.684
SHMPZ005-A-S02A	0.123	< 0.871	104	< 0.117	2.15	1.03
SHMPZ006-A-S01A	0.0583	< 0.821	31.9	< 0.11	1.46	0.749
SHMPZ006-A-S02A	0.293	< 0.735	13.5	0.373	1.5	0.664
SHMPZ007-A-S01A	0.192	< 0.733	44.2	< 0.0981	1.04	0.68
SHMPZ007-A-S02A	0.185	< 0.778	61.7	0.165	1.24	0.759
SHMPZ009-A-S01A	0.33	< 0.753	54	0.246	1.1	0.744
SHMPZ009-A-S02A	1.16	< 0.735	61	0.149	1.08	0.682
SHMPZ010-A-S01A	0.28	< 0.752	48.5	< 0.101	0.84	0.73
SHMPZ010-A-S02A	0.286	< 0.74	50.6	< 0.099	1.02	0.596
SHMPZ011-A-S01A	0.139	< 0.747	44.6	< 0.1	1.15	0.873
SHMPZ011-A-S02A	0.128	< 0.734	51.2	< 0.0983	1.49	0.802
SHMPZ012-A-S01A	0.0436	< 0.751	65.8	0.158	1.48	0.685
SHMPZ012-A-S02A	0.0573	< 0.712	54.4	< 0.0953	1.05	0.563
SHMPZ017-A-S01A	0.0926	< 0.746	66.8	< 0.0999	1.74	0.696
SHMPZ017-A-S02A	0.0577	< 0.766	65.7	< 0.102	1.68	0.801
SHMPZ019-A-S01A	0.104	< 0.718	49.4	< 0.0961	1.11	0.73
SHMPZ019-A-S02A	0.0881	< 0.745	53.4	< 0.0997	1.32	0.784
SHMPZ020-A-S01A	0.111	1.5	24.4	0.34	1.24	0.521
SHMPZ020-A-S02A	0.049	2	57	< 0.102	1.07	0.676

* Elevated detection limit - not included in expanded data.

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	TIN	VANADIUM	ZINC	
B026TR001-A-S02	4.27	42.4	108	
B026TR001-A-S04	5.19	34.2	48.9	
B053SB001-S01A				
B053SB002-S01A				
B053TR001-S07				
B054HA001-A-S02	5.55	35.7	62.9	
B054HA002-A-S02	1.77	23	34.5	
B055HA001-S01A	65.8	50.6	2400	
B055HA002-S01A	63	48	240	
B055HA002-S02A	< 6.8	44	53	
B055HA003-S01A	< 4.3	31	31	
B055SB001-S01A	< 2.88	44.7	83	
B055SB001-S02A	< 2.83	56.1	71	
B055SB001-S03A	< 3.63	54.4	49.9	
B056AHA001-S01A	< 9.25*	52.5	187	
B056AHA001-S02A	< 5.8	62.2	73.5	
B056AHA002-S01A	19	63	98.8	
B056AHA002-S02A	< 6.92	59.6	145	
B056AHA003-S01A	< 1.88	55.4	69.8	
B056AHA003-S02A	< 1.86	52.7	71.8	
B056AHA004-S01A				
B056AHA004-S02A				
B056AHA005-S01A				
B056AHA005-S02A				
B056BHA001-S01A	< 1.8	53.6	109	
B056BHA002-S01A	< 1.91	44.7	67.4	
B056BHA002-S02A	< 4.42	37.7	78.1	
B056BHA003-S01A	< 1.92	49.8	63.6	
B056BHA003-S02A	< 1.88	47.9	89.8	
B056BHA004-S01A	< 1.89	49.7	61.9	
B056BHA004-S02A	< 2.79	51.1	69.9	
B056HA001-S01A	34.4	42	93.2	
B056HA001-S02A	< 1.83	53.4	84.4	
B056HA002-S01A	36.7	42	205	
B056HA002-S02A	< 1.84	52.4	146	
B056HA003-S01A	< 1.9	54.1	66.7	
B056HA003-S02A	< 4.42	59.3	68.3	
B056HA004-S01A	< 1.78	45.5	73.7	
B056SB001-S01A	276	49.4	746	
B056SB001-S02A	< 2.24	55.8	71.6	
B056SB002-S01A	< 2.27	52.7	86.3	
B056SB002-S02A	< 2.22	77.7	86.3	
B056SB003-S01A	< 2.52	78.9	82.1	
B056SB003-S02A	< 2.37	77.3	80.2	
B056SB004-S01A	< 1.84	57.9	101	
B056SB004-S02A	< 2.28	78.3	82.3	
B056SB004-S03A	< 3.15	44.1	73.2	
B057AHP001-S01A	< 1.93	48	62	
B057AHP001-S02A	< 3.16	52.1	64.9	
B057AHP001-S03A	< 2.91	56.3	66.1	
B057AHP002-S01A	28.3	55.1	2440	
B057AHP002-S02A	< 1.91	55.7	63.6	

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	TIN	VANADIUM	ZINC	
B057AHP002-S03A	< 3.87	43	60.1	
B057AHP002-S04A	< 1.77	59.9	73.5	
B057AHP003-S01A	< 2.54	50	49.2	
B057AHP003-S02A	< 1.89	51.4	49.4	
B057AHP003-S03A	< 2.28	60.5	60.2	
B057AHP004-S01A	< 1.92	54.9	78.8	
B057AHP005-S01A	< 4.8	49	75	
B057AHP006-S01A	< 4.5	36	77	
B057AHP007-S01A	< 2	55.6	50.5	
B057AHP007-S02A	< 1.82	57.9	62.4	
B057AHP007-S03A	< 1.8	51	64.6	
B057AHP008-S01A	< 1.81	2.22	1.86	
B057ASB001-S01A	< 3.49	67.1	52.8	
B057ASB001-S02A	< 3.13	61.6	53.3	
B057ASB001-S03A	< 2.1	55.3	56	
B057BHA001-S01A	< 2.03	58.8	58.8	
B057BHA001-S02A	< 2.2	66.7	74.1	
B057HA004-S01A				
B057HA005-S01A				
B057HA005-S02A				
B065BHA002-S01A				
B065BHA002-S02A				
B065BHA002-S03A				
B065BHA003-S01A				
B065BHA003-S02A				
B065BHA004-S01A	< 4.8	63	150	
B065BHA004-S02A	< 3.8	51	61	
B066ASB001-S01A	< 2	43.7	51.1	
B066ASB001-S02A	< 1.79	54.2	70.1	
B066ASB001-S03A	< 1.8	49.7	68.5	
B073TR001-S03			58	
B103TR003-S03				
B103TR003-S06				
B120SB001-S01A				
B120SB002-S01A				
B152HA001-A-S02	4.15	53.8	62.4	
B154TR002-S03				
B154TR003-S03				
B154TR006-S03				
B154TR007-S03				
B178HA001-A-S02	5.5	60.4	67.2	
B178HA001-A-S04	3.28	44.2	137	
L001TR002-A-S01	7.56	61.8	61.9	
L001TR002-A-S02	9.04	80.8	87.1	
L001TR007-A-S02	4.41	54.5	89.1	
L001TR007-A-S04	6.21	64.1	65.4	
L001TR008-A-S02	8.47	72.7	85.5	
L002SC001-A-S02	2.76	53.7	105	
L002SC002-A-S02	4.81	48.8	90	
L002SC003-A-S02	4.21	60.9	91.1	
L002SC004-A-S02	5.58	59.2	138	
L002SC005-A-S02	6.34	65.6	88.3	

Table H-1. Metals Concentrations in Soil - Raw Data (mg/kg)

SampleName	TIN	VANADIUM	ZINC	
L002SC006-A-S02	18.8	55.9	138	
L002SC007-A-S02	15.4	65.9	106	
L002SC008-A-S02	4.9	61.6	170	
L002SC009-A-S02	4.52	121	86.3	
L002SC010-A-S02	4.93	118	84	
L002TP001-A-S01	1120	37.1	61.6	
L002TP002-A-S01	3.04	33.5	60.2	
L002TP002-A-S02	6.81	25.1	68.8	
L002TP002-A-S03	3.74	29.8	34.7	
L002TP005-A-S01	6.98	54.1	44.3	
L002TR002-A-S01	7.66	28.8	59	
L002TR002-A-S02	4.22	39.9	49.9	
L002TR002-A-S03	6.07	34.2	84.1	
L002TR003-A-S02	4.81	39.9	59.5	
Q003TR001-A-S02	< 1.79	60.3	146	
Q003TR002-A-S02	3.84	38.6	98.4	
Q003TR005-A-S02	10.5	58.2	81.6	
SHMPZ001-A-S01A	< 2	33.7	42.5	
SHMPZ001-A-S02A	14.3	93.3	74.3	
SHMPZ002-A-S01A	13.6	40.8	64.1	
SHMPZ002-A-S02A	13.5	43.5	53.9	
SHMPZ003-A-S01A	< 1.9	17	69.4	
SHMPZ003-A-S02A	< 2.13	50.7	57.6	
SHMPZ004-A-S01A	14.8	69.7	68.8	
SHMPZ004-A-S02A	19.4	109	109	
SHMPZ005-A-S01A	< 2.3	42.2	43	
SHMPZ005-A-S02A	16.6	51.6	49.8	
SHMPZ006-A-S01A	14.6	44.7	46.2	
SHMPZ006-A-S02A	< 2.09	70.7	73.2	
SHMPZ007-A-S01A	< 2.08	66	67	
SHMPZ007-A-S02A	< 2.21	67.9	72.6	
SHMPZ009-A-S01A	< 2.14	90.3	88.3	
SHMPZ009-A-S02A	< 2.09	88.3	81.7	
SHMPZ010-A-S01A	< 2.14	78.2	89.4	
SHMPZ010-A-S02A	< 2.1	72.8	74	
SHMPZ011-A-S01A	< 2.12	76.5	89.8	
SHMPZ011-A-S02A	< 2.09	95.8	100	
SHMPZ012-A-S01A	< 2.13	95	70.3	
SHMPZ012-A-S02A	< 2.03	34.2	28.3	
SHMPZ017-A-S01A	< 2.12	98.2	75.9	
SHMPZ017-A-S02A	< 2.18	96.5	91.4	
SHMPZ019-A-S01A	< 2.04	84.3	112	
SHMPZ019-A-S02A	< 2.12	88.1	93.9	
SHMPZ020-A-S01A	15.5	94	66.2	
SHMPZ020-A-S02A	16.1	92.7	98.1	
	* Elevated detection limit - not included in expanded data.			

Table H-2. Summary Statistics for Metals Concentrations in Soil - Expanded Data

	ALUMINUM	ANTIMONY	ARSENIC	BARIUM
	mg/kg	mg/kg	mg/kg	mg/kg
Statistic				
Number of observations	125	92	131	125
Number of detects	125	44	131	125
Number of non-detects	0	48	0	0
Percentage of detects	100	48	100	100
Minimum detect	949	2.03	0.388	16.5
Maximum detect	47600	55.9	65.2	639
Maximum detect / minimum detect	50	28	168	39
Is maximum detect / minimum detect > 100?	no	no	YES	no
Minimum reporting limit*	n/a	2.01	n/a	n/a
Maximum reporting limit*	n/a	7.13	n/a	n/a
Median	15600	n/a	8.87	83.5
Mean	17953	n/a	10.1	115
Standard deviation	7980	n/a	7.53	98.6
Coefficient of variation	0.444	n/a	0.745	0.860
Is coefficient of variation > 1?	no	n/a	no	no
Skewness	1.35	n/a	4.30	2.68
*Minimum and maximum reporting limits are only provided for datasets with at least one non-detect.				

Table H-2. Summary Statistics for Metals Concentrations in Soil - Expanded Data

	BERYLLIUM	CADMIUM	CHROMIUM	COBALT
	mg/kg	mg/kg	mg/kg	mg/kg
Statistic				
Number of observations	124	126	126	125
Number of detects	124	77	126	125
Number of non-detects	0	49	0	0
Percentage of detects	100	61	100	100
Minimum detect	0.0399	0.0603	2.69	0.444
Maximum detect	0.977	30	356	38.3
Maximum detect / minimum detect	24	498	132	86
Is maximum detect / minimum detect > 100?	no	YES	YES	no
Minimum reporting limit*	n/a	0.0356	n/a	n/a
Maximum reporting limit*	n/a	0.215	n/a	n/a
Median	0.601	0.149	38.2	9.00
Mean	0.599	0.529	46.8	11.3
Standard deviation	0.145	2.72	38.9	6.56
Coefficient of variation	0.243	5.15	0.832	0.579
Is coefficient of variation > 1?	no	YES	no	no
Skewness	-0.346	10.4	5.61	1.62
*Minimum and maximum reporting limits are only provided for datasets with at least one non-detect.				

Table H-2. Summary Statistics for Metals Concentrations in Soil - Expanded Data

	COPPER	IRON	LEAD	MANGANESE	MERCURY
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Statistic					
Number of observations	133	125	149	125	127
Number of detects	133	125	148	125	85
Number of non-detects	0	0	1	0	42
Percentage of detects	100	100	99	100	67
Minimum detect	0.799	1170	2.64	34.9	0.021
Maximum detect	2790	65600	6360	1450	10.4
Maximum detect / minimum detect	3492	56	2409	42	495
Is maximum detect / minimum detect > 100?	YES	no	YES	no	YES
Minimum reporting limit*	n/a	n/a	0.421	n/a	0.0174
Maximum reporting limit*	n/a	n/a	0.421	n/a	0.0332
Median	25.1	30800	11.1	321	0.0527
Mean	68.7	33152	128	428	0.210
Standard deviation	254	10436	580	298	0.946
Coefficient of variation	3.70	0.315	4.52	0.696	4.51
Is coefficient of variation > 1?	YES	no	YES	no	YES
Skewness	9.68	0.465	8.97	1.44	10.2
*Minimum and maximum reporting limits are only provided for datasets with at least one non-detect.					

Table H-2. Summary Statistics for Metals Concentrations in Soil - Expanded Data

	MOLYBDENUM	NICKEL	SELENIUM	SILVER
	mg/kg	mg/kg	mg/kg	mg/kg
Statistic				
Number of observations	124	126	125	125
Number of detects	31	126	71	43
Number of non-detects	93	0	54	82
Percentage of detects	25	100	57	34
Minimum detect	0.984	1.23	0.108	0.397
Maximum detect	38.6	513	3.99	2.15
Maximum detect / minimum detect	39	417	37	5
Is maximum detect / minimum detect > 100?	no	YES	no	no
Minimum reporting limit*	0.704	n/a	0.0953	0.357
Maximum reporting limit*	1.9	n/a	0.28	0.598
Median	n/a	23.6	0.161	n/a
Mean	n/a	39.8	0.320	n/a
Standard deviation	n/a	52.8	0.540	n/a
Coefficient of variation	n/a	1.33	1.69	n/a
Is coefficient of variation > 1?	n/a	YES	YES	n/a
Skewness	n/a	6.49	4.48	n/a
*Minimum and maximum reporting limits are only provided for datasets with at least one non-detect.				

Table H-2. Summary Statistics for Metals Concentrations in Soil - Expanded Data

	THALLIUM	TIN	VANADIUM	ZINC
	mg/kg	mg/kg	mg/kg	mg/kg
Statistic				
Number of observations	124	124	125	126
Number of detects	121	49	125	126
Number of non-detects	3	75	0	0
Percentage of detects	98	40	100	100
Minimum detect	0.0972	1.77	2.22	1.86
Maximum detect	1.04	1120	121	2440
Maximum detect / minimum detect	11	633	55	1312
Is maximum detect / minimum detect > 100?	no	YES	no	YES
Minimum reporting limit*	0.0706	1.77	n/a	n/a
Maximum reporting limit*	0.0776	6.92	n/a	n/a
Median	0.604	n/a	54.2	72.9
Mean	0.584	n/a	57.1	122
Standard deviation	0.187	n/a	19.6	301
Coefficient of variation	0.320	n/a	0.342	2.47
Is coefficient of variation > 1?	no	n/a	no	YES
Skewness	-1.00	n/a	0.751	7.32
*Minimum and maximum reporting limits are only provided for datasets with at least one non-detect.				

Table H-3. Normality Testing Results for Metals Concentrations in Soil - Expanded Data

		Non-transformed Data		Log-transformed Data		
Analyte	Number of Samples	Shapiro-Wilk Statistic	P-value	Shapiro-Wilk Statistic	P-value	Distribution
ALUMINUM	125	0.8841	0.0000	0.8751	0.0000	neither
ANTIMONY	44	0.3942	0.0000	0.8955	0.0008	neither
ARSENIC	131	0.6193	0.0000	0.8950	0.0000	neither
BARIUM	125	0.6956	0.0000	0.9652	0.0026	neither
BERYLLIUM	124	0.9761	0.0268	0.7047	0.0000	neither
CADMIUM	77	0.1701	0.0000	0.8757	0.0000	neither
CHROMIUM	126	0.4925	0.0000	0.8769	0.0000	neither
COBALT	125	0.8464	0.0000	0.9083	0.0000	neither
COPPER	133	0.1862	0.0000	0.9140	0.0000	neither
IRON	125	0.9707	0.0081	0.7403	0.0000	neither
LEAD	149	0.2013	0.0000	0.8367	0.0000	neither
MANGANESE	125	0.8607	0.0000	0.9828	0.1126	lognormal
MERCURY	85	0.1978	0.0000	0.9211	0.0001	neither
MOLYBDENUM	31	0.2493	0.0000	0.6699	0.0000	neither
NICKEL	126	0.4364	0.0000	0.9283	0.0000	neither
SELENIUM	71	0.5530	0.0000	0.9122	0.0001	neither
SILVER	43	0.9752	0.4687	0.9569	0.1065	normal
THALLIUM	124	0.9030	0.0000	0.6232	0.0000	neither
TIN	49	0.2167	0.0000	0.8376	0.0000	neither
VANADIUM	125	0.9490	0.0001	0.7786	0.0000	neither
ZINC	126	0.1951	0.0000	0.6881	0.0000	neither

Non-detects were not included in distributional testing for analytes with fewer than 70 percent detected values.

Table H-4. Normality Testing Results for Metals Concentrations in Soil - Ambient Data

		Non-transformed Data		Log-transformed Data		
Analyte	Number of Samples	Shapiro-Wilk Statistic	P-value	Shapiro-Wilk Statistic	P-value	Distribution
ALUMINUM	118	0.9026	0.0000	0.9786	0.0567	lognormal
ANTIMONY	43	0.8920	0.0007	0.9767	0.5208	lognormal
ARSENIC	122	0.8997	0.0000	0.9795	0.0603	lognormal
BARIUM	121	0.7761	0.0000	0.9787	0.0519	lognormal
BERYLLIUM	123	0.9888	0.4184	0.9372	0.0000	normal
CADMIUM	75	0.7392	0.0000	0.9870	0.6410	lognormal
CHROMIUM	122	0.8639	0.0000	0.9798	0.0645	lognormal
COBALT	93	0.9330	0.0001	0.9731	0.0516	lognormal
COPPER	93	0.9038	0.0000	0.9734	0.0542	lognormal
IRON	124	0.9626	0.0017	0.9864	0.2544	lognormal
LEAD	108	0.8522	0.0000	0.9776	0.0648	lognormal
MANGANESE	125	0.8607	0.0000	0.9828	0.1126	lognormal
MERCURY	74	0.8383	0.0000	0.9682	0.0589	lognormal
MOLYBDENUM	30	0.9489	0.1577	0.9787	0.7890	lognormal
NICKEL	90	0.8833	0.0000	0.9746	0.0747	lognormal
SELENIUM	60	0.8384	0.0000	0.9629	0.0654	lognormal
SILVER	43	0.9752	0.4687	0.9569	0.1065	normal
THALLIUM	113	0.9695	0.0110	0.9835	0.1777	lognormal
TIN	46	0.6899	0.0000	0.9557	0.0782	lognormal
VANADIUM	123	0.9302	0.0000	0.9860	0.2359	lognormal
ZINC	120	0.8920	0.0000	0.9793	0.0609	lognormal

Non-detects were not included in distributional testing for analytes with fewer than 70 percent detected values.

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

ALUMINUM		ANTIMONY		ARSENIC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
47600		55.9*		65.2	
42800		13.1	13.1	44.5	
41000		12.9	12.9	39.1	
40100		8.71	8.71	23.9	23.9
36000		8.63	8.63	22.7	22.7
35100	35100	8.45	8.45	20.3	20.3
34400	34400	8.32	8.32	20.2	20.2
33900	33900	8.19	8.19	19.2	19.2
33000	33000	8.1	8.1	19.2	19.2
33000	33000	7.92	7.92	17.2	17.2
31100	31100	6.91	6.91	17	17
31000	31000	6.82	6.82	16.6	16.6
30800	30800	6.67	6.67	16.5	16.5
29400	29400	6.57	6.57	15.9	15.9
27900	27900	6.05	6.05	15.2	15.2
26800	26800	5.96	5.96	14.9	14.9
26200	26200	5.84	5.84	14.5	14.5
26100	26100	5.54	5.54	14.2	14.2
25700	25700	5.48	5.48	14.1	14.1
25200	25200	5.2	5.2	12.9	12.9
25100	25100	5.2	5.2	12.7	12.7
24600	24600	4.74	4.74	12.4	12.4
24600	24600	4.66	4.66	11.8	11.8
24400	24400	4.41	4.41	11.7	11.7
23400	23400	4.22	4.22	11.7	11.7
22300	22300	4.19	4.19	11.5	11.5
22300	22300	3.97	3.97	11.5	11.5
22200	22200	3.82	3.82	11.4	11.4
22000	22000	3.75	3.75	11.3	11.3
21300	21300	3.74	3.74	11	11
21300	21300	3.565	3.565	10.9	10.9
20600	20600	3.54	3.54	10.9	10.9
20500	20500	3.52	3.52	10.7	10.7
19600	19600	3.47	3.47	10.6	10.6
19500	19500	3.39	3.39	10.6	10.6
19100	19100	3.17	3.17	10.6	10.6
18900	18900	3.13	3.13	10.4	10.4
18900	18900	3.08	3.08	10.4	10.4
18800	18800	2.91	2.91	10.3	10.3
18400	18400	2.84	2.84	10.2	10.2
18100	18100	2.62	2.62	10.2	10.2
18000	18000	2.59	2.59	9.95	9.95
18000	18000	2.525	2.525	9.92	9.92
17700	17700	2.47	2.47	9.91	9.91
17700	17700	2.3	2.3	9.88	9.88
17600	17600	2.21	2.21	9.85	9.85
17300	17300	2.2	2.2	9.84	9.84

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

ALUMINUM		ANTIMONY		ARSENIC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
17300	17300	2.17	2.17	9.8	9.8
17200	17200	2.03	2.03	9.77	9.77
17200	17200	2.005	2.005	9.77	9.77
17100	17100	2	2	9.72	9.72
17000	17000	1.995	1.995	9.69	9.69
16800	16800	1.975	1.975	9.65	9.65
16800	16800	1.955	1.955	9.62	9.62
16300	16300	1.92	1.92	9.52	9.52
16300	16300	1.9	1.9	9.52	9.52
16200	16200	1.895	1.895	9.44	9.44
16100	16100	1.88	1.88	9.42	9.42
16000	16000	1.88	1.88	9.4	9.4
16000	16000	1.87	1.87	9.37	9.37
15800	15800	1.855	1.855	9.31	9.31
15700	15700	1.85	1.85	9.16	9.16
15600	15600	1.8	1.8	8.96	8.96
15500	15500	1.785	1.785	8.93	8.93
15500	15500	1.785	1.785	8.93	8.93
15400	15400	1.75	1.75	8.87	8.87
15200	15200	1.745	1.745	8.8	8.8
15000	15000	1.715	1.715	8.78	8.78
15000	15000	1.71	1.71	8.75	8.75
15000	15000	1.695	1.695	8.74	8.74
15000	15000	1.645	1.645	8.7	8.7
15000	15000	1.625	1.625	8.69	8.69
14900	14900	1.62	1.62	8.54	8.54
14900	14900	1.62	1.62	8.5	8.5
14800	14800	1.565	1.565	8.5	8.5
14800	14800	1.56	1.56	8.4	8.4
14800	14800	1.52	1.52	8.2	8.2
14700	14700	1.47	1.47	8.02	8.02
14700	14700	1.24	1.24	7.96	7.96
14600	14600	1.17	1.17	7.92	7.92
14500	14500	1.155	1.155	7.91	7.91
14500	14500	1.075	1.075	7.89	7.89
14400	14400	1.065	1.065	7.84	7.84
14200	14200	1.065	1.065	7.84	7.84
14200	14200	1.065	1.065	7.82	7.82
14000	14000	1.055	1.055	7.8	7.8
13900	13900	1.05	1.05	7.76	7.76
13600	13600	1.05	1.05	7.74	7.74
13600	13600	1.045	1.045	7.72	7.72
13200	13200	1.025	1.025	7.72	7.72
13100	13100	1.015	1.015	7.64	7.64
13000	13000	1.005	1.005	7.62	7.62
13000	13000			7.53	7.53
13000	13000			7.46	7.46

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

ALUMINUM		ANTIMONY		ARSENIC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
12900	12900			7.33	7.33
12800	12800			7.31	7.31
12800	12800			7.26	7.26
12700	12700			6.97	6.97
12700	12700			6.84	6.84
12600	12600			6.7	6.7
12500	12500			6.62	6.62
12400	12400			6.53	6.53
12400	12400			6.51	6.51
12300	12300			6.48	6.48
12000	12000			6.18	6.18
11400	11400			6.15	6.15
11300	11300			6.14	6.14
11300	11300			6.08	6.08
11100	11100			5.71	5.71
11000	11000			5.67	5.67
10900	10900			5.22	5.22
10800	10800			5.2	5.2
10600	10600			5.13	5.13
10500	10500			5.1	5.1
10400	10400			4.98	4.98
10000	10000			4.89	4.89
9780	9780			4.7	4.7
9420	9420			4.7	4.7
9260	9260			4.68	4.68
9200	9200			4.03	4.03
9200	9200			4.03	4.03
8450	8450			3.78	3.78
6350	6350			3.52	3.52
4450				3.46	3.46
949				3.06	3.06
				2.76	
				2.63	
				2.23	
				2.22	
				1.16	
				0.388	
* Extreme value not included in graphs.					

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

BARIUM		BERYLLIUM		CADMIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
639		0.977	0.977	30*	
496		0.956	0.956	6.78*	
402		0.933	0.933	1.85	1.85
393		0.882	0.882	1.38	1.38
390	390	0.857	0.857	1.25	1.25
379	379	0.849	0.849	0.907	0.907
369	369	0.828	0.828	0.891	0.891
308	308	0.825	0.825	0.885	0.885
305	305	0.82	0.82	0.81	0.81
268	268	0.806	0.806	0.714	0.714
236	236	0.795	0.795	0.603	0.603
232	232	0.775	0.775	0.59	0.59
226	226	0.774	0.774	0.557	0.557
220	220	0.767	0.767	0.553	0.553
197	197	0.766	0.766	0.529	0.529
189	189	0.742	0.742	0.501	0.501
189	189	0.739	0.739	0.47	0.47
185	185	0.737	0.737	0.462	0.462
175	175	0.726	0.726	0.442	0.442
171	171	0.726	0.726	0.442	0.442
159	159	0.726	0.726	0.434	0.434
158	158	0.724	0.724	0.426	0.426
154	154	0.719	0.719	0.425	0.425
154	154	0.717	0.717	0.415	0.415
152	152	0.715	0.715	0.392	0.392
148	148	0.709	0.709	0.368	0.368
137	137	0.708	0.708	0.361	0.361
136	136	0.705	0.705	0.361	0.361
132	132	0.704	0.704	0.334	0.334
128	128	0.702	0.702	0.308	0.308
127	127	0.701	0.701	0.307	0.307
125	125	0.68	0.68	0.304	0.304
124	124	0.671	0.671	0.294	0.294
120	120	0.668	0.668	0.28	0.28
119	119	0.665	0.665	0.28	0.28
116	116	0.665	0.665	0.278	0.278
111	111	0.663	0.663	0.276	0.276
110	110	0.663	0.663	0.258	0.258
110	110	0.662	0.662	0.257	0.257
104	104	0.661	0.661	0.255	0.255
102	102	0.655	0.655	0.254	0.254
101	101	0.646	0.646	0.243	0.243
101	101	0.644	0.644	0.237	0.237
100	100	0.638	0.638	0.231	0.231
99.4	99.4	0.636	0.636	0.23	0.23
97.2	97.2	0.636	0.636	0.226	0.226
97	97	0.632	0.632	0.222	0.222

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

BARIUM		BERYLLIUM		CADMIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
96.6	96.6	0.622	0.622	0.212	0.212
96.2	96.2	0.621	0.621	0.207	0.207
94.5	94.5	0.619	0.619	0.202	0.202
92	92	0.619	0.619	0.192	0.192
90.5	90.5	0.617	0.617	0.186	0.186
89.4	89.4	0.615	0.615	0.18	0.18
88.4	88.4	0.613	0.613	0.18	0.18
88.1	88.1	0.613	0.613	0.179	0.179
87.5	87.5	0.61	0.61	0.178	0.178
87.1	87.1	0.609	0.609	0.174	0.174
87.1	87.1	0.605	0.605	0.173	0.173
85.7	85.7	0.605	0.605	0.165	0.165
85.4	85.4	0.604	0.604	0.159	0.159
85.3	85.3	0.604	0.604	0.157	0.157
84.9	84.9	0.602	0.602	0.153	0.153
83.5	83.5	0.6	0.6	0.152	0.152
82	82	0.6	0.6	0.145	0.145
81.3	81.3	0.599	0.599	0.145	0.145
79.2	79.2	0.597	0.597	0.14	0.14
78.8	78.8	0.595	0.595	0.137	0.137
77.4	77.4	0.593	0.593	0.128	0.128
77.1	77.1	0.591	0.591	0.1075	0.1075
75.6	75.6	0.59	0.59	0.1035	0.1035
75	75	0.588	0.588	0.101	0.101
74.3	74.3	0.584	0.584	0.1	0.1
74.2	74.2	0.582	0.582	0.0995	0.0995
73.8	73.8	0.582	0.582	0.0984	0.0984
73	73	0.581	0.581	0.096	0.096
72.7	72.7	0.579	0.579	0.0955	0.0955
72.6	72.6	0.568	0.568	0.095	0.095
72.4	72.4	0.564	0.564	0.095	0.095
71.2	71.2	0.562	0.562	0.0935	0.0935
70.7	70.7	0.562	0.562	0.0925	0.0925
70.4	70.4	0.555	0.555	0.092	0.092
70.2	70.2	0.551	0.551	0.0915	0.0915
69.6	69.6	0.549	0.549	0.0905	0.0905
69.5	69.5	0.544	0.544	0.0905	0.0905
68	68	0.543	0.543	0.0902	0.0902
67.9	67.9	0.543	0.543	0.09	0.09
67.6	67.6	0.542	0.542	0.0897	0.0897
65	65	0.539	0.539	0.0882	0.0882
64.2	64.2	0.538	0.538	0.088	0.088
63.7	63.7	0.537	0.537	0.087	0.087
63.1	63.1	0.524	0.524	0.087	0.087
63.1	63.1	0.519	0.519	0.0868	0.0868
62.9	62.9	0.518	0.518	0.0865	0.0865
62.7	62.7	0.514	0.514	0.086	0.086

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

BARIUM		BERYLLIUM		CADMIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
60.6	60.6	0.513	0.513	0.086	0.086
58	58	0.51	0.51	0.0855	0.0855
57.5	57.5	0.505	0.505	0.0845	0.0845
57.1	57.1	0.5	0.5	0.083	0.083
56.9	56.9	0.5	0.5	0.0825	0.0825
55.3	55.3	0.493	0.493	0.0825	0.0825
55.1	55.1	0.492	0.492	0.082	0.082
54.9	54.9	0.485	0.485	0.082	0.082
54.8	54.8	0.48	0.48	0.0815	0.0815
53.1	53.1	0.467	0.467	0.0815	0.0815
52.3	52.3	0.462	0.462	0.0815	0.0815
52.2	52.2	0.452	0.452	0.081	0.081
51.3	51.3	0.45	0.45	0.081	0.081
47.6	47.6	0.449	0.449	0.081	0.081
47.5	47.5	0.449	0.449	0.0805	0.0805
45.8	45.8	0.445	0.445	0.08	0.08
45.3	45.3	0.436	0.436	0.0716	0.0716
44	44	0.435	0.435	0.069	0.069
44	44	0.426	0.426	0.0624	0.0624
43.8	43.8	0.418	0.418	0.0603	0.0603
42.8	42.8	0.416	0.416	0.0418	0.0418
42.8	42.8	0.411	0.411	0.0194	0.0194
42.7	42.7	0.408	0.408	0.0192	0.0192
41.3	41.3	0.397	0.397	0.0188	0.0188
39.7	39.7	0.391	0.391	0.0186	0.0186
36.7	36.7	0.335	0.335	0.0186	0.0186
34.3	34.3	0.313	0.313	0.0186	0.0186
32.8	32.8	0.22	0.22	0.0185	0.0185
25.2	25.2	0.212	0.212	0.0184	0.0184
18.7	18.7	0.0399		0.0183	0.0183
16.5	16.5			0.018	0.018
				0.0178	0.0178
* Extreme value not included in graphs.					

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

CHROMIUM		COBALT		COPPER	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
356		38.3		2790*	
266		33.8		792	
126	126	30.8		460	
112	112	30.5		387	
102	102	27.2		318	
79.7	79.7	25.6		226	
79.6	79.6	23.3		170	
79.3	79.3	22.6		116	
79	79	22.2		107	
75.9	75.9	20.8		94.6	
74.5	74.5	20.4		91.6	
73	73	20.3		84	
71.4	71.4	20.2		83.6	
68	68	19.9		75.7	
65.2	65.2	19.8		73.6	
64.1	64.1	19.4		72.5	
63.3	63.3	18.9		71.1	
61.7	61.7	18.6		66.9	
61.5	61.5	18.2		64.7	
58	58	18.1		59.7	
58	58	18.1		58.9	
57.8	57.8	17		58.8	
57.7	57.7	16.6		57.9	
56.3	56.3	16.3		57.8	
56.2	56.2	16.3		57.5	
55	55	16.1		57.5	
55	55	15.8		57.1	
54.6	54.6	15.2	15.2	56.8	
54.2	54.2	15.1	15.1	55.8	
53.6	53.6	15	15	55.3	
53.5	53.5	14.9	14.9	54.9	
53.2	53.2	14.3	14.3	54.7	
52.9	52.9	14	14	53.8	
51.4	51.4	13.5	13.5	52.4	
48.2	48.2	13	13	51.2	
47.7	47.7	12.7	12.7	50.1	
47.6	47.6	12.7	12.7	48.6	
47.6	47.6	12.5	12.5	48.5	
47.4	47.4	11.9	11.9	46.8	46.8
46.2	46.2	11.8	11.8	44.9	44.9
45.9	45.9	11.6	11.6	44.5	44.5
44	44	11.1	11.1	44.1	44.1
43.4	43.4	11	11	42.1	42.1
43.2	43.2	10.7	10.7	39.2	39.2
42.6	42.6	10.6	10.6	38.5	38.5
42.3	42.3	10.3	10.3	38.3	38.3
41.8	41.8	10.2	10.2	38.3	38.3

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

CHROMIUM		COBALT		COPPER	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
41.6	41.6	10.2	10.2	38	38
41.6	41.6	10.1	10.1	37.4	37.4
41	41	9.96	9.96	36.2	36.2
41	41	9.95	9.95	36.1	36.1
40.5	40.5	9.8	9.8	34	34
40.2	40.2	9.67	9.67	32.2	32.2
40.1	40.1	9.65	9.65	31.5	31.5
40	40	9.64	9.64	31.1	31.1
40	40	9.54	9.54	30	30
39.9	39.9	9.42	9.42	29.2	29.2
39.9	39.9	9.4	9.4	28.6	28.6
39.2	39.2	9.28	9.28	26.7	26.7
38.9	38.9	9.24	9.24	26.4	26.4
38.5	38.5	9.14	9.14	26.2	26.2
38.4	38.4	9.09	9.09	26	26
38.3	38.3	9	9	26	26
38.1	38.1	8.93	8.93	26	26
37.9	37.9	8.91	8.91	25.3	25.3
37.5	37.5	8.8	8.8	25.3	25.3
37.4	37.4	8.73	8.73	25.1	25.1
37.1	37.1	8.43	8.43	25	25
36.8	36.8	8.31	8.31	24.6	24.6
36.6	36.6	8.3	8.3	24.5	24.5
36.6	36.6	8.27	8.27	24.3	24.3
36.5	36.5	8.22	8.22	22.4	22.4
36.5	36.5	8.16	8.16	22	22
36.2	36.2	8.13	8.13	21.2	21.2
36	36	8.09	8.09	21	21
35.7	35.7	8.08	8.08	20.5	20.5
35.7	35.7	8	8	20	20
35.6	35.6	7.99	7.99	19.2	19.2
35.6	35.6	7.86	7.86	19	19
35.2	35.2	7.83	7.83	18.6	18.6
35	35	7.8	7.8	18.5	18.5
34.8	34.8	7.75	7.75	18.1	18.1
34.5	34.5	7.75	7.75	17.7	17.7
34.4	34.4	7.74	7.74	17.5	17.5
34.2	34.2	7.73	7.73	17.4	17.4
34	34	7.73	7.73	17.2	17.2
33.9	33.9	7.67	7.67	17.1	17.1
33.8	33.8	7.66	7.66	16.9	16.9
33.7	33.7	7.63	7.63	16.4	16.4
33.4	33.4	7.63	7.63	16.1	16.1
32.6	32.6	7.46	7.46	16	16
32.5	32.5	7.39	7.39	16	16
32.5	32.5	7.37	7.37	16	16
31.6	31.6	7.34	7.34	15.9	15.9

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

CHROMIUM		COBALT		COPPER	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
31.5	31.5	7.32	7.32	15.8	15.8
31.4	31.4	7.3	7.3	15	15
31.1	31.1	7.3	7.3	14.9	14.9
31	31	7.22	7.22	14.7	14.7
30.9	30.9	7.2	7.2	14.6	14.6
30.1	30.1	7.17	7.17	14.6	14.6
30	30	7.13	7.13	14.3	14.3
30	30	7.1	7.1	13.9	13.9
29.9	29.9	7.05	7.05	13.8	13.8
29.7	29.7	6.98	6.98	13.6	13.6
29.3	29.3	6.98	6.98	13.5	13.5
29.2	29.2	6.68	6.68	13.4	13.4
28.1	28.1	6.58	6.58	13.1	13.1
28	28	6.56	6.56	13	13
27.5	27.5	6.56	6.56	13	13
26.9	26.9	6.51	6.51	12.9	12.9
25.3	25.3	6.4	6.4	12.4	12.4
25.3	25.3	6.35	6.35	12.4	12.4
25.2	25.2	6.33	6.33	12	12
25.2	25.2	6.23	6.23	11.9	11.9
24.8	24.8	5.47	5.47	11.5	11.5
24.3	24.3	5.44	5.44	11.3	11.3
24	24	4.97	4.97	11.2	11.2
23.8	23.8	4.77	4.77	11.2	11.2
23	23	4.76	4.76	11.1	11.1
19.4	19.4	3.54	3.54	11.1	11.1
19.4	19.4	2.92		11.1	11.1
18.1	18.1	2.9		11	11
13.9	13.9	2.66		10.9	10.9
13.3	13.3	2.3		10.5	10.5
7.8		0.444		10.5	10.5
2.69				9.54	9.54
				8.76	8.76
				8.76	8.76
				8.72	8.72
				8.3	8.3
				5.84	5.84
				2.75	
				0.799	
* Extreme value not included in graphs.					

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

IRON		LEAD		MANGANESE	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
65600	65600	6360*		1450	1450
61400	61400	2100		1410	1410
58600	58600	1640		1400	1400
56100	56100	1360		1150	1150
56000	56000	979		1130	1130
52300	52300	813		1090	1090
52100	52100	550		1040	1040
51100	51100	481		1010	1010
50000	50000	397		1000	1000
49200	49200	369		990	990
46500	46500	306		976	976
46100	46100	276		920	920
46000	46000	225		835	835
45700	45700	190		830	830
45700	45700	164		778	778
45700	45700	152		763	763
45600	45600	142		743	743
45500	45500	126		738	738
44800	44800	120		721	721
44500	44500	109		713	713
44500	44500	95.9		702	702
43400	43400	95.7		700	700
43000	43000	94.1		692	692
42400	42400	84.9		681	681
42100	42100	70		647	647
42000	42000	68.3		642	642
41400	41400	62.9		591	591
41000	41000	62.8		590	590
40500	40500	59.2		567	567
40100	40100	58.5		555	555
40100	40100	45.5		554	554
39800	39800	44.2		554	554
39200	39200	36.9		552	552
39000	39000	36.3		550	550
38900	38900	35.1		541	541
38900	38900	32.8		534	534
38400	38400	31.7		515	515
37700	37700	31.5		510	510
37700	37700	30.7		503	503
37100	37100	30.6		474	474
36800	36800	29.1	29.1	468	468
36300	36300	26.8	26.8	444	444
36000	36000	26.1	26.1	443	443
35000	35000	25.7	25.7	441	441
34900	34900	24.5	24.5	435	435
34800	34800	23.3	23.3	433	433
34600	34600	22.2	22.2	420	420

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

IRON		LEAD		MANGANESE	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
34300	34300	21.1	21.1	417	417
34100	34100	19.2	19.2	387	387
33500	33500	18.6	18.6	387	387
33200	33200	18.2	18.2	383	383
33100	33100	17.6	17.6	381	381
32600	32600	17.5	17.5	374	374
32500	32500	17.5	17.5	372	372
32500	32500	16.9	16.9	370	370
32200	32200	16.7	16.7	368	368
32000	32000	15.2	15.2	349	349
31800	31800	15.1	15.1	348	348
31500	31500	14.6	14.6	346	346
31400	31400	14.4	14.4	332	332
31000	31000	13	13	330	330
30900	30900	12.8	12.8	325	325
30800	30800	12.6	12.6	321	321
30800	30800	12.5	12.5	319	319
30200	30200	12.5	12.5	315	315
30100	30100	12.1	12.1	310	310
30100	30100	12	12	296	296
30000	30000	12	12	293	293
30000	30000	12	12	292	292
29900	29900	11.7	11.7	290	290
29900	29900	11.6	11.6	290	290
29900	29900	11.5	11.5	284	284
29700	29700	11.4	11.4	281	281
29600	29600	11.1	11.1	280	280
29600	29600	11.1	11.1	279	279
29500	29500	11	11	278	278
29200	29200	10.6	10.6	271	271
29100	29100	10.5	10.5	270	270
29100	29100	10.3	10.3	270	270
28800	28800	10.3	10.3	261	261
28200	28200	10.2	10.2	261	261
28100	28100	10.2	10.2	258	258
28000	28000	10.2	10.2	257	257
28000	28000	10.1	10.1	255	255
28000	28000	10.1	10.1	252	252
27900	27900	10	10	250	250
27700	27700	9.92	9.92	249	249
27700	27700	9.81	9.81	246	246

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

IRON		LEAD		MANGANESE	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
27500	27500	9.73	9.73	245	245
27300	27300	9.72	9.72	244	244
27200	27200	9.71	9.71	243	243
27000	27000	9.7	9.7	242	242
26900	26900	9.41	9.41	240	240
26800	26800	9.24	9.24	236	236
26000	26000	9.18	9.18	232	232
26000	26000	9.08	9.08	223	223
26000	26000	9.07	9.07	219	219
26000	26000	9.06	9.06	216	216
25900	25900	9	9	211	211
25900	25900	8.99	8.99	209	209
25800	25800	8.8	8.8	208	208
25800	25800	8.68	8.68	202	202
25400	25400	8.57	8.57	200	200
25200	25200	8.52	8.52	198	198
25000	25000	8.5	8.5	195	195
24600	24600	8.46	8.46	190	190
24600	24600	8.45	8.45	190	190
24200	24200	8.3	8.3	186	186
23900	23900	8.3	8.3	185	185
23700	23700	8.25	8.25	177	177
22900	22900	8.17	8.17	167	167
22300	22300	7.96	7.96	161	161
21700	21700	7.88	7.88	156	156
21100	21100	7.88	7.88	149	149
21100	21100	7.81	7.81	143	143
20300	20300	7.81	7.81	141	141
20300	20300	7.75	7.75	132	132
20100	20100	7.69	7.69	123	123
18600	18600	7.55	7.55	105	105
18200	18200	7.39	7.39	99.2	99.2
17300	17300	7.17	7.17	80.7	80.7
15400	15400	7.14	7.14	71.8	71.8
14000	14000	7.09	7.09	67	67
12200	12200	7.06	7.06	59.2	59.2
1170		7.01	7.01	34.9	34.9
		6.97	6.97		
		6.8	6.8		
		6.79	6.79		
		6.77	6.77		
		6.7	6.7		
		6.64	6.64		
		6.63	6.63		
		6.59	6.59		
		6.54	6.54		
		6.15	6.15		

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

IRON		LEAD		MANGANESE	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
		6.05	6.05		
		6.03	6.03		
		5.94	5.94		
		5.78	5.78		
		5.73	5.73		
		5.51	5.51		
		5.26	5.26		
		5.02	5.02		
		4.44	4.44		
		4.04	4.04		
		3.85	3.85		
		3.69	3.69		
		2.64	2.64		
		0.2105			
* Extreme value not included in graphs.					

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

MERCURY		MOLYBDENUM		NICKEL	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
10.4*		38.6*		513*	
2.24		3.34	3.34	246	
1.16		3.19	3.19	175	
0.931		3.01	3.01	110	
0.713		2.69	2.69	104	
0.498		2.57	2.57	102	
0.4		2.54	2.54	93.5	
0.398		2.39	2.39	78.4	
0.382		2.25	2.25	74.5	
0.379		2.17	2.17	71.4	
0.366		2.08	2.08	68	
0.344	0.344	2	2	67.4	
0.339	0.339	2	2	66.8	
0.33	0.33	1.91	1.91	66.6	
0.324	0.324	1.89	1.89	65.8	
0.293	0.293	1.86	1.86	65.7	
0.286	0.286	1.79	1.79	65.1	
0.28	0.28	1.64	1.64	64.7	
0.257	0.257	1.6	1.6	61.7	
0.229	0.229	1.59	1.59	61	
0.207	0.207	1.58	1.58	57.8	
0.194	0.194	1.57	1.57	57.6	
0.192	0.192	1.54	1.54	57	
0.185	0.185	1.5	1.5	56.8	
0.177	0.177	1.4	1.4	54.4	
0.168	0.168	1.3	1.3	54	
0.166	0.166	1.2	1.2	53.8	
0.16	0.16	1.14	1.14	53.4	
0.158	0.158	1.14	1.14	53	
0.157	0.157	1	1	51.6	
0.142	0.142	0.984	0.984	51.2	
0.139	0.139	0.95	0.95	50.6	
0.128	0.128	0.905	0.905	49.4	
0.127	0.127	0.735	0.735	48.5	48.5
0.123	0.123	0.505	0.505	48.1	48.1
0.123	0.123	0.4835	0.4835	47.8	47.8
0.117	0.117	0.4825	0.4825	44.6	44.6
0.111	0.111	0.48	0.48	44.2	44.2
0.111	0.111	0.475	0.475	44	44
0.109	0.109	0.4735	0.4735	40	40
0.106	0.106	0.472	0.472	39	39
0.104	0.104	0.471	0.471	36.1	36.1
0.104	0.104	0.4665	0.4665	32	32
0.097	0.097	0.4645	0.4645	32	32
0.0926	0.0926	0.449	0.449	31.9	31.9
0.089	0.089	0.446	0.446	30.7	30.7
0.0881	0.0881	0.4455	0.4455	30	30

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

MERCURY		MOLYBDENUM		NICKEL	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
0.081	0.081	0.4445	0.4445	29.4	29.4
0.079	0.079	0.4435	0.4435	29.3	29.3
0.076	0.076	0.4375	0.4375	28.9	28.9
0.074	0.074	0.4355	0.4355	28.8	28.8
0.074	0.074	0.431	0.431	28.5	28.5
0.067	0.067	0.43	0.43	28.2	28.2
0.066	0.066	0.429	0.429	26.7	26.7
0.065	0.065	0.427	0.427	25.6	25.6
0.06	0.06	0.424	0.424	25.4	25.4
0.06	0.06	0.423	0.423	25.2	25.2
0.059	0.059	0.423	0.423	25.1	25.1
0.0583	0.0583	0.422	0.422	25	25
0.058	0.058	0.42	0.42	24.5	24.5
0.0577	0.0577	0.418	0.418	24.4	24.4
0.0573	0.0573	0.415	0.415	24	24
0.054	0.054	0.415	0.415	23.7	23.7
0.0527	0.0527	0.4105	0.4105	23.5	23.5
0.049	0.049	0.4105	0.4105	23.4	23.4
0.049	0.049	0.4085	0.4085	23.3	23.3
0.048	0.048	0.4065	0.4065	23	23
0.0436	0.0436	0.406	0.406	22.9	22.9
0.042	0.042	0.405	0.405	22.8	22.8
0.0403	0.0403	0.4045	0.4045	22.5	22.5
0.039	0.039	0.404	0.404	22.5	22.5
0.039	0.039	0.4015	0.4015	22	22
0.0383	0.0383	0.401	0.401	22	22
0.0381	0.0381	0.3995	0.3995	22	22
0.038	0.038	0.399	0.399	21.9	21.9
0.037	0.037	0.398	0.398	21.8	21.8
0.037	0.037	0.395	0.395	21.8	21.8
0.036	0.036	0.3935	0.3935	21.5	21.5
0.033	0.033	0.3935	0.3935	21.4	21.4
0.032	0.032	0.393	0.393	21	21
0.032	0.032	0.393	0.393	20.8	20.8
0.029	0.029	0.391	0.391	20.6	20.6
0.028	0.028	0.39	0.39	20.5	20.5
0.0251	0.0251	0.3895	0.3895	20.3	20.3
0.021	0.021	0.389	0.389	20.2	20.2
0.0166	0.0166	0.389	0.389	19.8	19.8
0.0158	0.0158	0.386	0.386	19.6	19.6
0.0156	0.0156	0.386	0.386	19.6	19.6
0.0154	0.0154	0.384	0.384	19.4	19.4
0.0152	0.0152	0.3835	0.3835	19.3	19.3
0.0151	0.0151	0.3835	0.3835	19.3	19.3
0.0148	0.0148	0.383	0.383	19.2	19.2
0.0147	0.0147	0.382	0.382	19	19
0.0146	0.0146	0.3815	0.3815	18.9	18.9

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

MERCURY		MOLYBDENUM		NICKEL	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
0.0142	0.0142	0.3815	0.3815	18.9	18.9
0.0142	0.0142	0.3805	0.3805	18.9	18.9
0.0141	0.0141	0.38	0.38	18.9	18.9
0.014	0.014	0.3795	0.3795	18.6	18.6
0.014	0.014	0.3785	0.3785	18.2	18.2
0.014	0.014	0.3785	0.3785	18.2	18.2
0.014	0.014	0.378	0.378	18	18
0.0134	0.0134	0.3765	0.3765	17.8	17.8
0.0134	0.0134	0.376	0.376	17.6	17.6
0.0134	0.0134	0.3755	0.3755	17.5	17.5
0.0134	0.0134	0.3755	0.3755	16.6	16.6
0.0132	0.0132	0.3745	0.3745	16.4	16.4
0.0132	0.0132	0.374	0.374	16.2	16.2
0.0132	0.0132	0.3735	0.3735	16.1	16.1
0.0131	0.0131	0.373	0.373	16	16
0.013	0.013	0.3725	0.3725	16	16
0.0129	0.0129	0.3705	0.3705	15.9	15.9
0.0128	0.0128	0.37	0.37	15.8	15.8
0.0128	0.0128	0.37	0.37	15.4	15.4
0.0128	0.0128	0.3685	0.3685	14.3	14.3
0.0127	0.0127	0.3675	0.3675	14.1	14.1
0.0127	0.0127	0.3675	0.3675	13.8	13.8
0.0126	0.0126	0.367	0.367	13.5	13.5
0.0125	0.0125	0.3665	0.3665	13.5	13.5
0.0124	0.0124	0.3645	0.3645	13.2	13.2
0.0101	0.0101	0.363	0.363	11.6	11.6
0.0098	0.0098	0.359	0.359	10.5	10.5
0.0098	0.0098	0.356	0.356	10.1	10.1
0.0097	0.0097	0.3545	0.3545	9.39	9.39
0.0096	0.0096	0.352	0.352	6.36	
0.0092	0.0092			5.92	
0.009	0.009			1.23	
0.0087	0.0087				

* Extreme value not included in graphs.

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

SELENIUM		SILVER		THALLIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
3.99		2.15	2.15	1.04	1.04
3.25		1.84	1.84	1.03	1.03
2.23		1.79	1.79	0.934	0.934
1.73		1.76	1.76	0.873	0.873
1.22		1.74	1.74	0.838	0.838
1.17		1.68	1.68	0.83	0.83
1.02		1.63	1.63	0.817	0.817
1.01		1.5	1.5	0.81	0.81
0.837		1.49	1.49	0.802	0.802
0.816		1.49	1.49	0.802	0.802
0.816		1.48	1.48	0.801	0.801
0.805	0.805	1.46	1.46	0.795	0.795
0.787	0.787	1.32	1.32	0.787	0.787
0.778	0.778	1.31	1.31	0.784	0.784
0.666	0.666	1.24	1.24	0.764	0.764
0.663	0.663	1.24	1.24	0.759	0.759
0.586	0.586	1.24	1.24	0.749	0.749
0.565	0.565	1.24	1.24	0.744	0.744
0.488	0.488	1.15	1.15	0.731	0.731
0.449	0.449	1.11	1.11	0.73	0.73
0.443	0.443	1.1	1.1	0.73	0.73
0.417	0.417	1.08	1.08	0.726	0.726
0.403	0.403	1.07	1.07	0.724	0.724
0.373	0.373	1.07	1.07	0.72	0.72
0.366	0.366	1.05	1.05	0.702	0.702
0.362	0.362	1.04	1.04	0.698	0.698
0.357	0.357	1.03	1.03	0.697	0.697
0.352	0.352	1.02	1.02	0.696	0.696
0.35	0.35	0.931	0.931	0.689	0.689
0.347	0.347	0.879	0.879	0.688	0.688
0.34	0.34	0.868	0.868	0.685	0.685
0.336	0.336	0.84	0.84	0.684	0.684
0.328	0.328	0.818	0.818	0.682	0.682
0.327	0.327	0.803	0.803	0.68	0.68
0.32	0.32	0.801	0.801	0.68	0.68
0.284	0.284	0.786	0.786	0.678	0.678
0.274	0.274	0.592	0.592	0.676	0.676
0.274	0.274	0.552	0.552	0.667	0.667
0.273	0.273	0.542	0.542	0.665	0.665
0.27	0.27	0.533	0.533	0.664	0.664
0.265	0.265	0.499	0.499	0.653	0.653
0.261	0.261	0.491	0.491	0.651	0.651
0.249	0.249	0.397	0.397	0.649	0.649
0.246	0.246	0.299	0.299	0.648	0.648
0.246	0.246	0.265	0.265	0.641	0.641
0.245	0.245	0.2415	0.2415	0.637	0.637
0.22	0.22	0.2415	0.2415	0.634	0.634

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

SELENIUM		SILVER		THALLIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
0.219	0.219	0.24	0.24	0.634	0.634
0.216	0.216	0.2395	0.2395	0.632	0.632
0.213	0.213	0.2375	0.2375	0.629	0.629
0.212	0.212	0.2365	0.2365	0.627	0.627
0.204	0.204	0.236	0.236	0.625	0.625
0.203	0.203	0.233	0.233	0.625	0.625
0.198	0.198	0.2245	0.2245	0.623	0.623
0.189	0.189	0.223	0.223	0.621	0.621
0.186	0.186	0.223	0.223	0.621	0.621
0.182	0.182	0.2185	0.2185	0.619	0.619
0.173	0.173	0.2165	0.2165	0.618	0.618
0.167	0.167	0.216	0.216	0.615	0.615
0.165	0.165	0.2155	0.2155	0.608	0.608
0.165	0.165	0.215	0.215	0.607	0.607
0.163	0.163	0.2145	0.2145	0.605	0.605
0.161	0.161	0.214	0.214	0.602	0.602
0.161	0.161	0.2135	0.2135	0.6	0.6
0.159	0.159	0.212	0.212	0.6	0.6
0.158	0.158	0.212	0.212	0.6	0.6
0.153	0.153	0.2115	0.2115	0.599	0.599
0.149	0.149	0.2115	0.2115	0.596	0.596
0.14	0.14	0.2115	0.2115	0.594	0.594
0.135	0.135	0.211	0.211	0.591	0.591
0.133	0.133	0.21	0.21	0.589	0.589
0.13	0.13	0.21	0.21	0.579	0.579
0.11	0.11	0.21	0.21	0.579	0.579
0.108	0.108	0.208	0.208	0.579	0.579
0.105	0.105	0.2055	0.2055	0.577	0.577
0.1	0.1	0.205	0.205	0.576	0.576
0.0735	0.0735	0.205	0.205	0.576	0.576
0.071	0.071	0.204	0.204	0.574	0.574
0.0705	0.0705	0.203	0.203	0.567	0.567
0.0695	0.0695	0.2025	0.2025	0.563	0.563
0.069	0.069	0.202	0.202	0.562	0.562
0.0685	0.0685	0.2005	0.2005	0.553	0.553
0.068	0.068	0.2005	0.2005	0.552	0.552
0.066	0.066	0.2	0.2	0.547	0.547
0.0655	0.0655	0.2	0.2	0.547	0.547
0.0655	0.0655	0.2	0.2	0.546	0.546
0.065	0.065	0.1995	0.1995	0.543	0.543
0.065	0.065	0.199	0.199	0.542	0.542
0.064	0.064	0.197	0.197	0.539	0.539
0.063	0.063	0.197	0.197	0.538	0.538
0.063	0.063	0.197	0.197	0.537	0.537
0.062	0.062	0.1965	0.1965	0.535	0.535
0.061	0.061	0.1965	0.1965	0.535	0.535
0.06	0.06	0.1955	0.1955	0.529	0.529

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

SELENIUM		SILVER		THALLIUM	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
0.06	0.06	0.1955	0.1955	0.526	0.526
0.06	0.06	0.195	0.195	0.521	0.521
0.06	0.06	0.195	0.195	0.521	0.521
0.0595	0.0595	0.195	0.195	0.519	0.519
0.059	0.059	0.1945	0.1945	0.511	0.511
0.0585	0.0585	0.193	0.193	0.509	0.509
0.0585	0.0585	0.193	0.193	0.507	0.507
0.0575	0.0575	0.192	0.192	0.502	0.502
0.057	0.057	0.191	0.191	0.502	0.502
0.057	0.057	0.191	0.191	0.495	0.495
0.0565	0.0565	0.1905	0.1905	0.493	0.493
0.056	0.056	0.19	0.19	0.485	0.485
0.056	0.056	0.1895	0.1895	0.436	0.436
0.0555	0.0555	0.1895	0.1895	0.434	0.434
0.0555	0.0555	0.1895	0.1895	0.431	0.431
0.055	0.055	0.189	0.189	0.419	0.419
0.055	0.055	0.189	0.189	0.382	0.382
0.055	0.055	0.189	0.189	0.366	0.366
0.054	0.054	0.189	0.189	0.335	0.335
0.054	0.054	0.189	0.189	0.228	
0.051	0.051	0.1885	0.1885	0.206	
0.051	0.051	0.1875	0.1875	0.17	
0.0505	0.0505	0.186	0.186	0.164	
0.05	0.05	0.185	0.185	0.139	
0.05	0.05	0.184	0.184	0.118	
0.0498	0.0498	0.1825	0.1825	0.108	
0.0495	0.0495	0.1825	0.1825	0.0972	
0.0492	0.0492	0.1815	0.1815	0.0388	
0.049	0.049	0.181	0.181	0.0362	
0.048	0.048	0.1805	0.1805	0.0353	
0.0476	0.0476	0.1785	0.1785		
* Extreme value not included in graphs.					

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

TIN		VANADIUM		ZINC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
1120*		121	121	2440*	
276*		118	118	2400*	
65.8		109	109	746*	
63	63	98.2	98.2	240	
36.7	36.7	96.5	96.5	205	
34.4	34.4	95.8	95.8	187	187
28.3	28.3	95	95	170	170
19.4	19.4	94	94	150	150
19	19	93.3	93.3	146	146
18.8	18.8	92.7	92.7	146	146
16.6	16.6	90.3	90.3	145	145
16.1	16.1	88.3	88.3	138	138
15.5	15.5	88.1	88.1	138	138
15.4	15.4	84.3	84.3	137	137
14.8	14.8	80.8	80.8	112	112
14.6	14.6	78.9	78.9	109	109
14.3	14.3	78.3	78.3	109	109
13.6	13.6	78.2	78.2	108	108
13.5	13.5	77.7	77.7	106	106
10.5	10.5	77.3	77.3	105	105
9.04	9.04	76.5	76.5	101	101
8.47	8.47	72.8	72.8	100	100
7.66	7.66	72.7	72.7	98.8	98.8
7.56	7.56	70.7	70.7	98.4	98.4
6.98	6.98	69.7	69.7	98.1	98.1
6.81	6.81	67.9	67.9	93.9	93.9
6.34	6.34	67.1	67.1	93.2	93.2
6.21	6.21	66.7	66.7	91.4	91.4
6.07	6.07	66	66	91.1	91.1
5.58	5.58	65.9	65.9	90	90
5.55	5.55	65.6	65.6	89.8	89.8
5.5	5.5	64.1	64.1	89.8	89.8
5.19	5.19	63	63	89.4	89.4
4.93	4.93	63	63	89.1	89.1
4.9	4.9	62.2	62.2	88.3	88.3
4.81	4.81	61.8	61.8	88.3	88.3
4.81	4.81	61.6	61.6	87.1	87.1
4.52	4.52	61.6	61.6	86.3	86.3
4.41	4.41	60.9	60.9	86.3	86.3
4.27	4.27	60.5	60.5	86.3	86.3
4.22	4.22	60.4	60.4	85.5	85.5
4.21	4.21	60.3	60.3	84.4	84.4
4.15	4.15	59.9	59.9	84.1	84.1
3.84	3.84	59.6	59.6	84	84
3.74	3.74	59.3	59.3	83	83
3.46	3.46	59.2	59.2	82.3	82.3
3.4	3.4	58.8	58.8	82.1	82.1

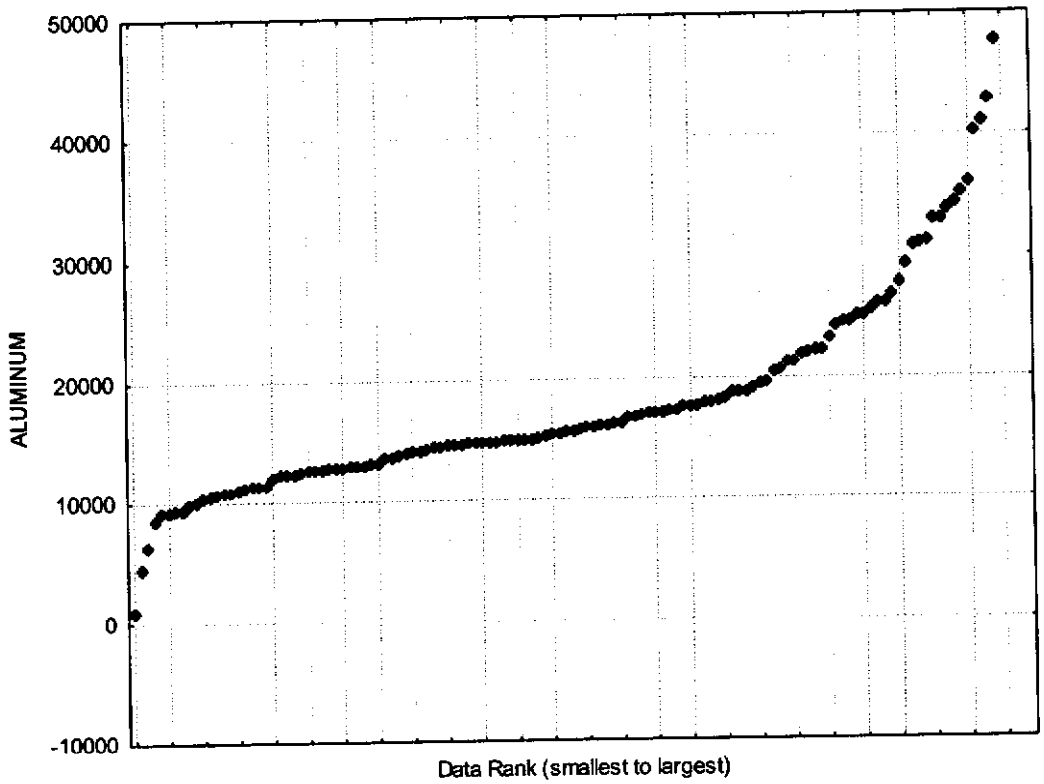
Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

TIN		VANADIUM		ZINC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
3.28	3.28	58.2	58.2	81.7	81.7
3.04	3.04	57.9	57.9	81.6	81.6
2.9	2.9	57.9	57.9	80.2	80.2
2.76	2.76	56.3	56.3	78.8	78.8
2.4	2.4	56.1	56.1	78.1	78.1
2.4	2.4	55.9	55.9	77	77
2.25	2.25	55.8	55.8	75.9	75.9
2.21	2.21	55.7	55.7	75	75
2.21	2.21	55.6	55.6	74.3	74.3
2.15	2.15	55.4	55.4	74.1	74.1
1.935	1.935	55.3	55.3	74	74
1.9	1.9	55.1	55.1	73.7	73.7
1.815	1.815	54.9	54.9	73.5	73.5
1.77	1.77	54.5	54.5	73.5	73.5
1.745	1.745	54.4	54.4	73.2	73.2
1.58	1.58	54.2	54.2	73.2	73.2
1.575	1.575	54.1	54.1	72.6	72.6
1.565	1.565	54.1	54.1	71.8	71.8
1.455	1.455	53.8	53.8	71.6	71.6
1.44	1.44	53.7	53.7	71	71
1.415	1.415	53.6	53.6	70.3	70.3
1.395	1.395	53.4	53.4	70.1	70.1
1.27	1.27	52.7	52.7	69.9	69.9
1.26	1.26	52.7	52.7	69.8	69.8
1.185	1.185	52.5	52.5	69.4	69.4
1.15	1.15	52.4	52.4	68.8	68.8
1.14	1.14	52.1	52.1	68.8	68.8
1.14	1.14	51.6	51.6	68.5	68.5
1.135	1.135	51.4	51.4	68.3	68.3
1.12	1.12	51.1	51.1	67.4	67.4
1.11	1.11	51	51	67.2	67.2
1.105	1.105	51	51	67	67
1.1	1.1	50.7	50.7	66.7	66.7
1.09	1.09	50.6	50.6	66.2	66.2
1.07	1.07	50	50	66.1	66.1
1.07	1.07	49.8	49.8	65.4	65.4
1.065	1.065	49.7	49.7	64.9	64.9
1.065	1.065	49.7	49.7	64.6	64.6
1.06	1.06	49.4	49.4	64.1	64.1
1.06	1.06	49	49	63.6	63.6
1.06	1.06	48.8	48.8	63.6	63.6
1.05	1.05	48	48	62.9	62.9
1.05	1.05	48	48	62.4	62.4
1.045	1.045	47.9	47.9	62.4	62.4
1.045	1.045	45.5	45.5	62	62
1.045	1.045	44.7	44.7	61.9	61.9
1.04	1.04	44.7	44.7	61.9	61.9

Table H-5. Expanded and Ambient Data Sets for Metals Concentrations in Soil (mg/kg)

TIN		VANADIUM		ZINC	
Expanded	Ambient	Expanded	Ambient	Expanded	Ambient
1.02	1.02	44.7	44.7	61.6	61.6
1.015	1.015	44.2	44.2	61	61
1.015	1.015	44.1	44.1	60.2	60.2
1	1	44	44	60.2	60.2
1	1	43.7	43.7	60.1	60.1
1	1	43.5	43.5	59.5	59.5
0.965	0.965	43	43	59	59
0.96	0.96	42.4	42.4	58.8	58.8
0.96	0.96	42.2	42.2	58	58
0.955	0.955	42	42	57.6	57.6
0.955	0.955	42	42	56	56
0.95	0.95	40.8	40.8	53.9	53.9
0.95	0.95	39.9	39.9	53.3	53.3
0.945	0.945	39.9	39.9	53	53
0.945	0.945	38.6	38.6	52.8	52.8
0.94	0.94	37.7	37.7	51.1	51.1
0.94	0.94	37.1	37.1	50.5	50.5
0.93	0.93	36	36	49.9	49.9
0.92	0.92	35.7	35.7	49.9	49.9
0.92	0.92	34.2	34.2	49.8	49.8
0.915	0.915	34.2	34.2	49.4	49.4
0.91	0.91	34.2	34.2	49.2	49.2
0.905	0.905	33.7	33.7	48.9	48.9
0.9	0.9	33.5	33.5	46.2	46.2
0.9	0.9	31	31	44.3	44.3
0.9	0.9	29.8	29.8	43	43
0.895	0.895	28.8	28.8	42.5	42.5
0.895	0.895	25.1	25.1	34.7	34.7
0.89	0.89	23	23	34.5	34.5
0.885	0.885	17		31	31
		2.22		28.3	28.3
				1.86	
* Extreme value not included in graphs.					

Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



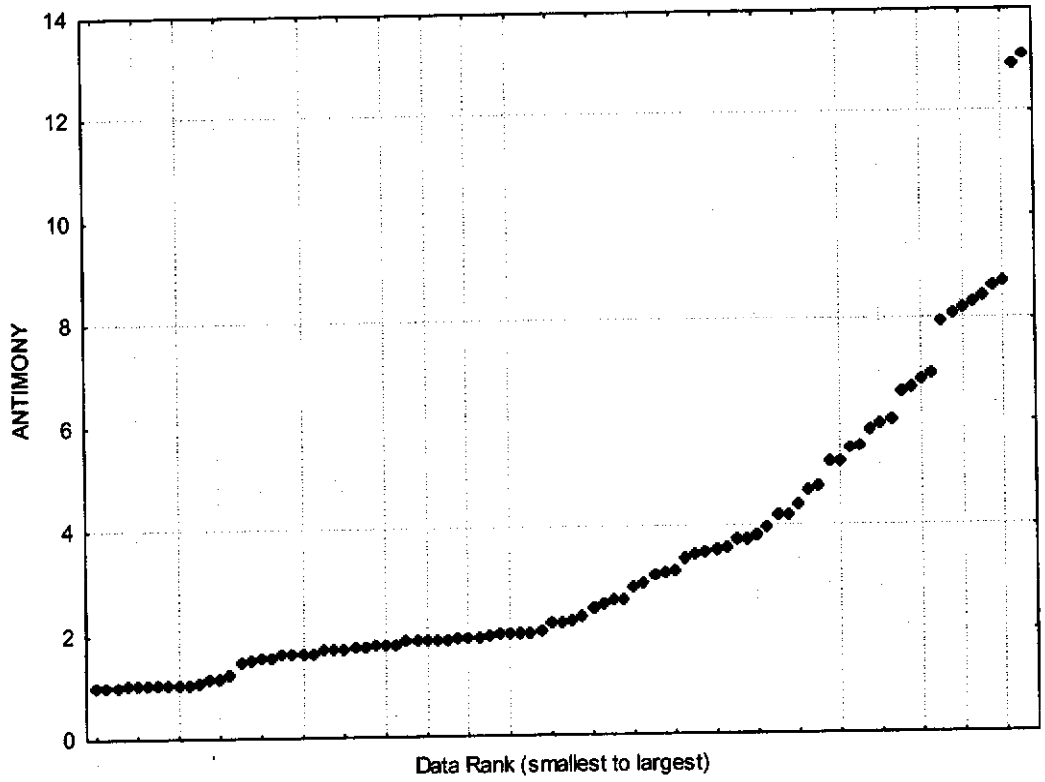
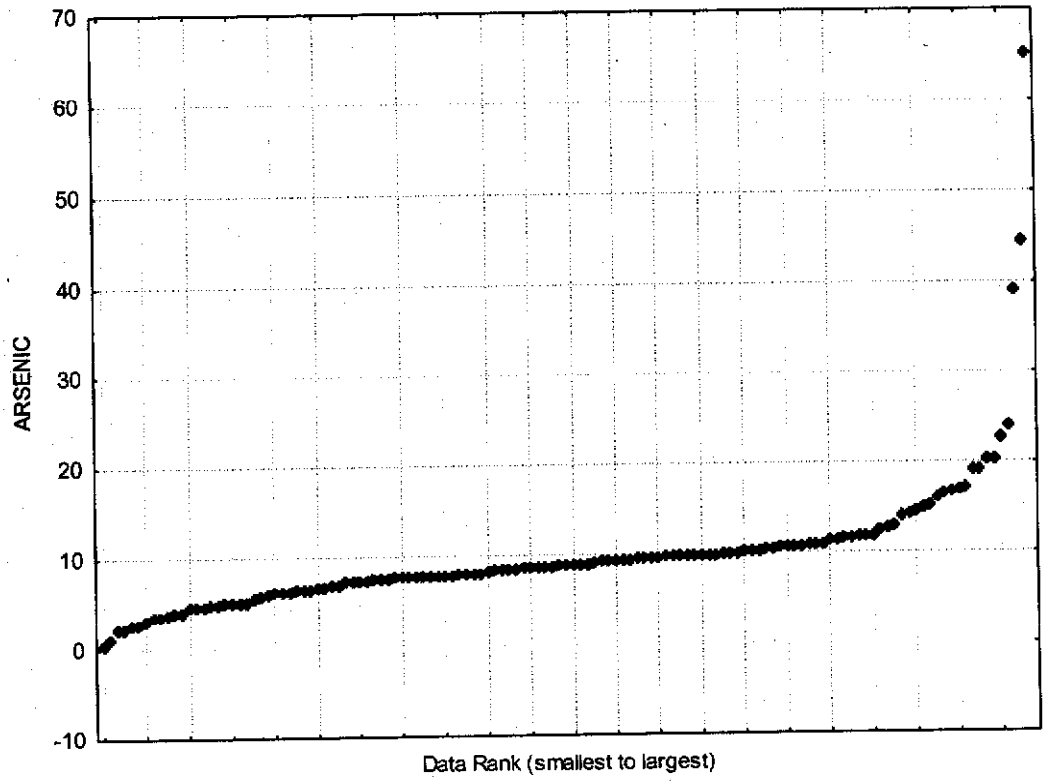


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



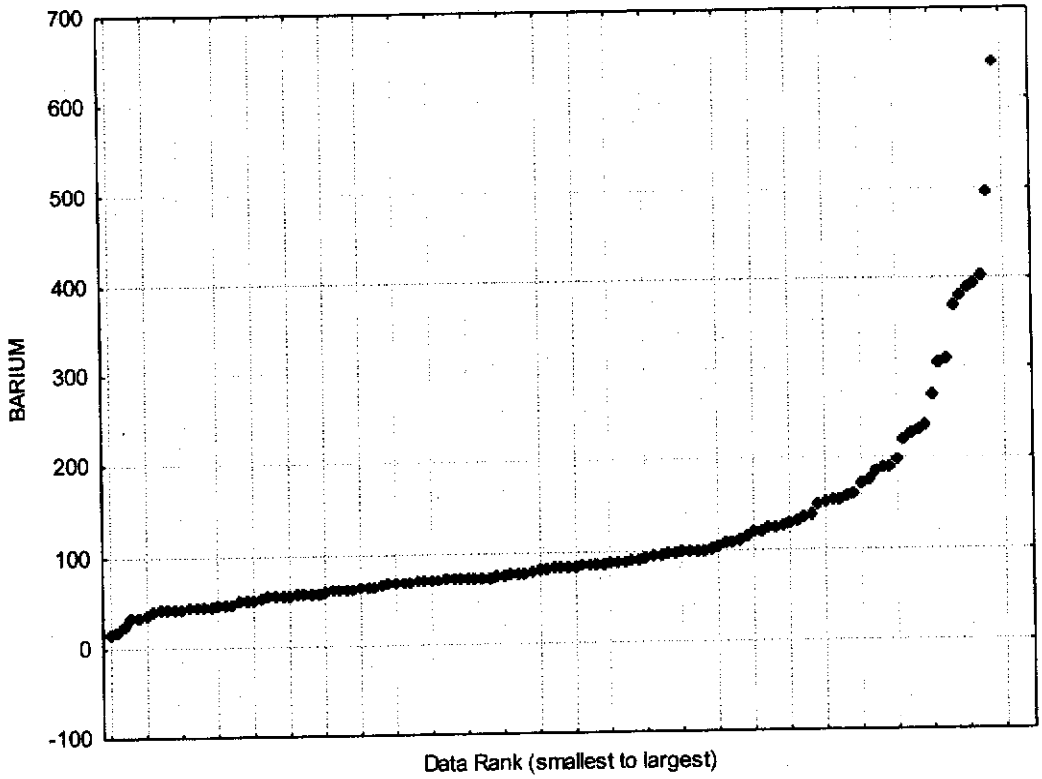
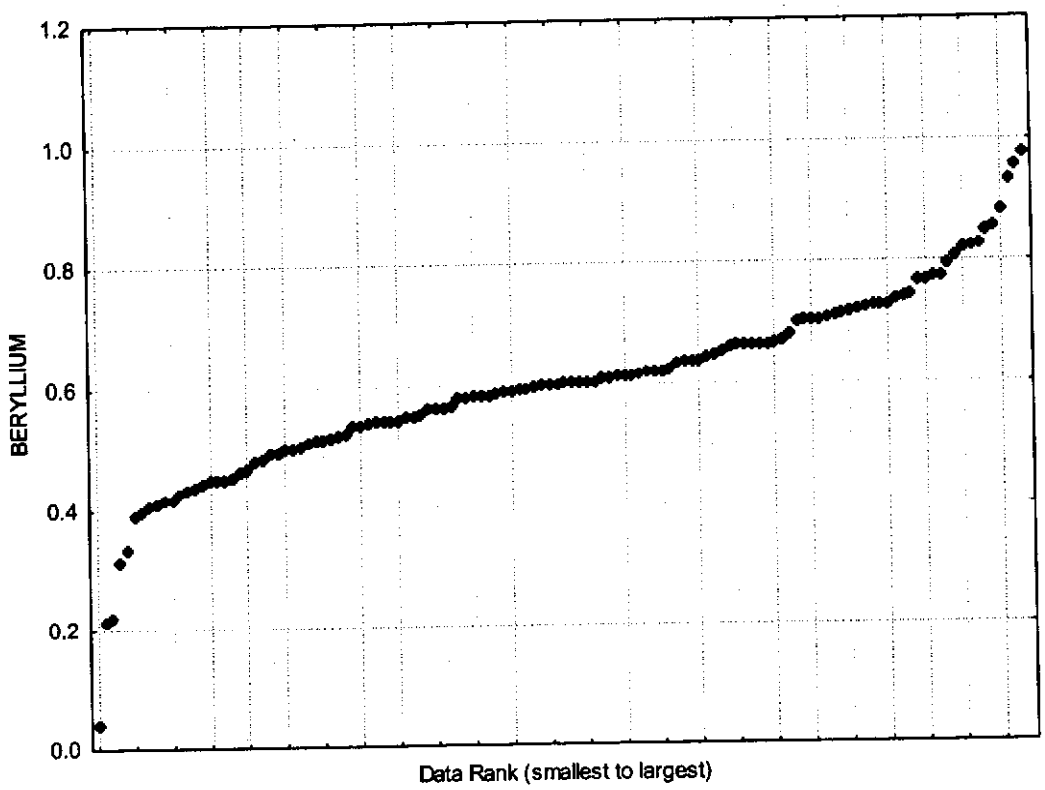


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



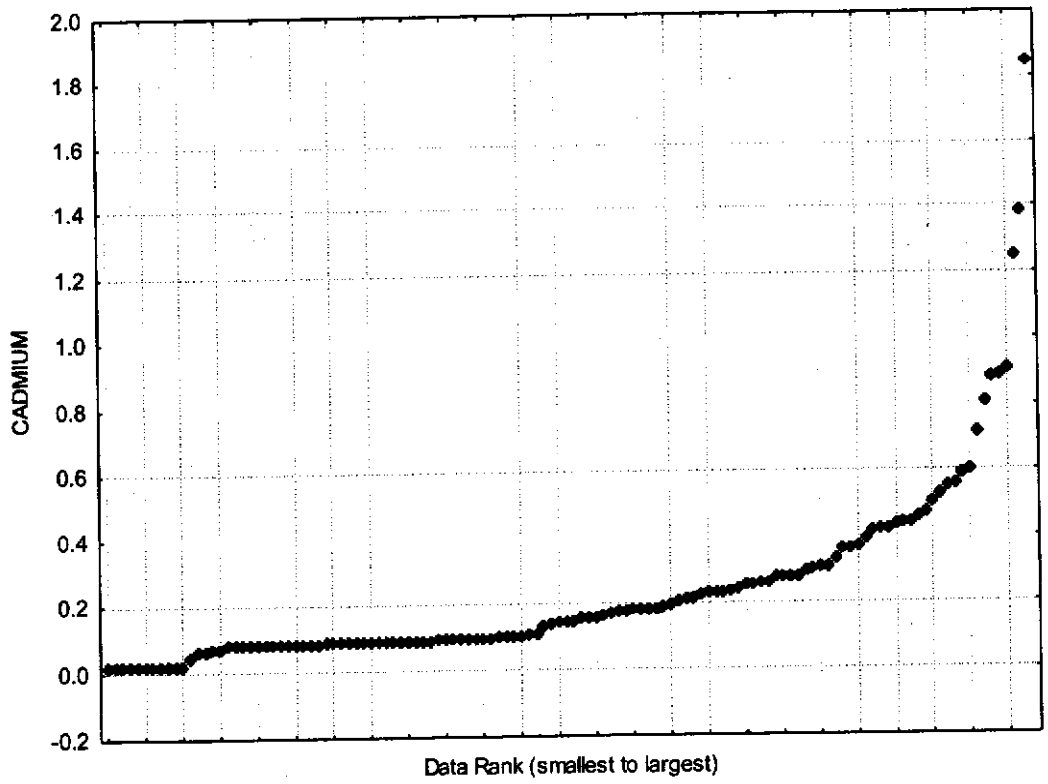
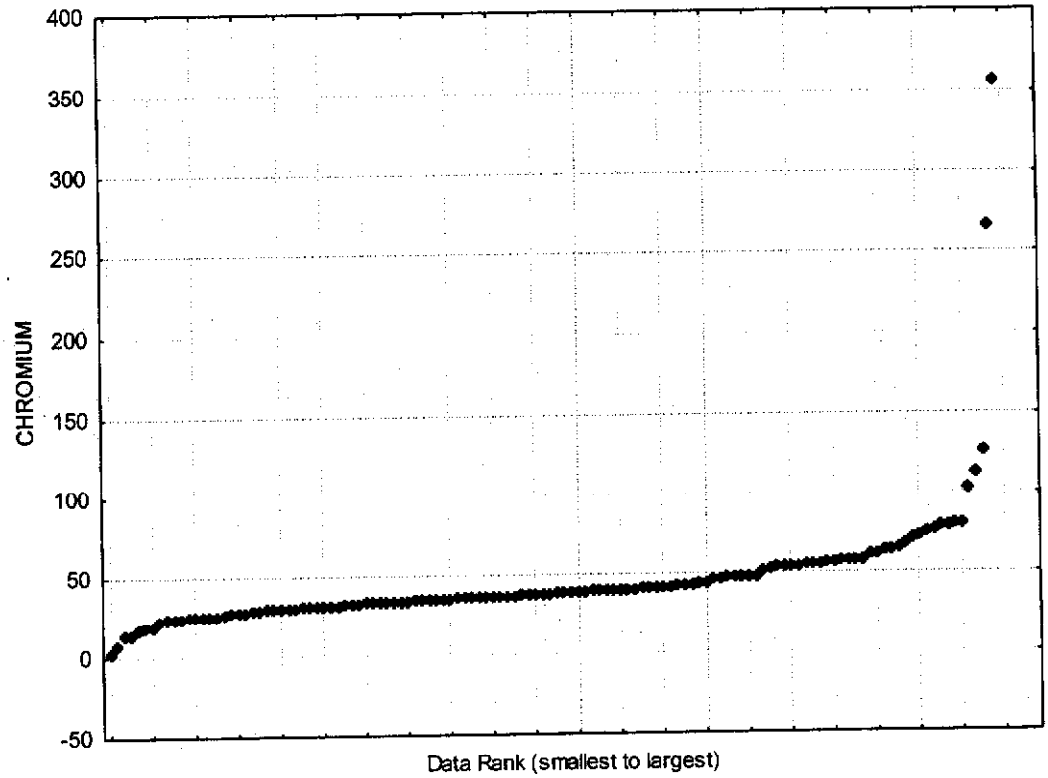


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



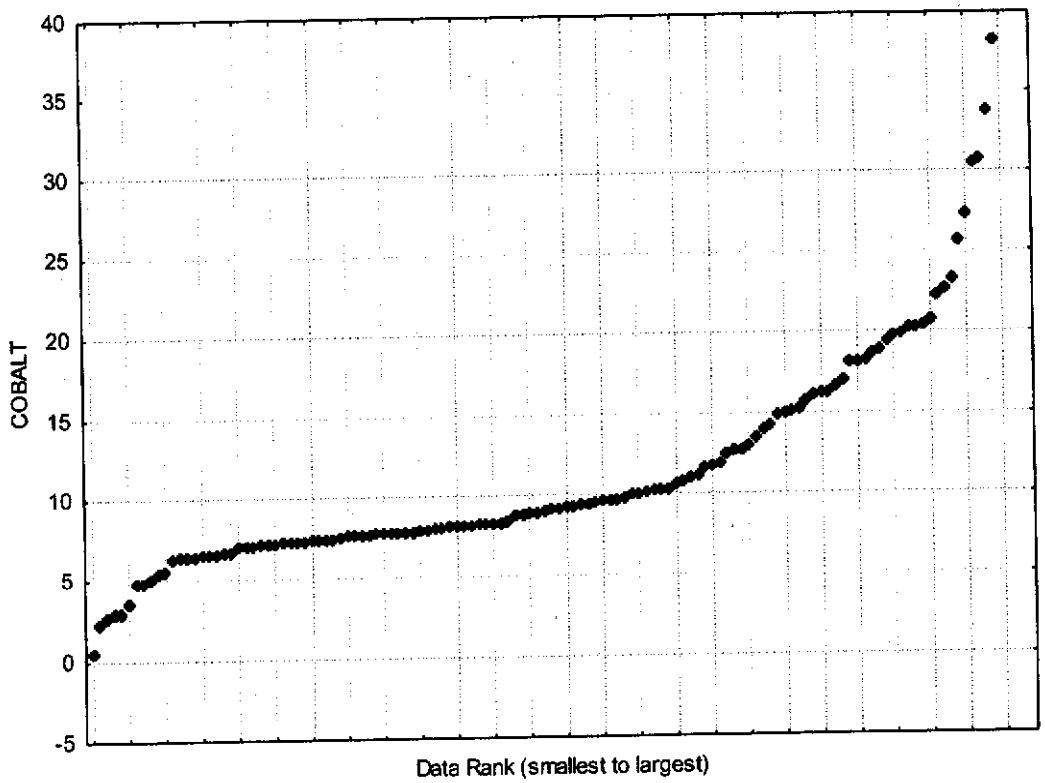
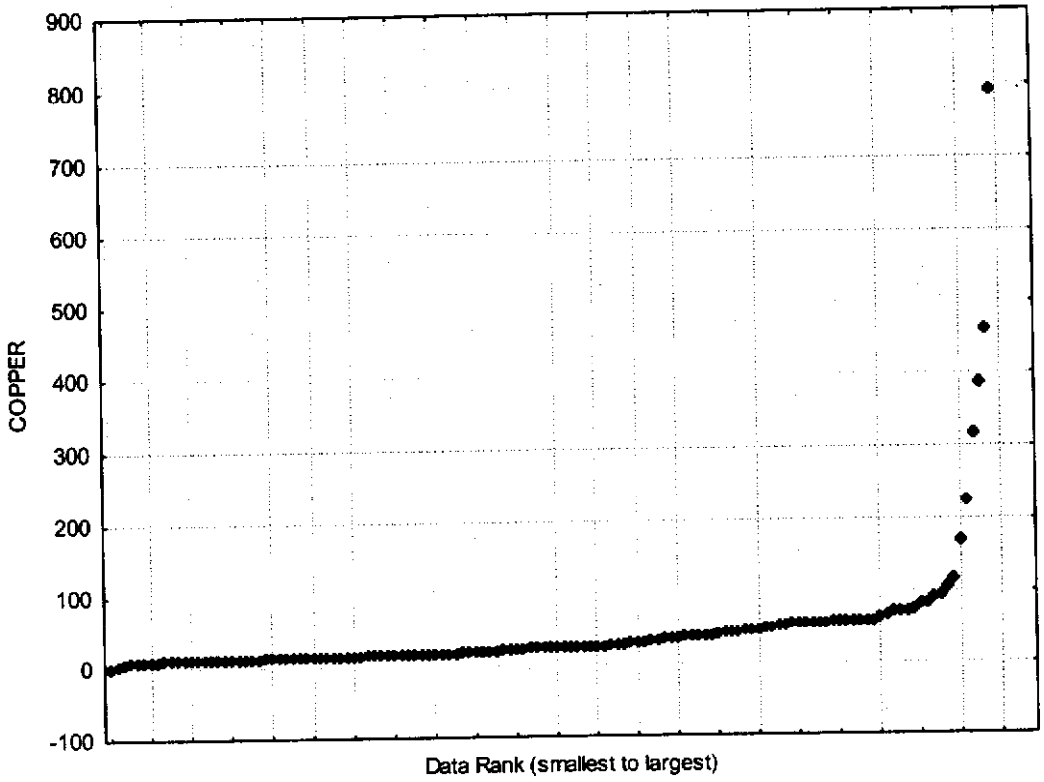


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



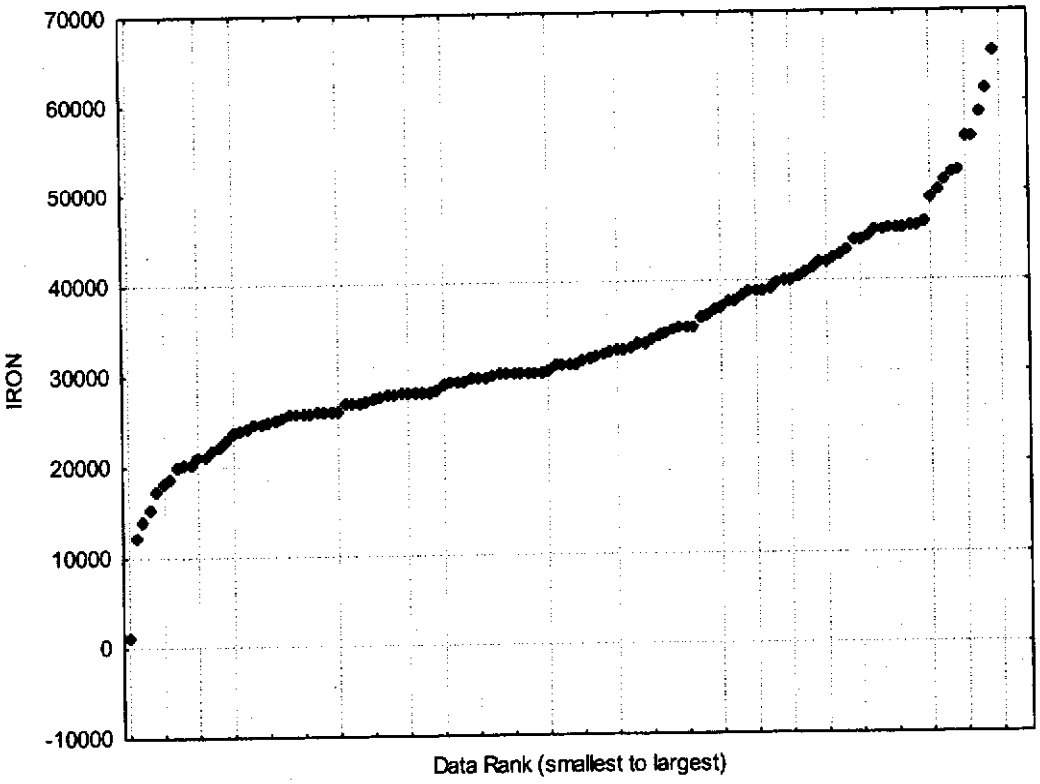
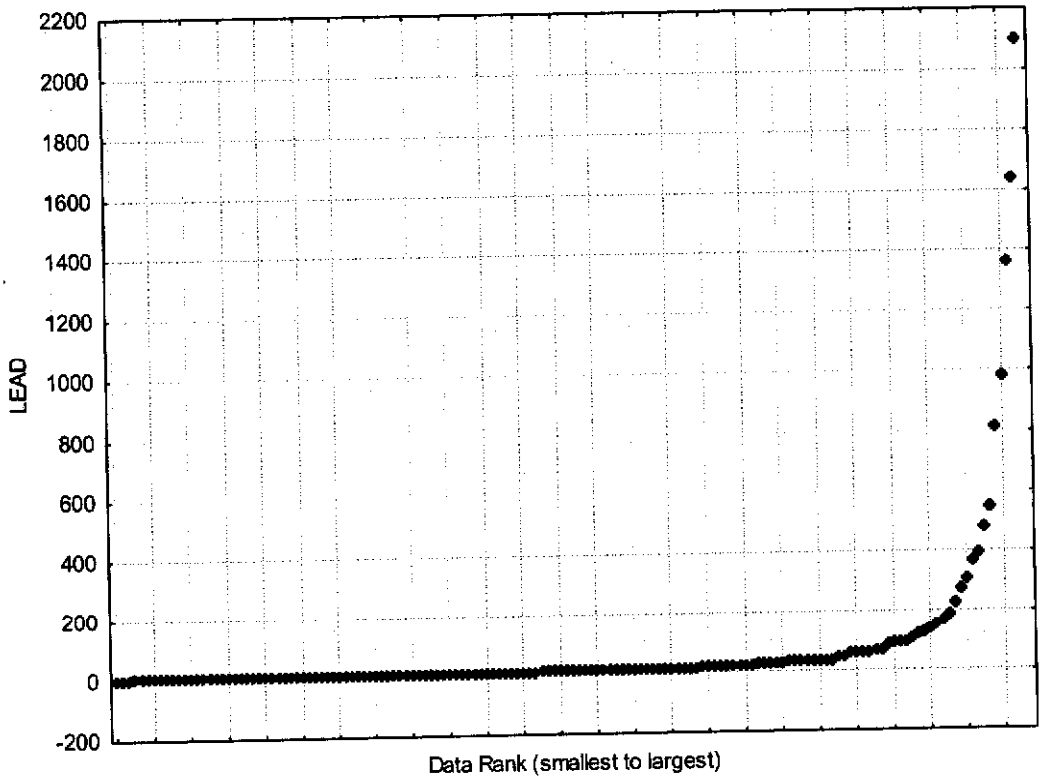


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



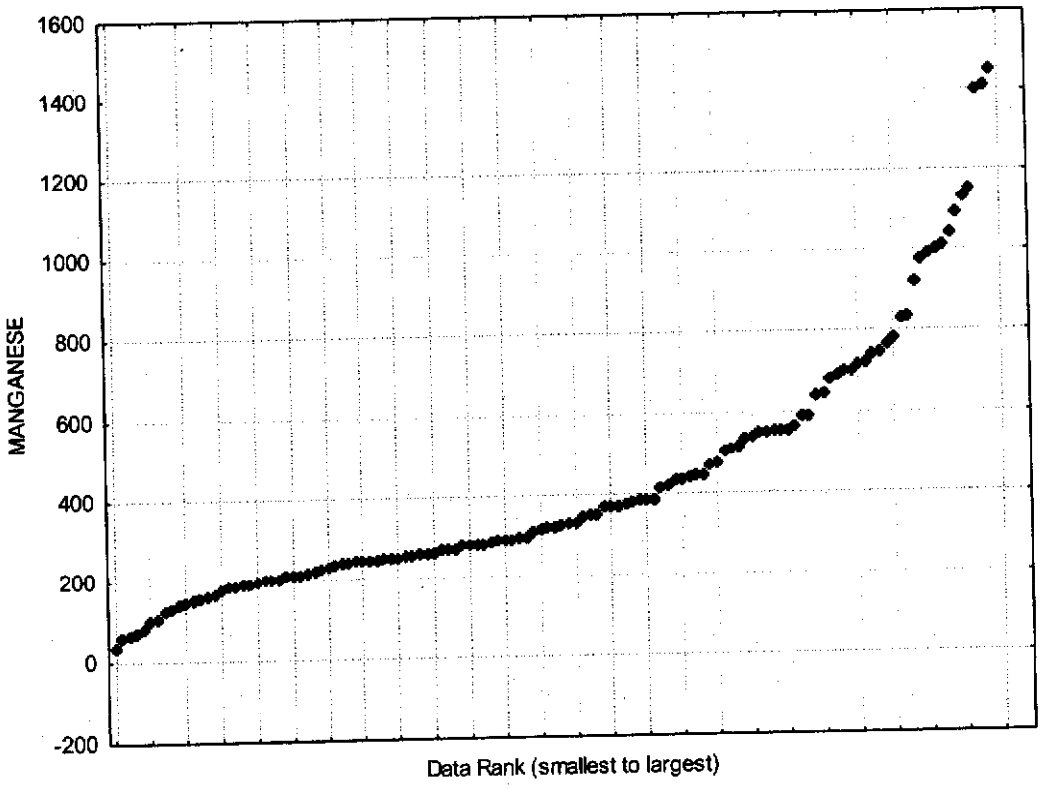
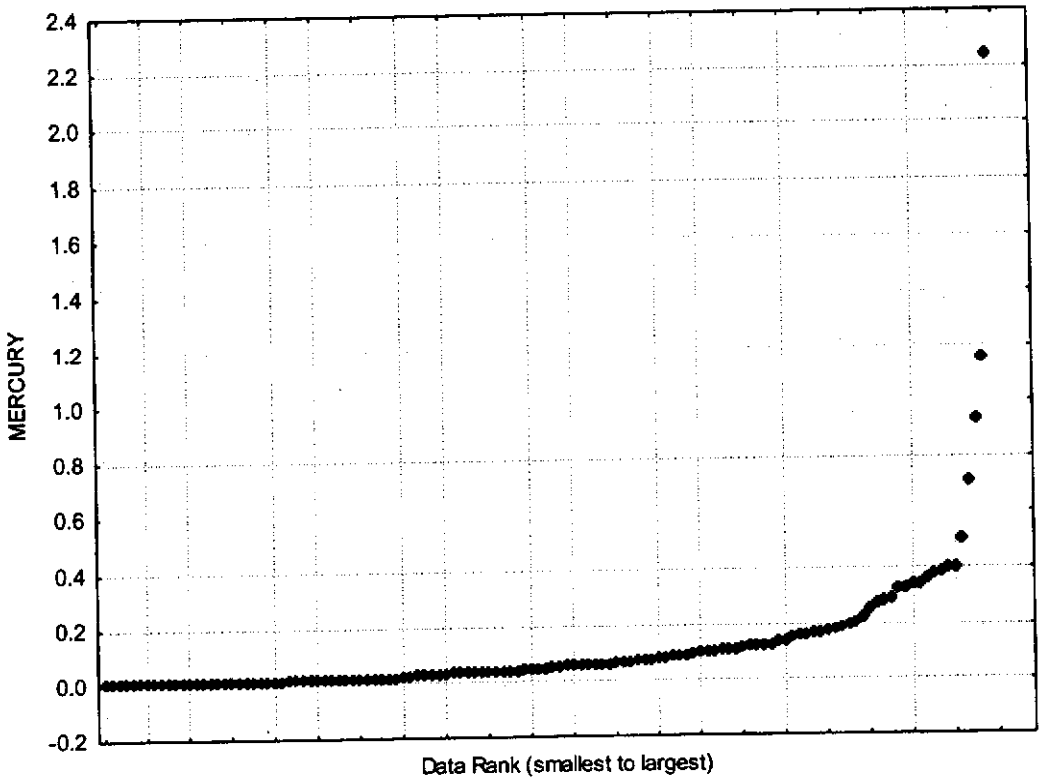


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



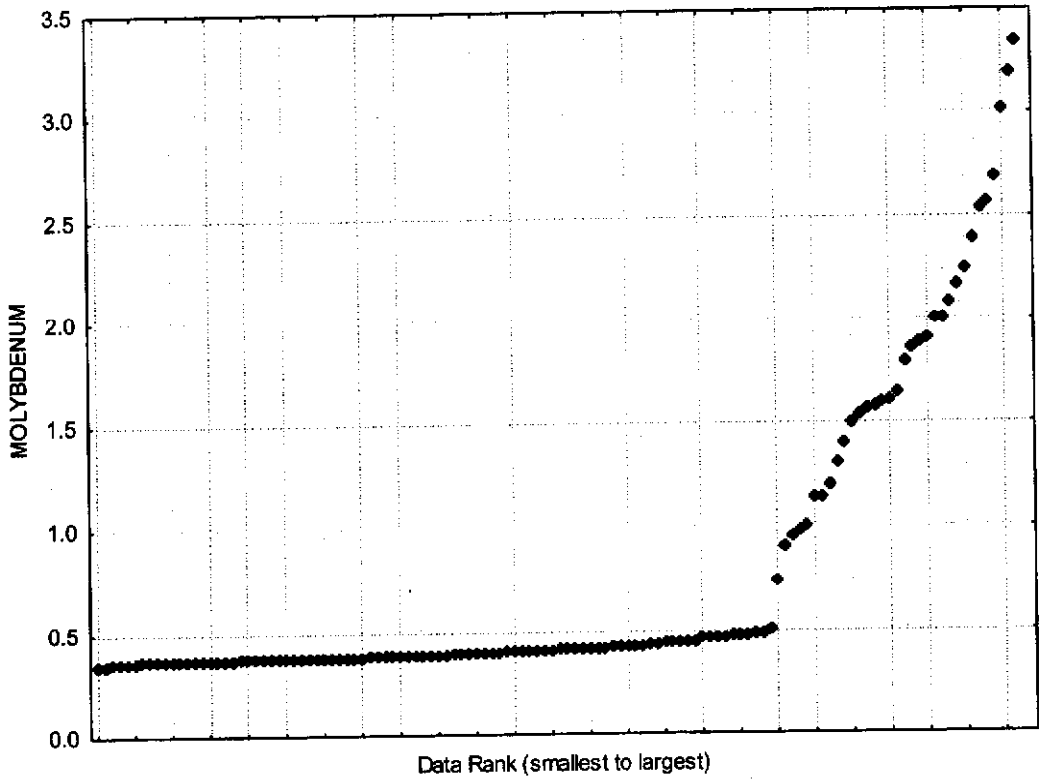
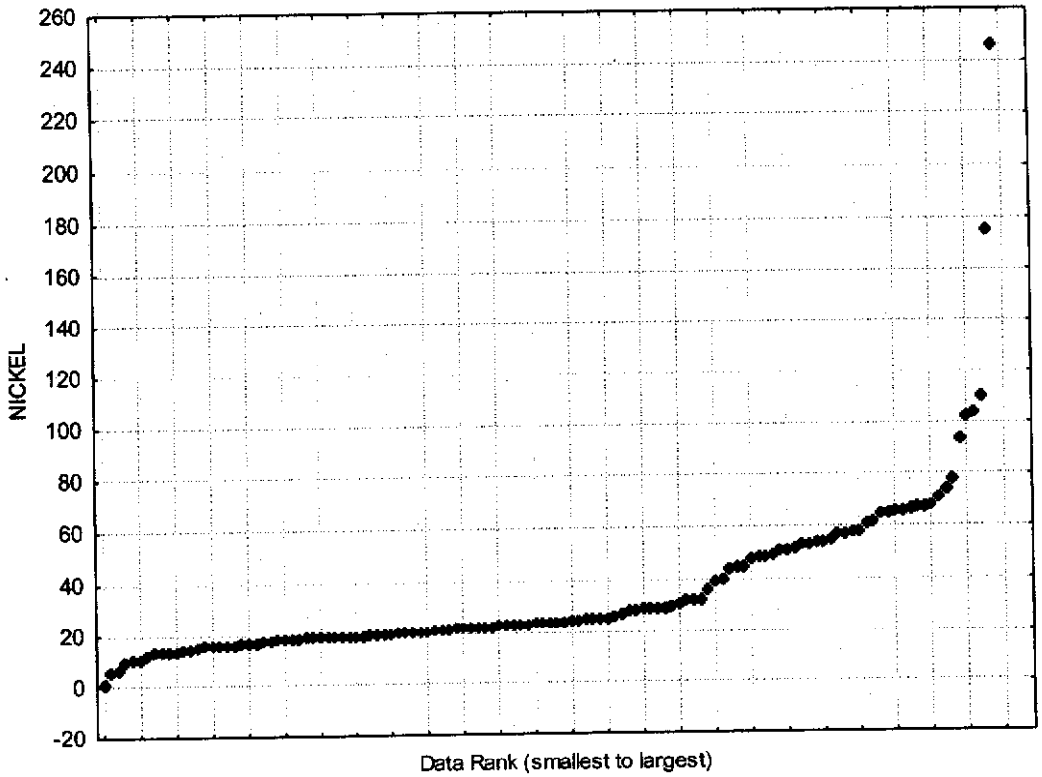


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



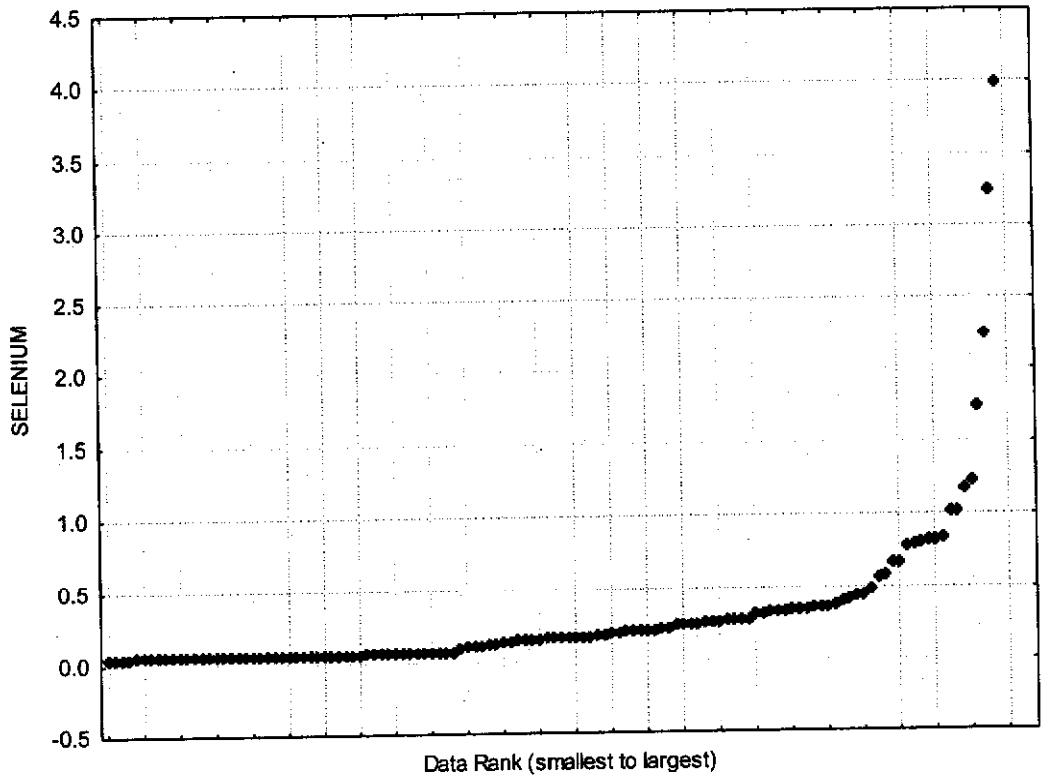
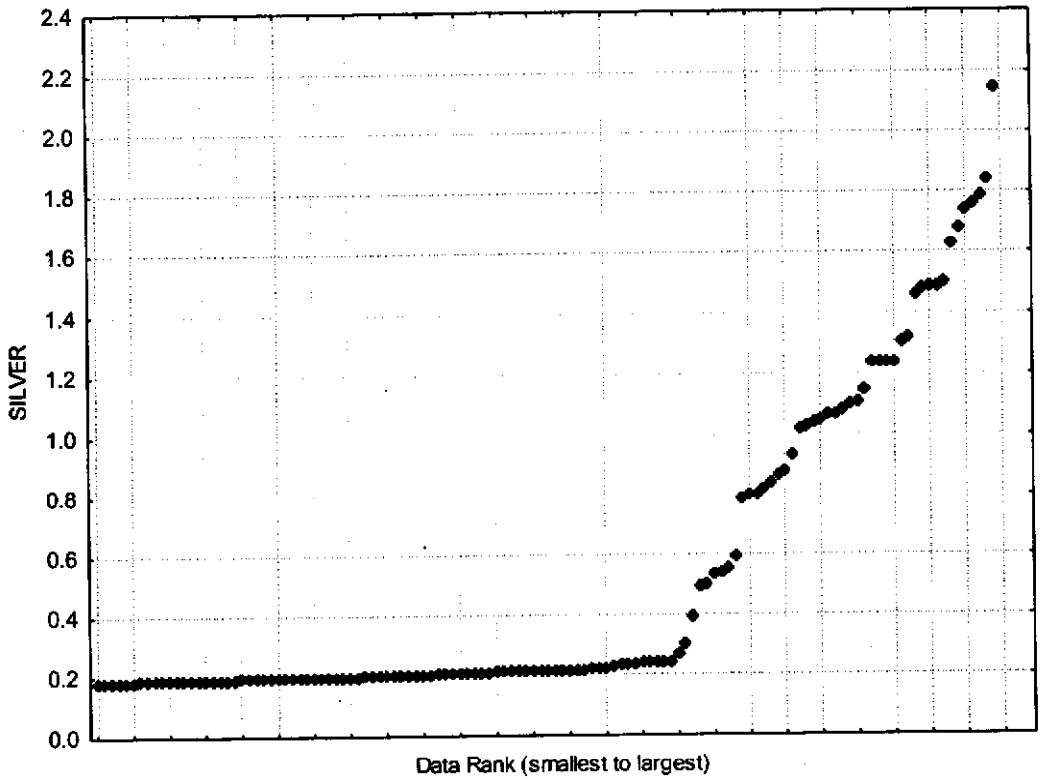


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



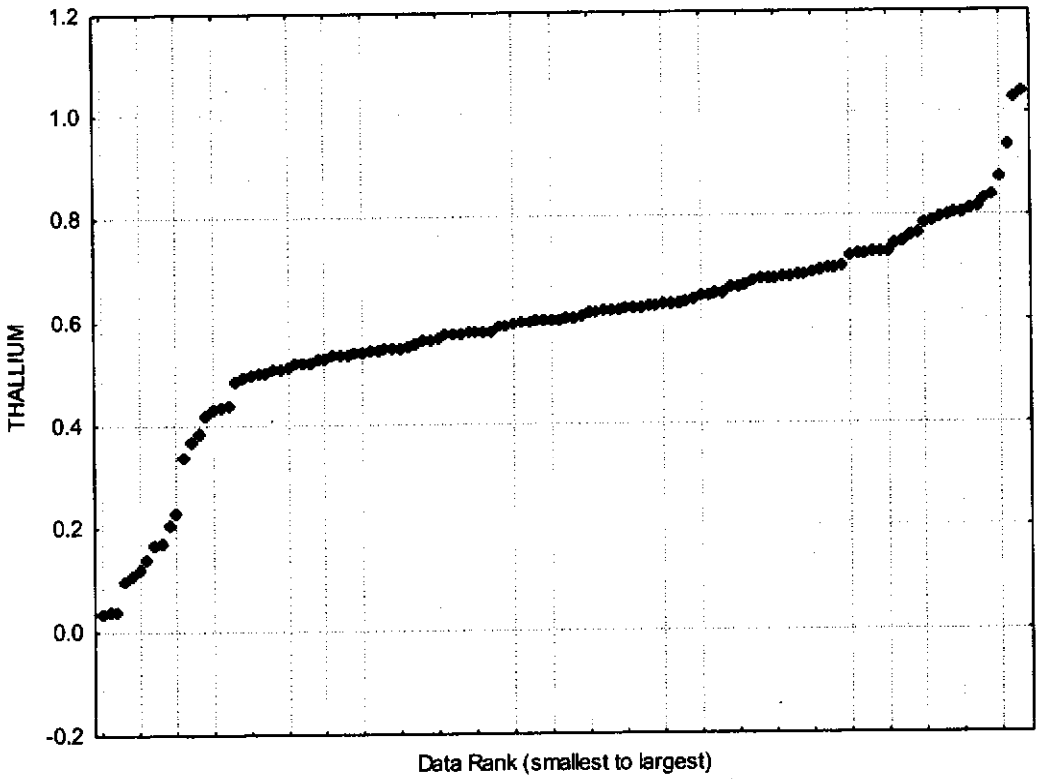
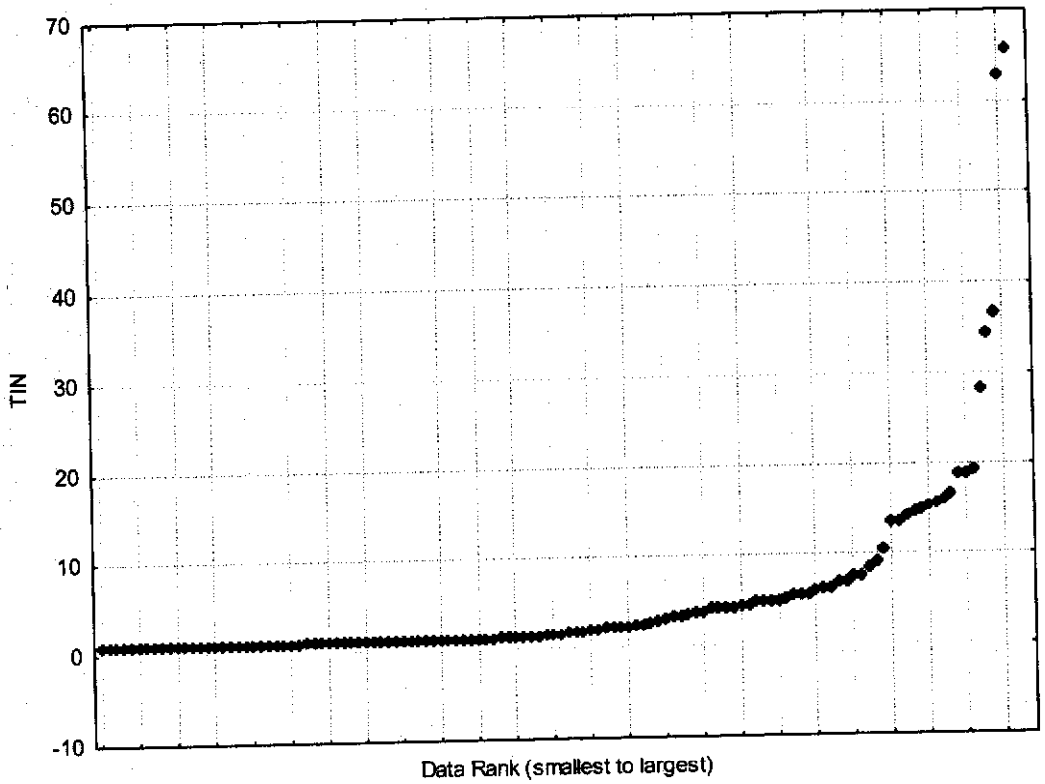


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)



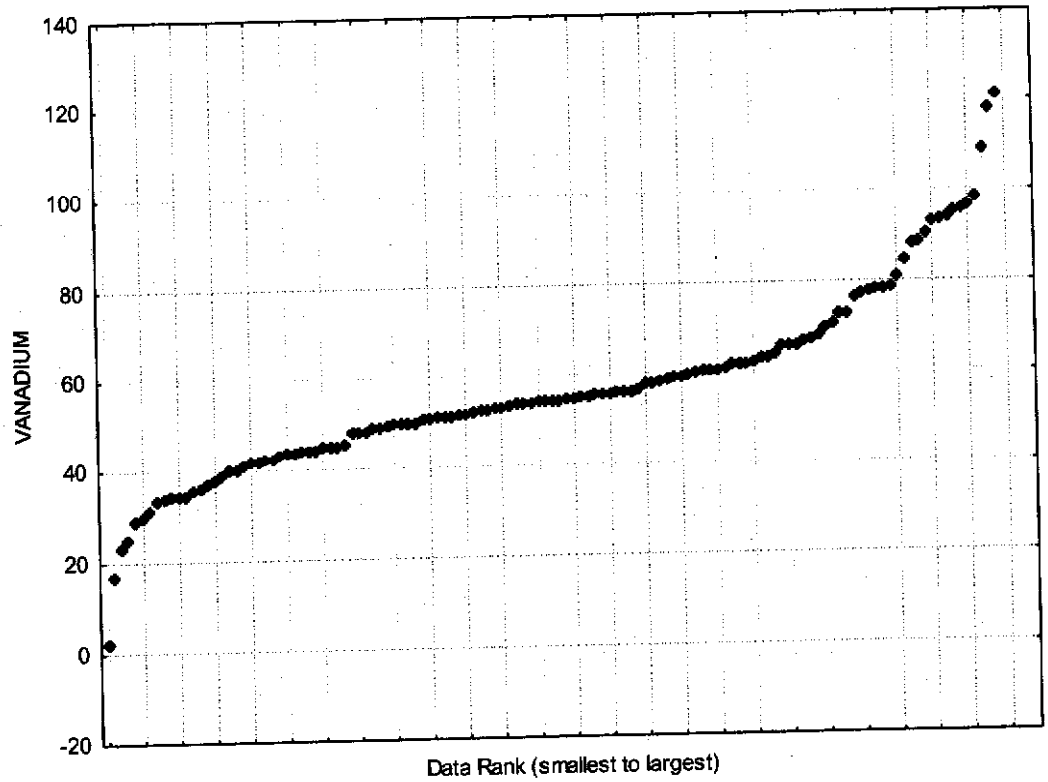


Figure H-1. Ranked Data Plots of Metals Concentrations in Soil - Expanded Data (mg/kg)

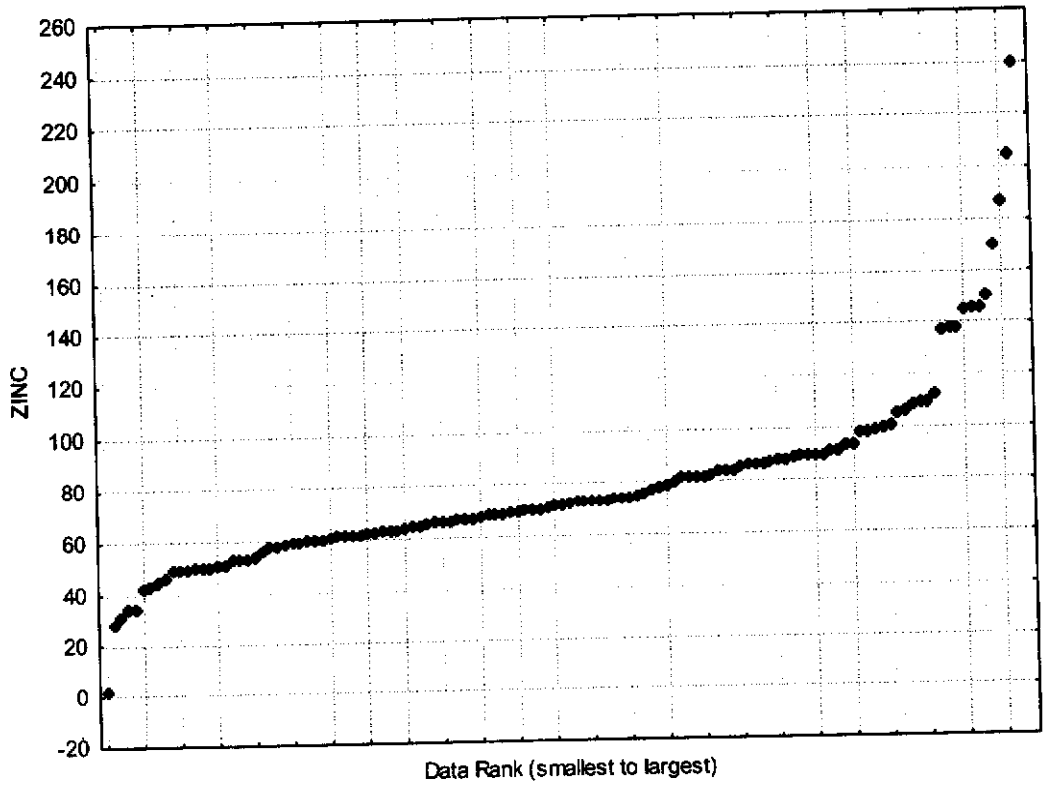
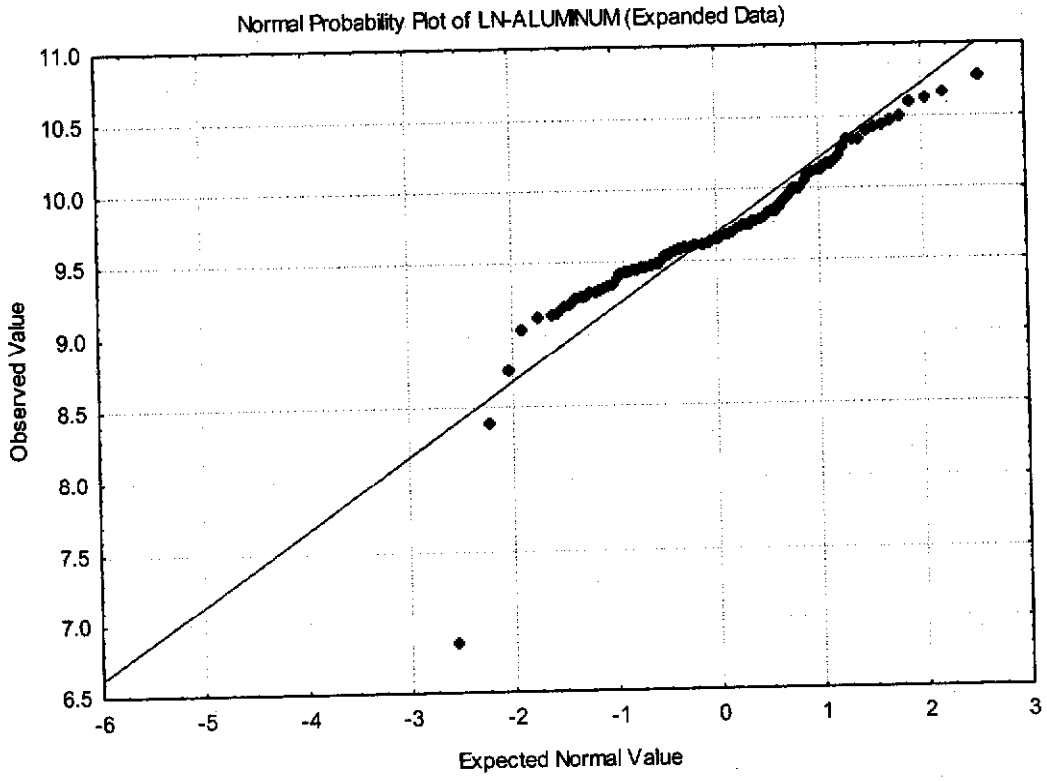


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



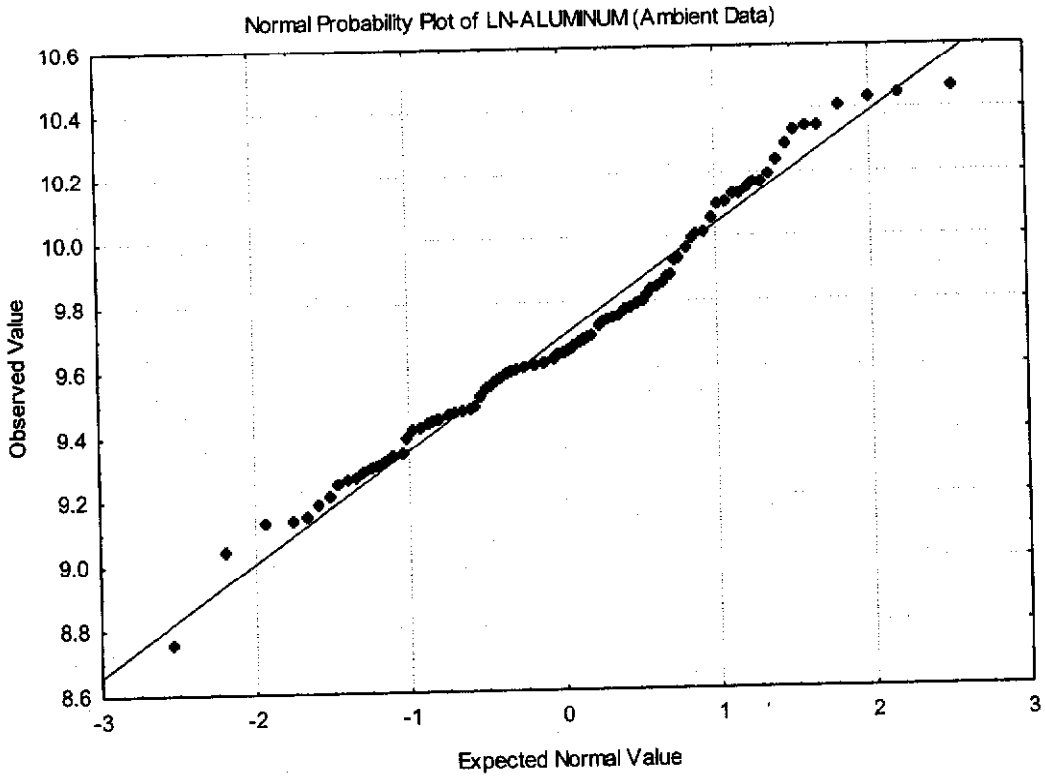
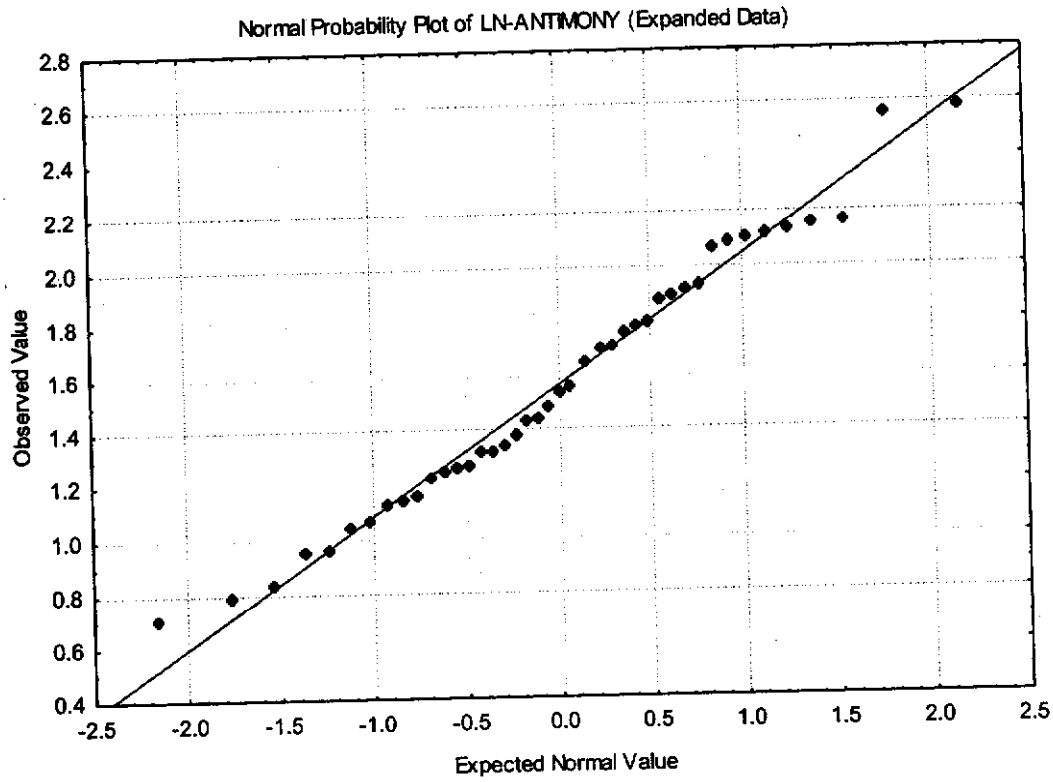


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



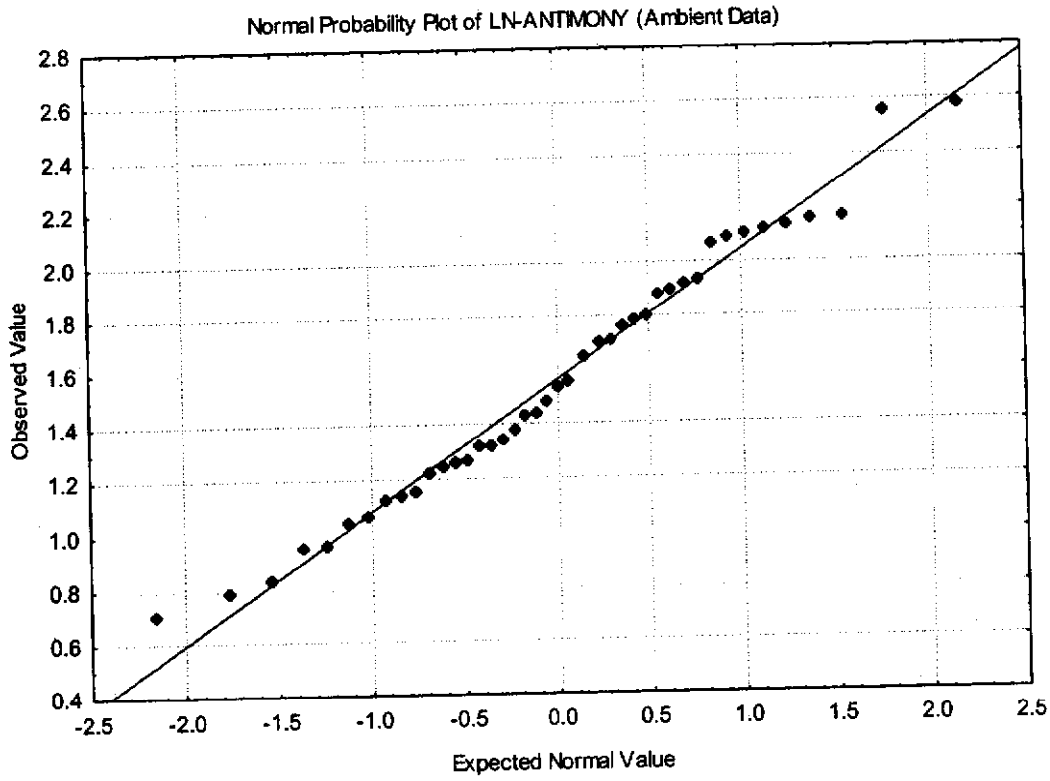
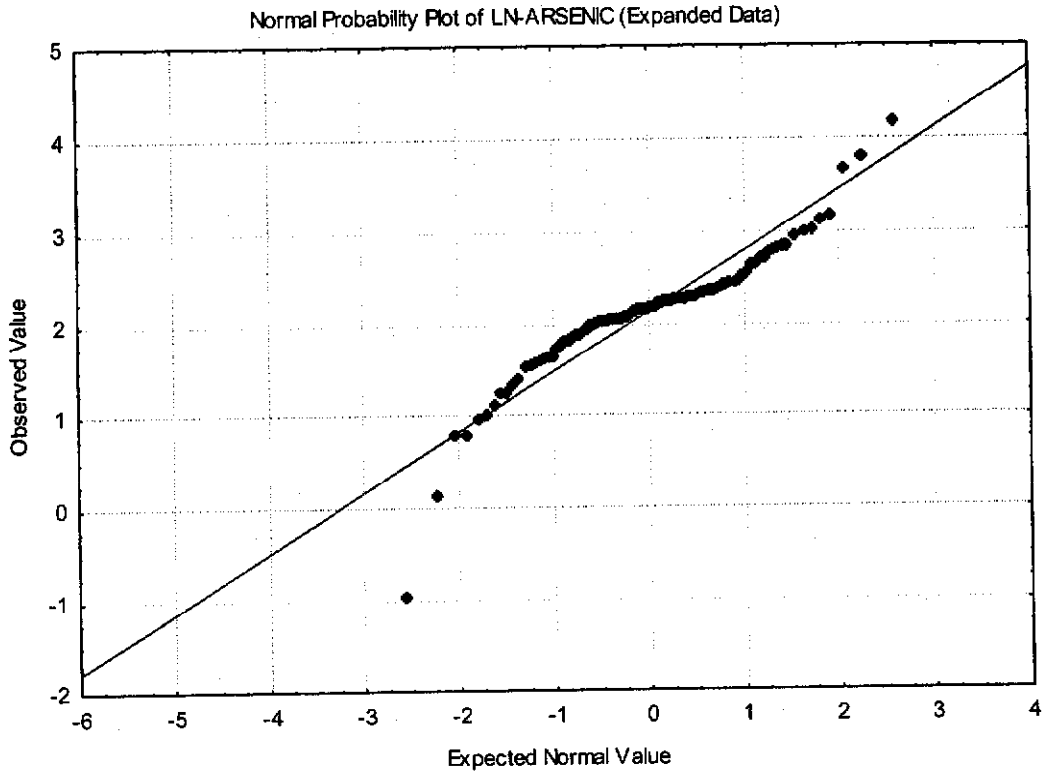


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



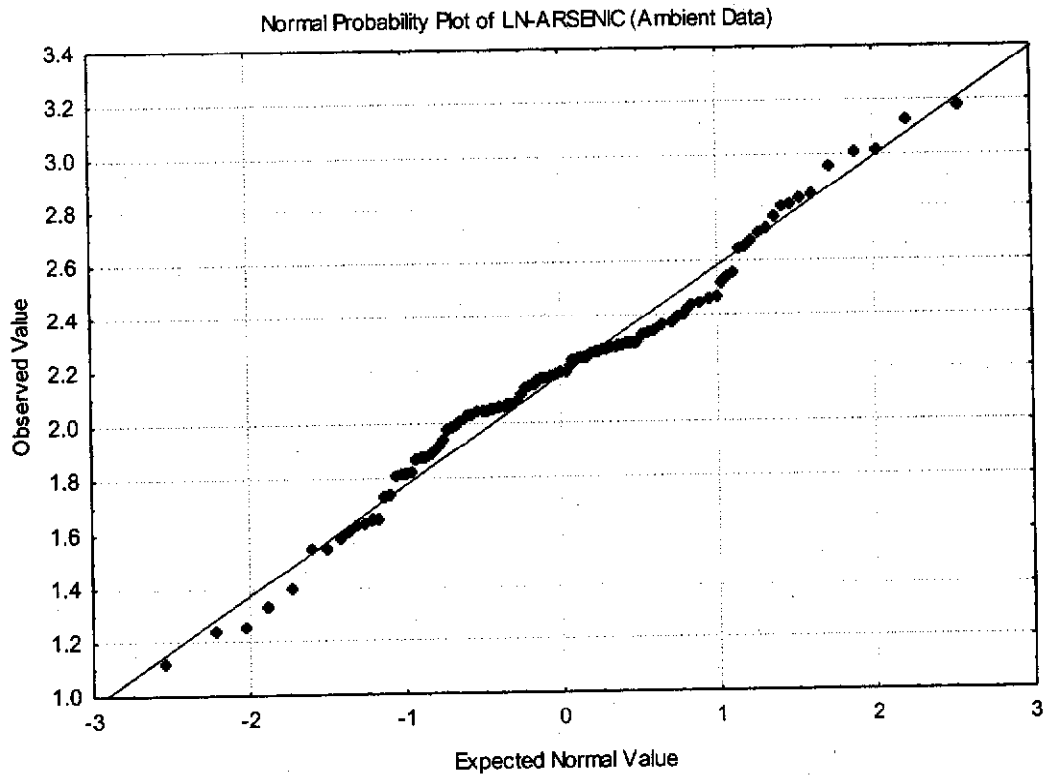
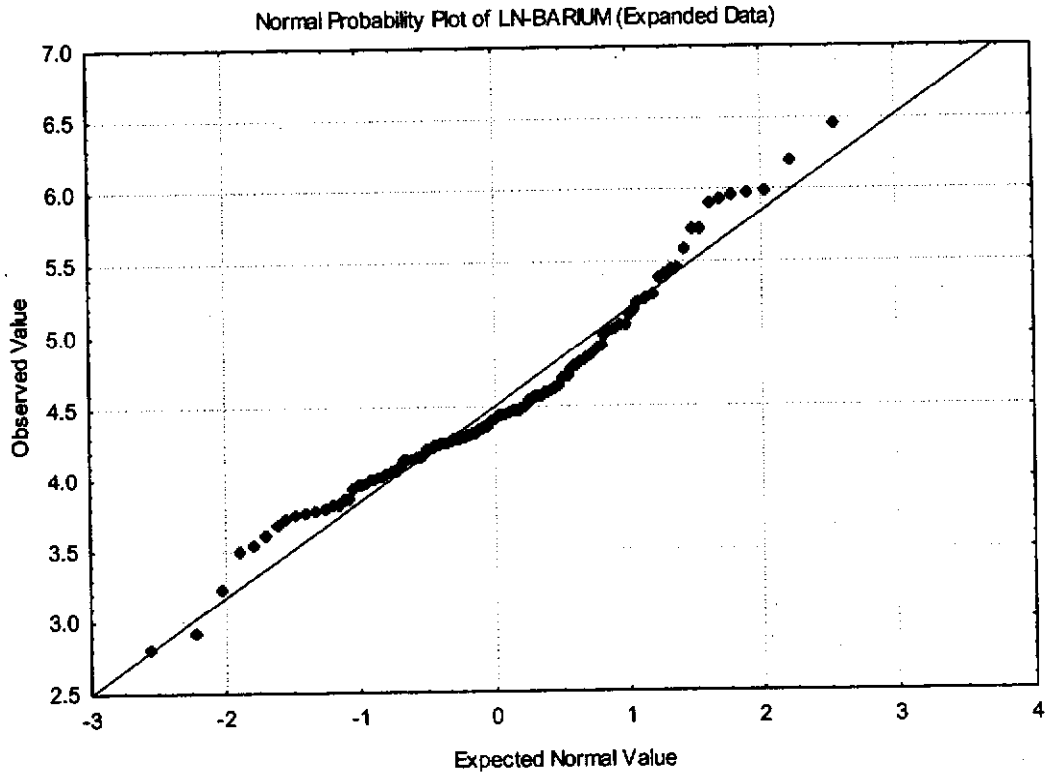


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



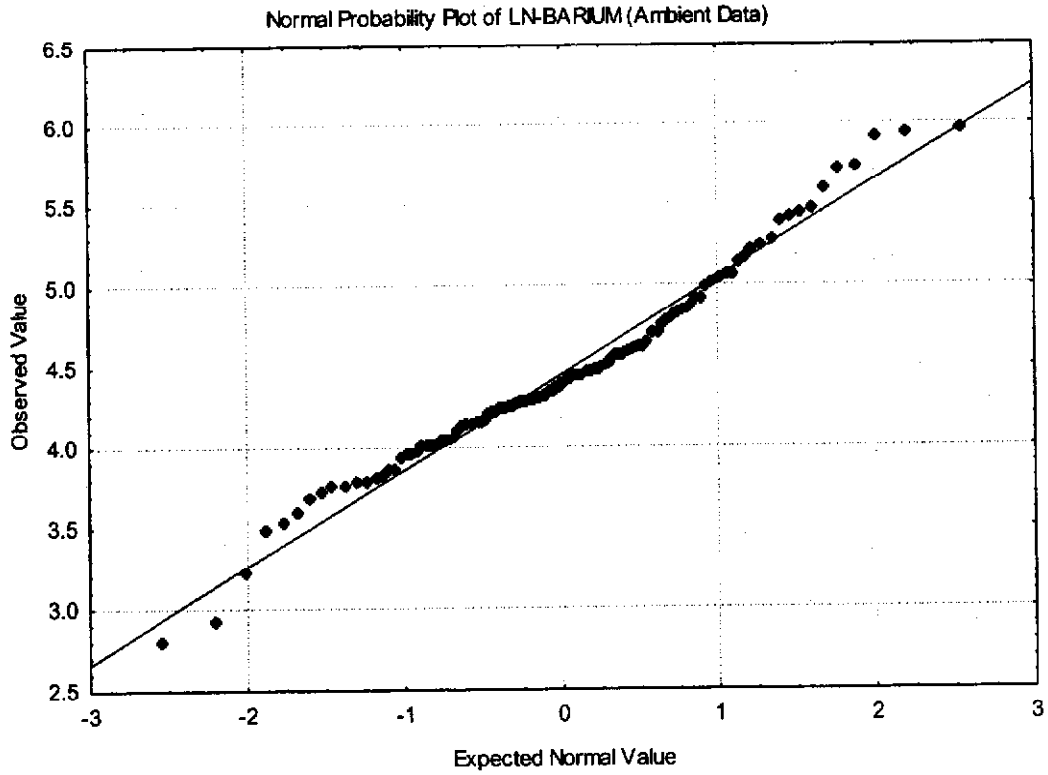
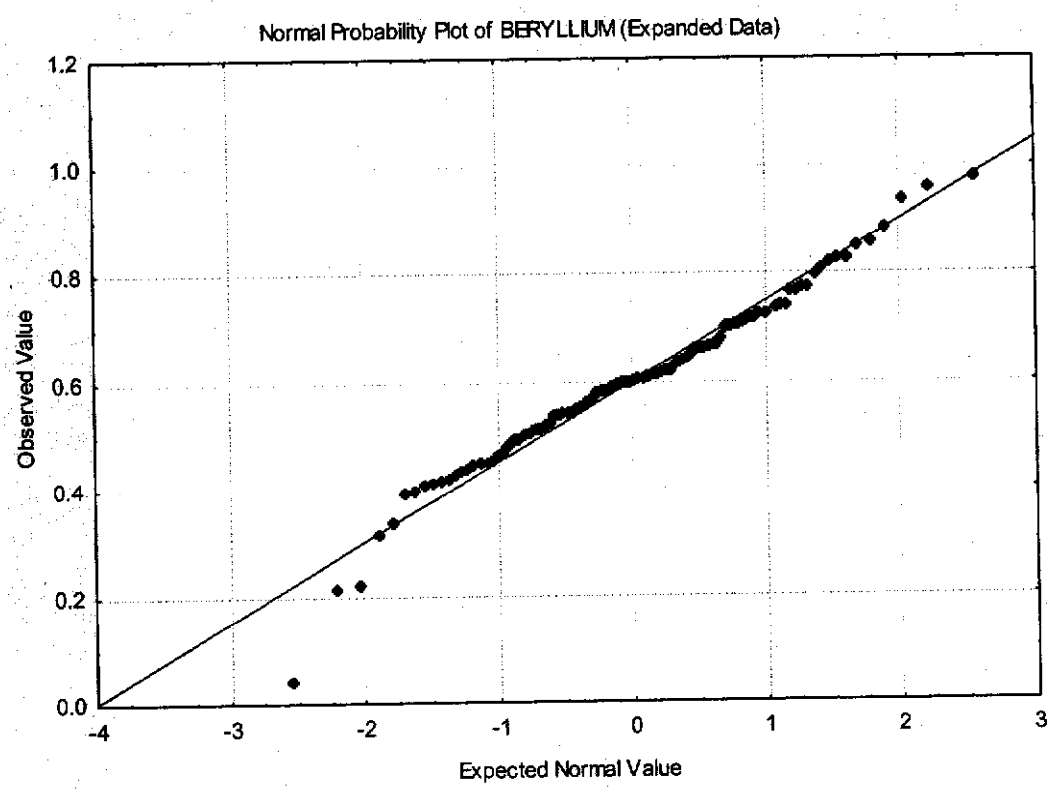


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



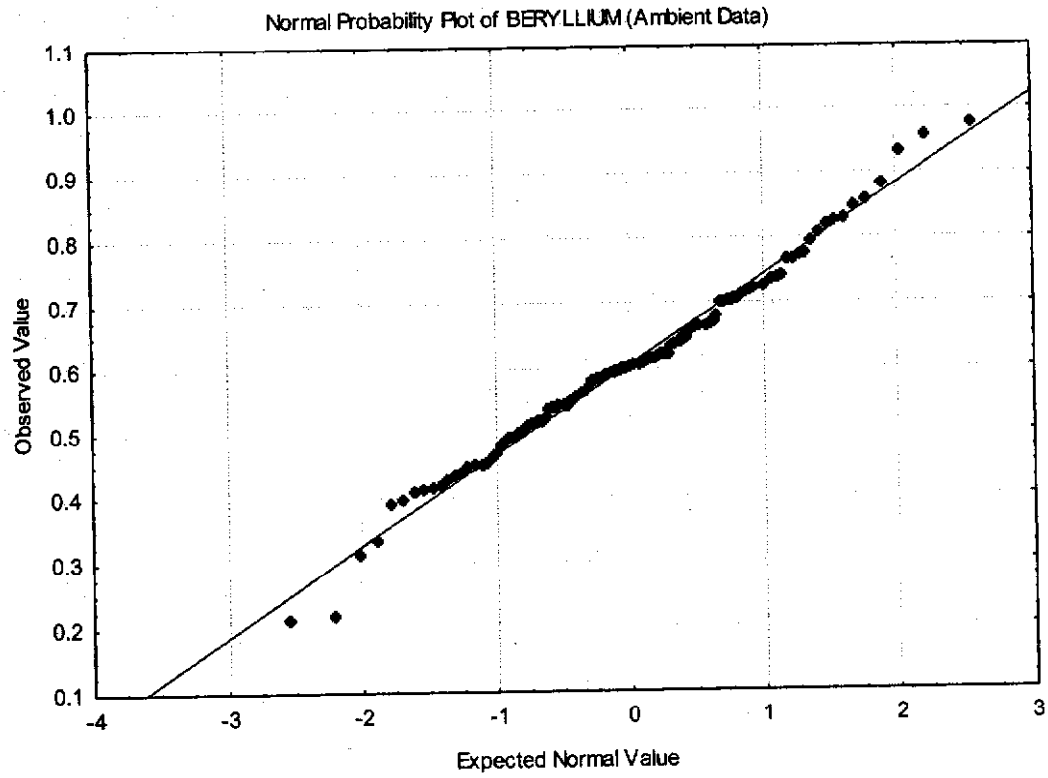
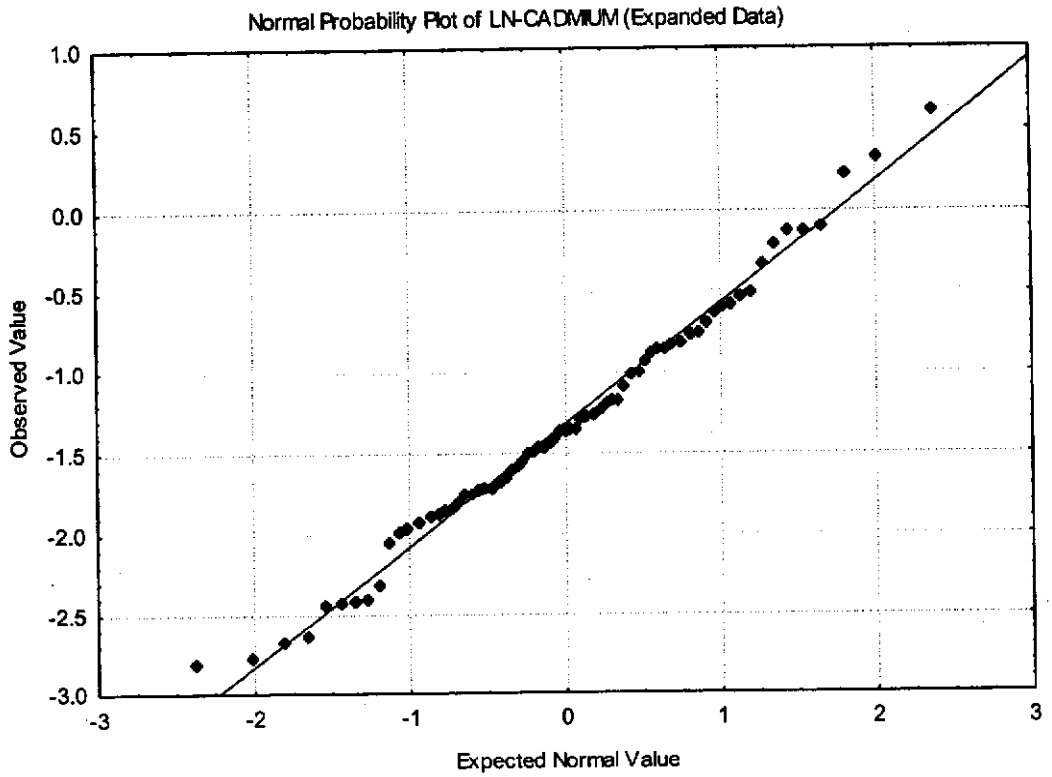


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



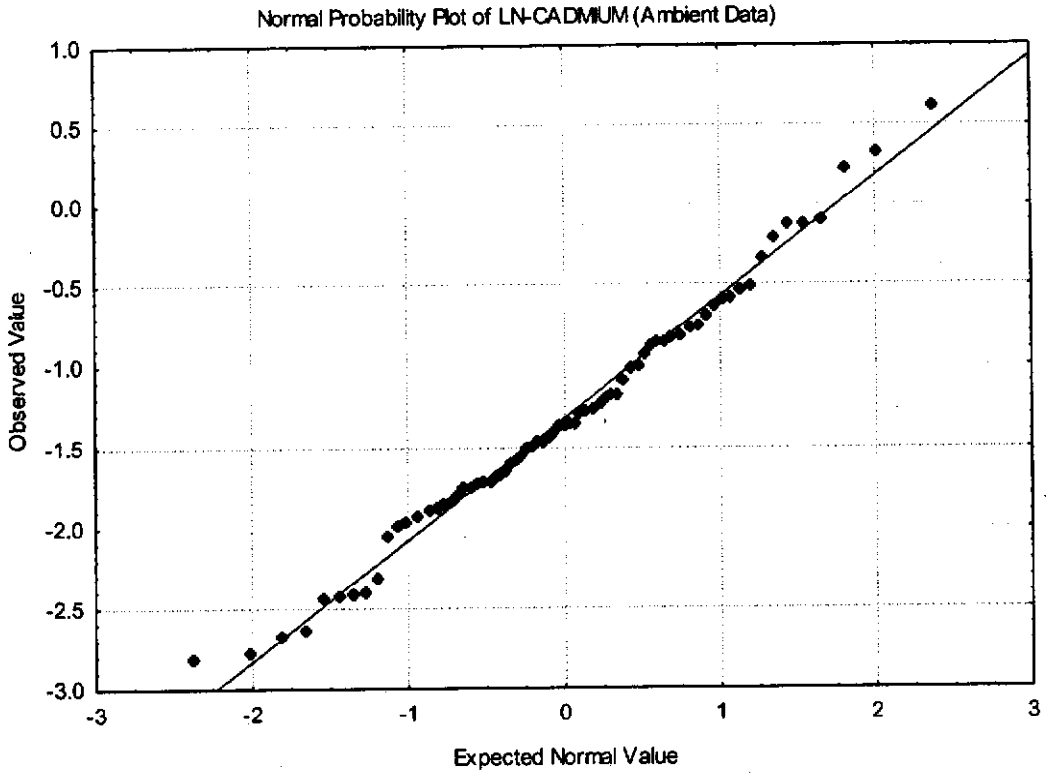
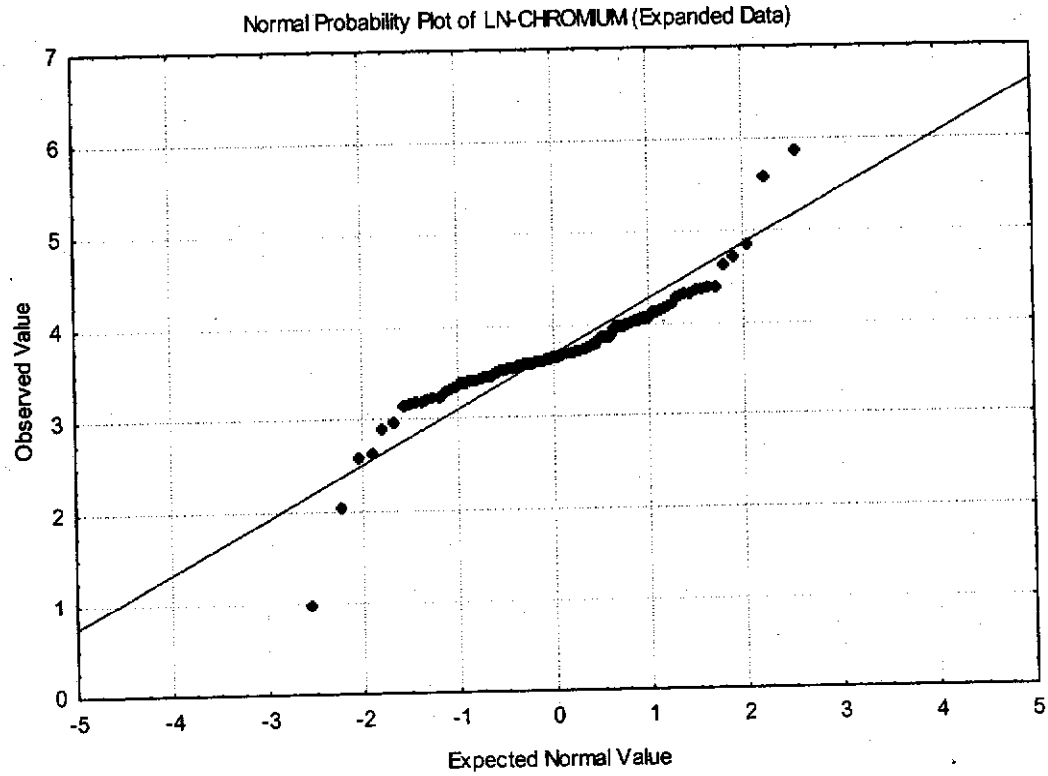


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



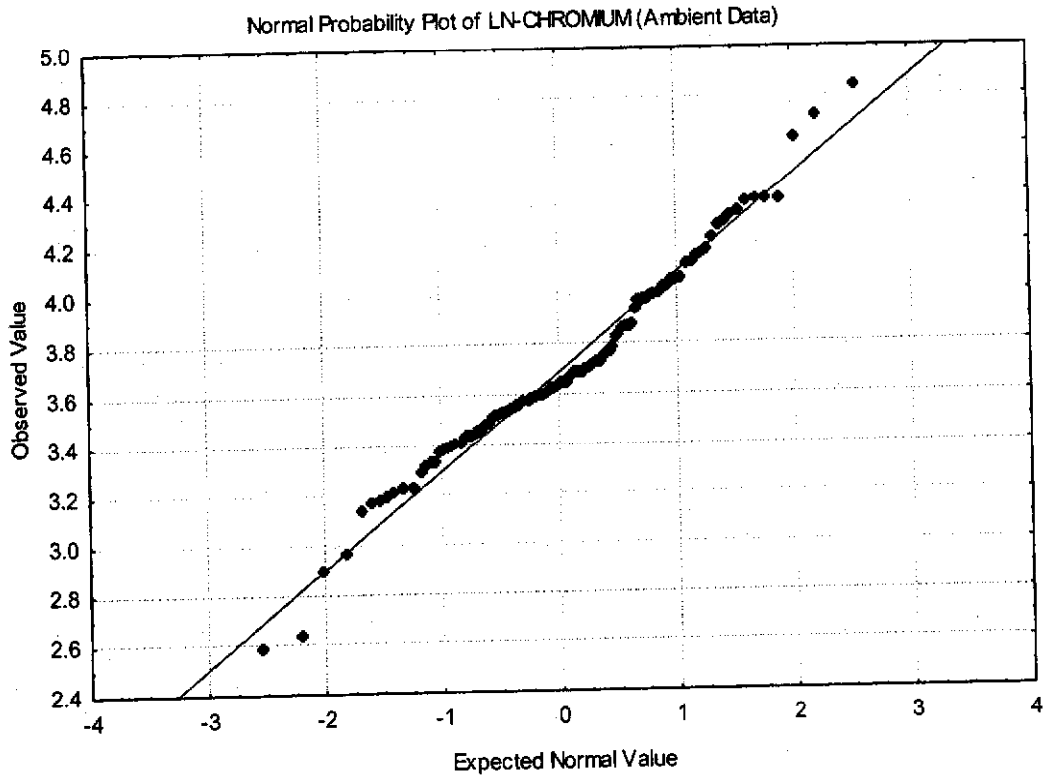
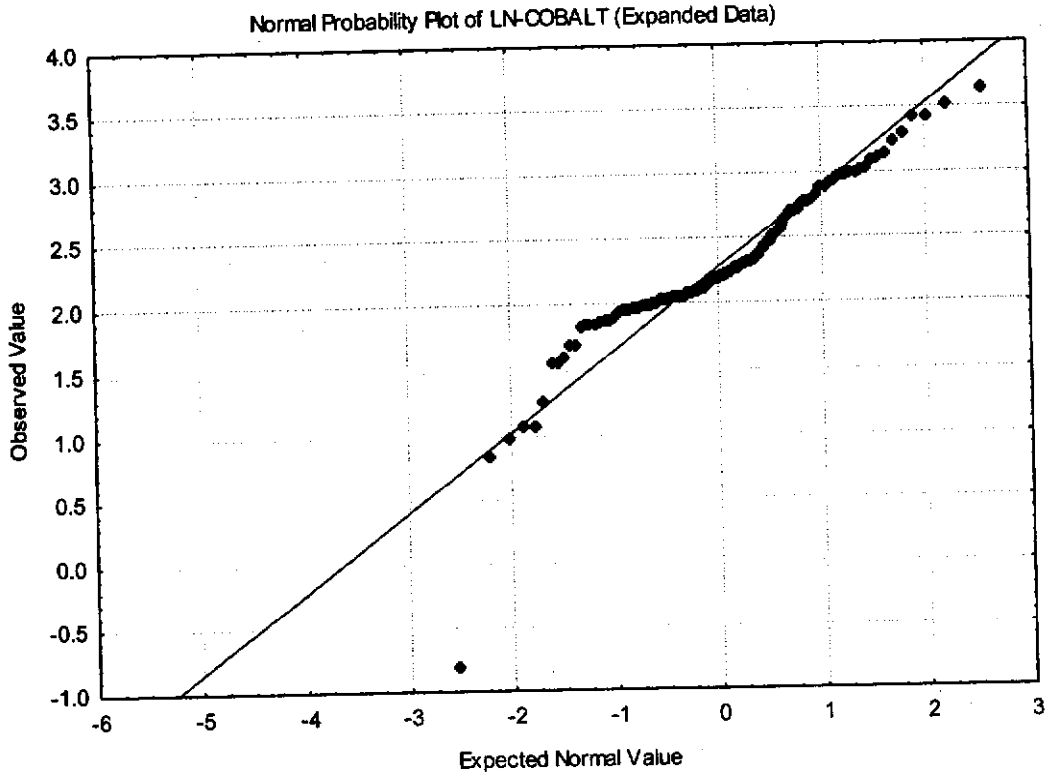


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



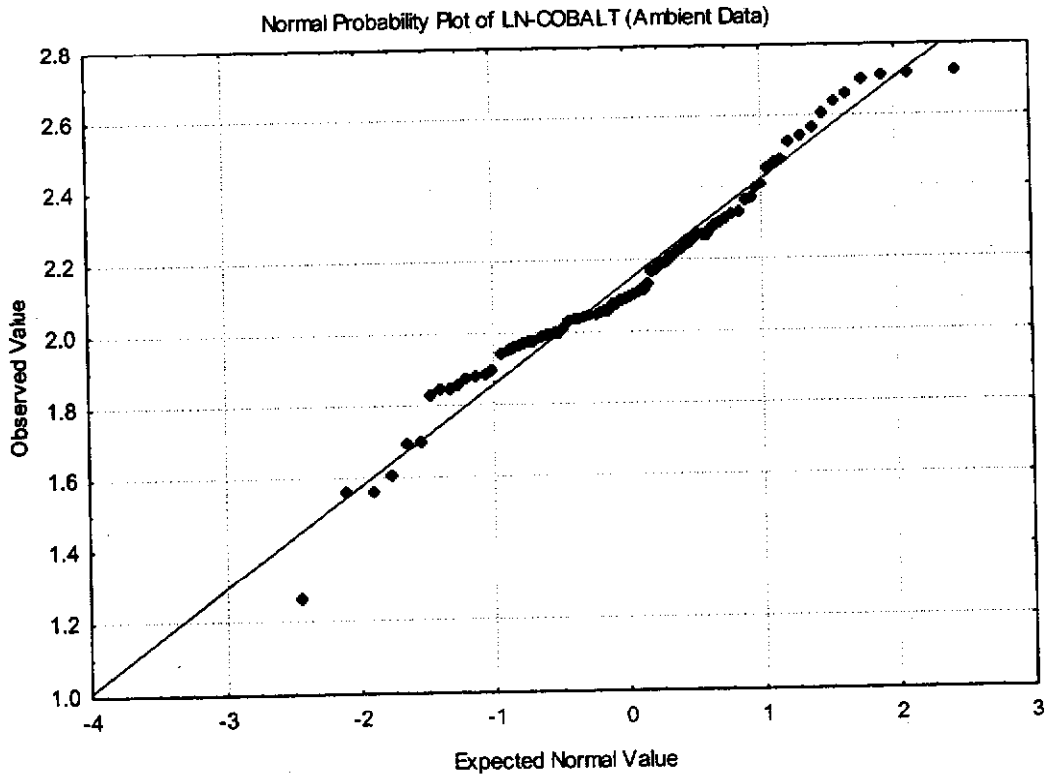
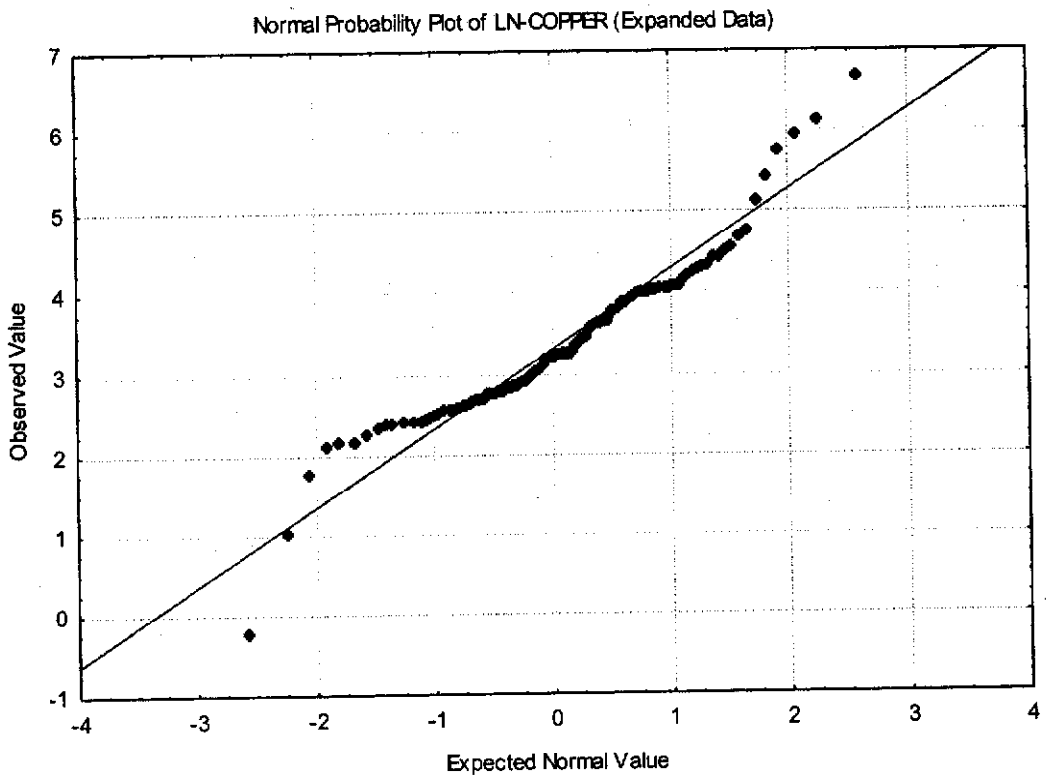


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



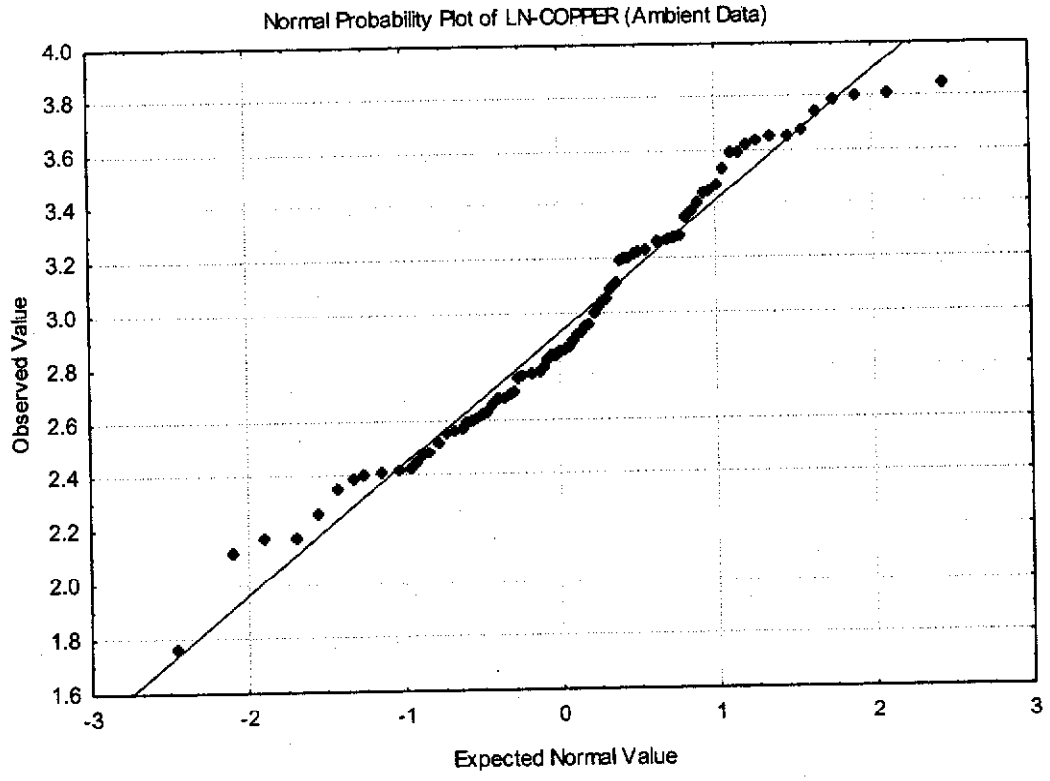
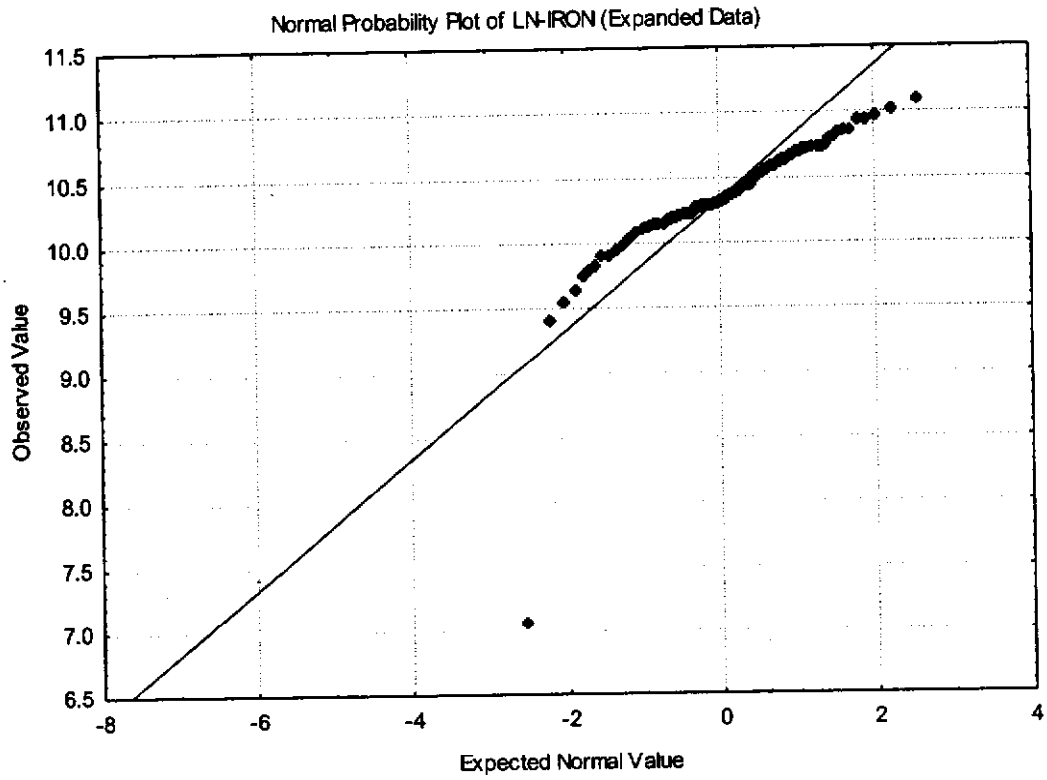


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



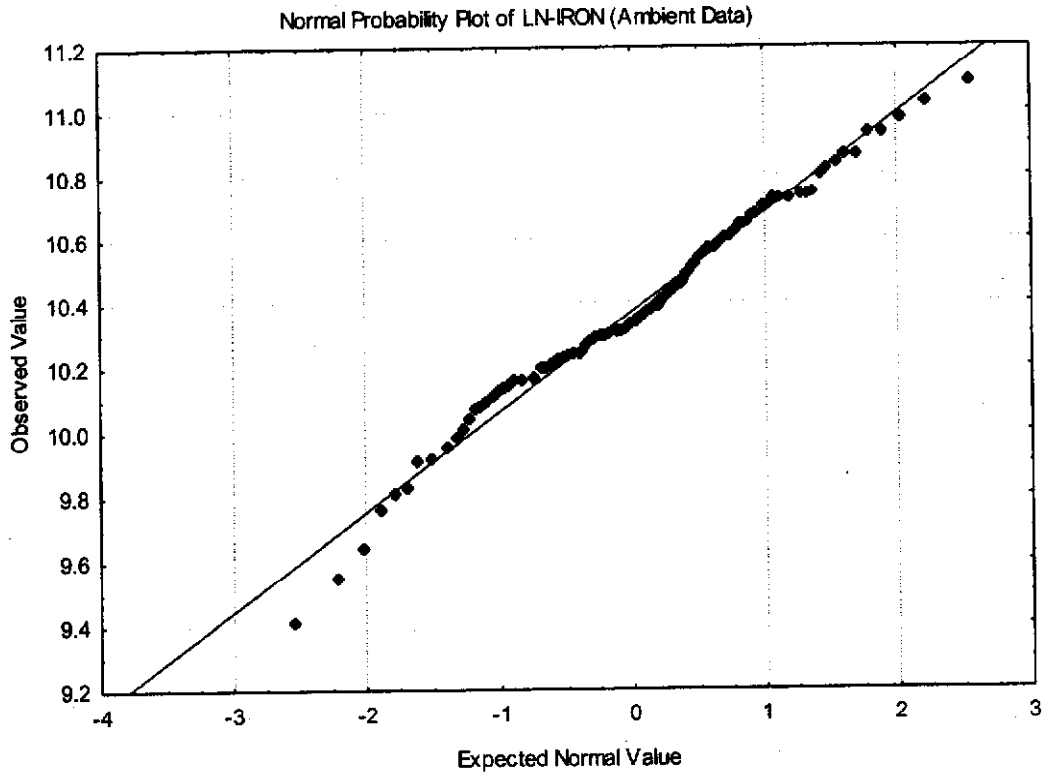
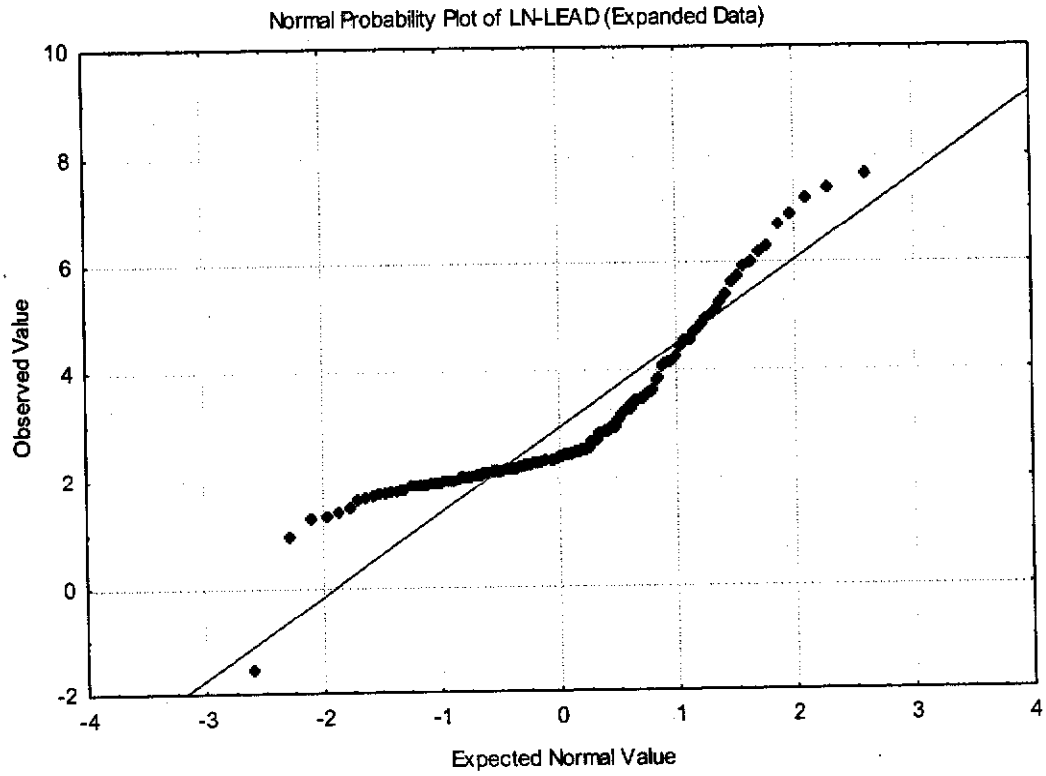


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



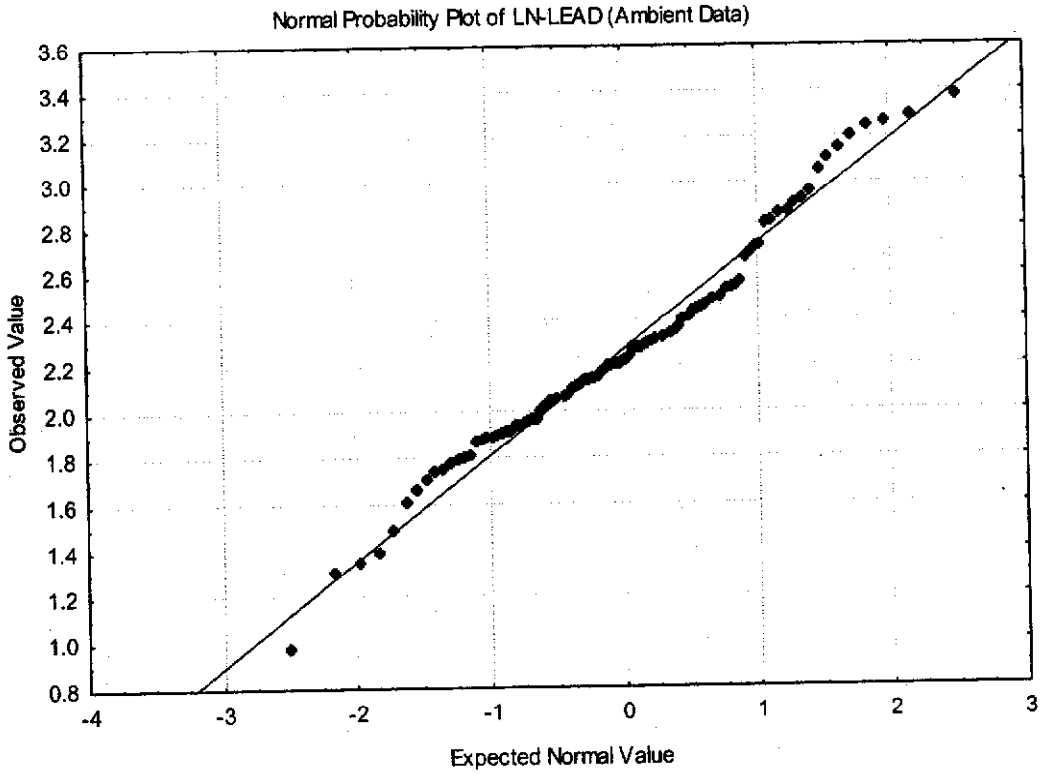
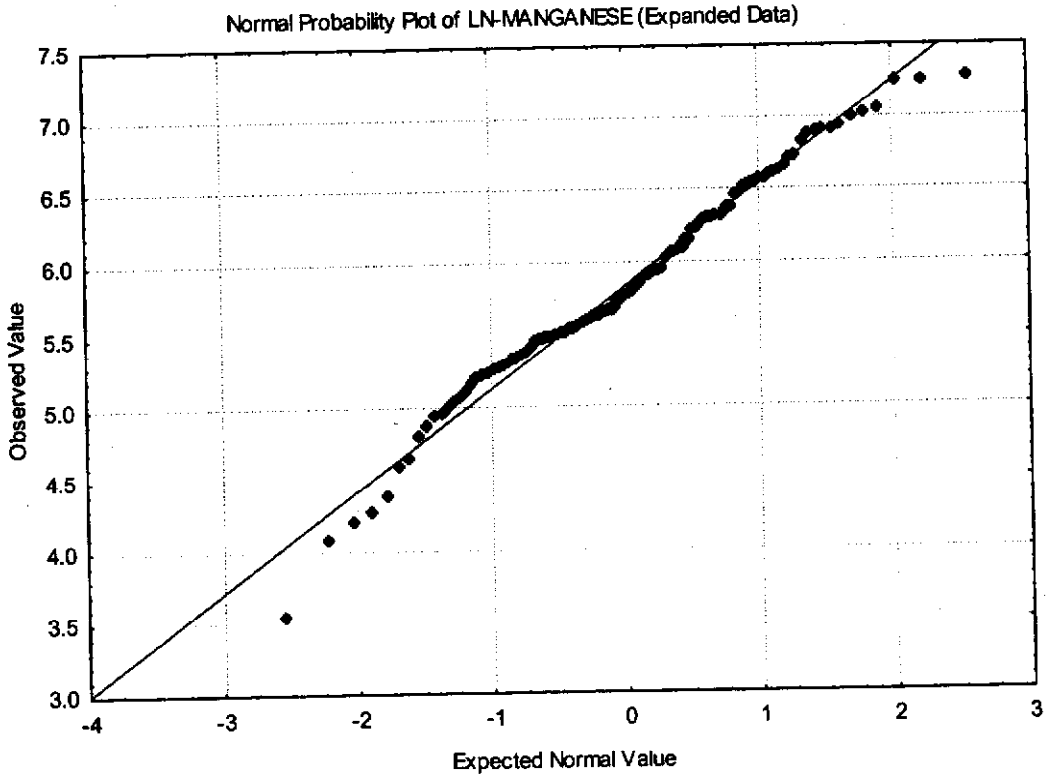


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



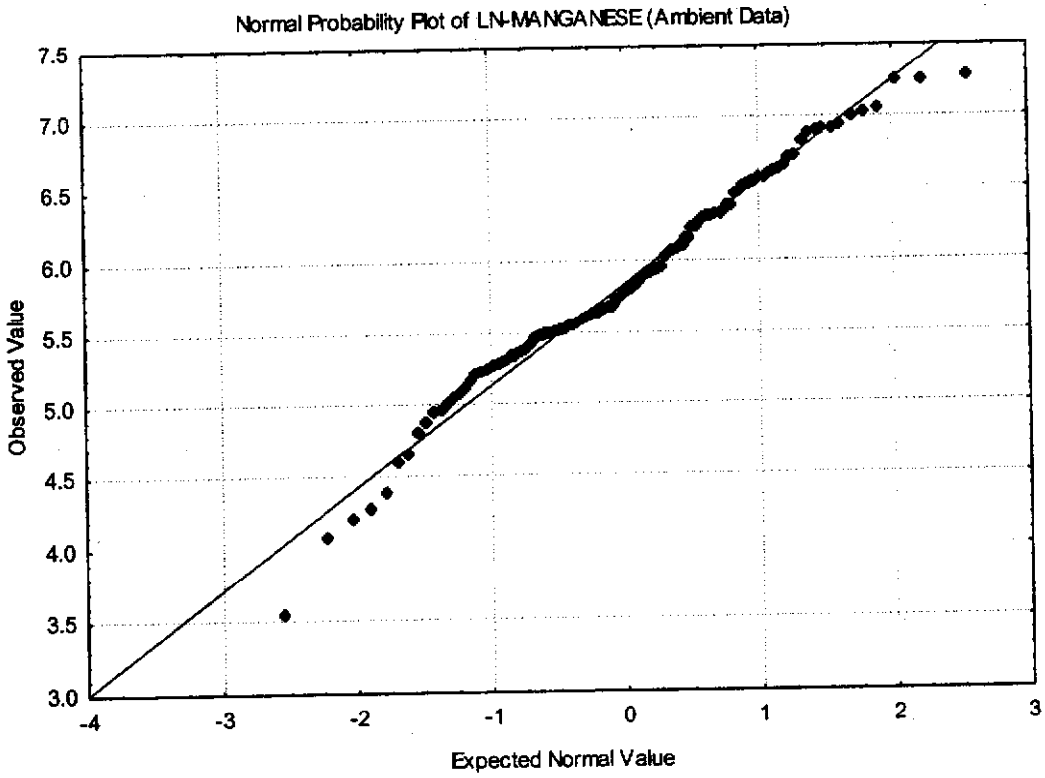
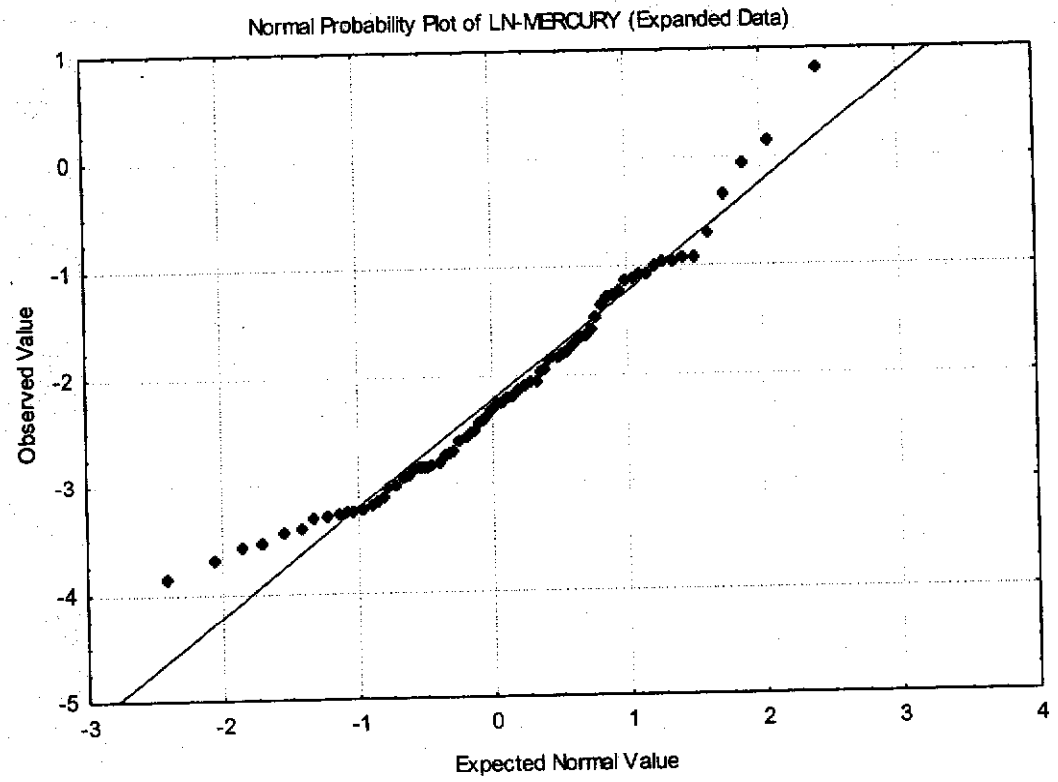


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



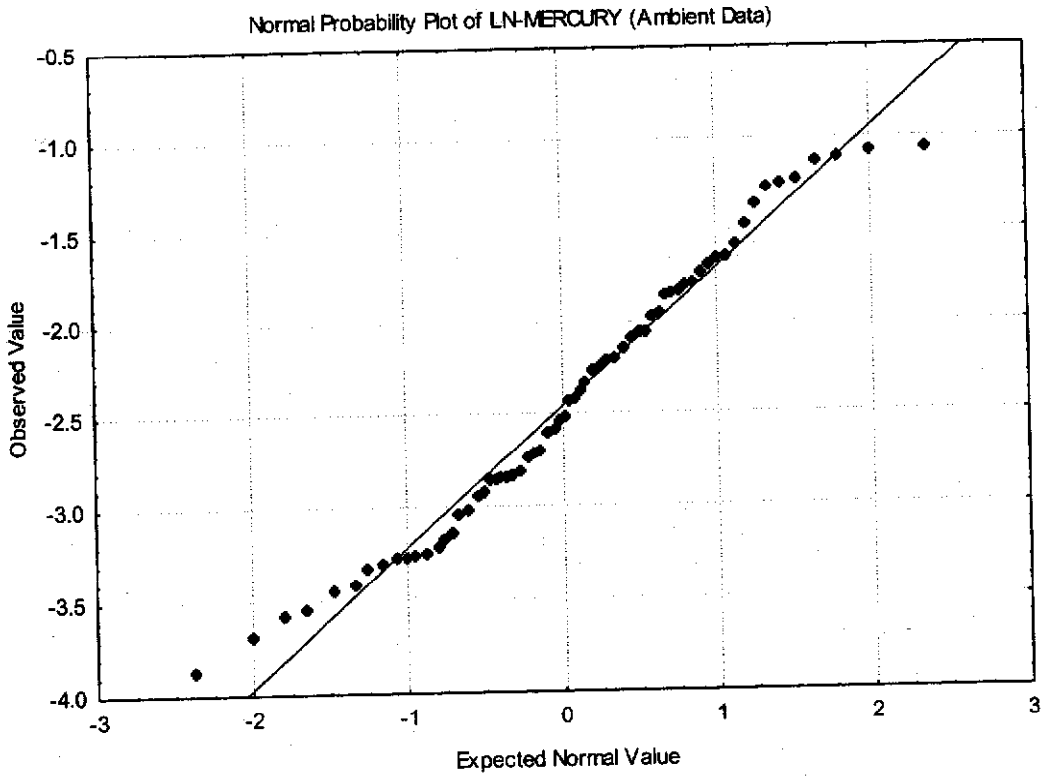
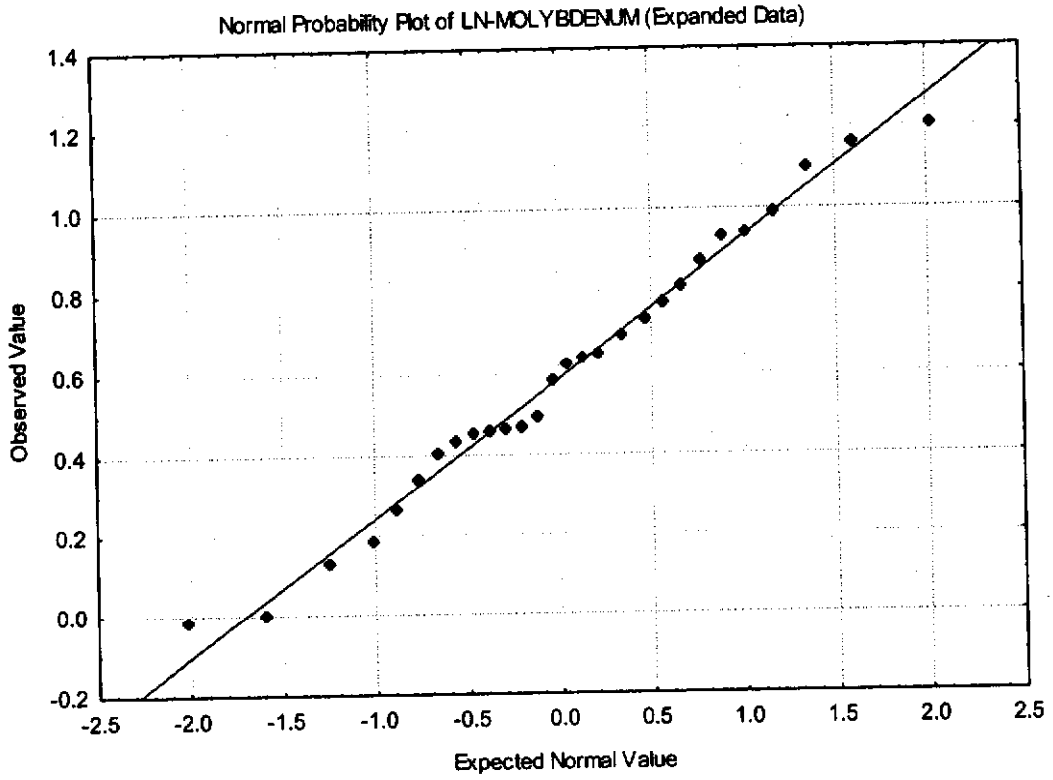


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



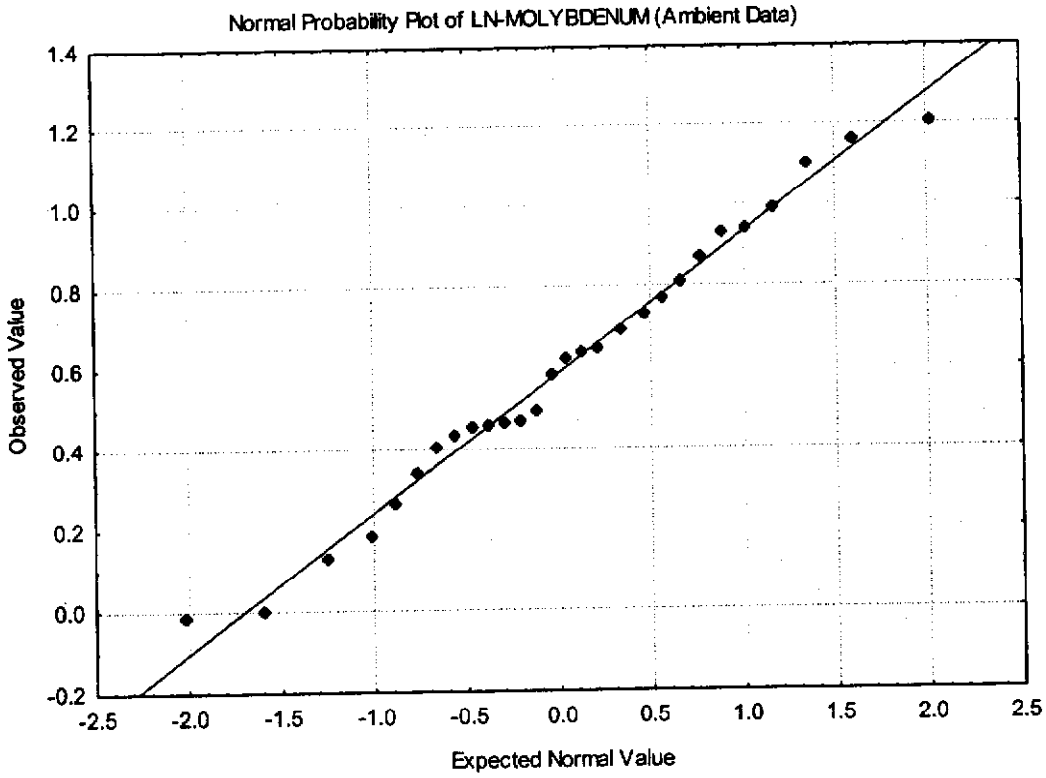
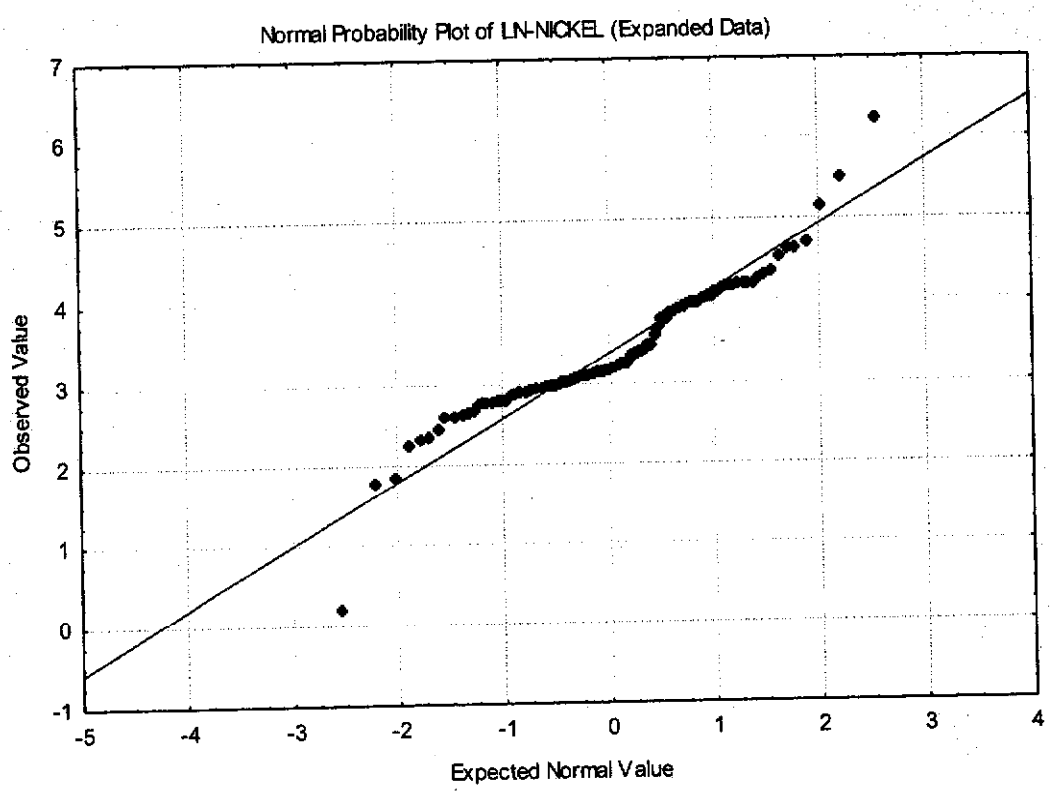


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



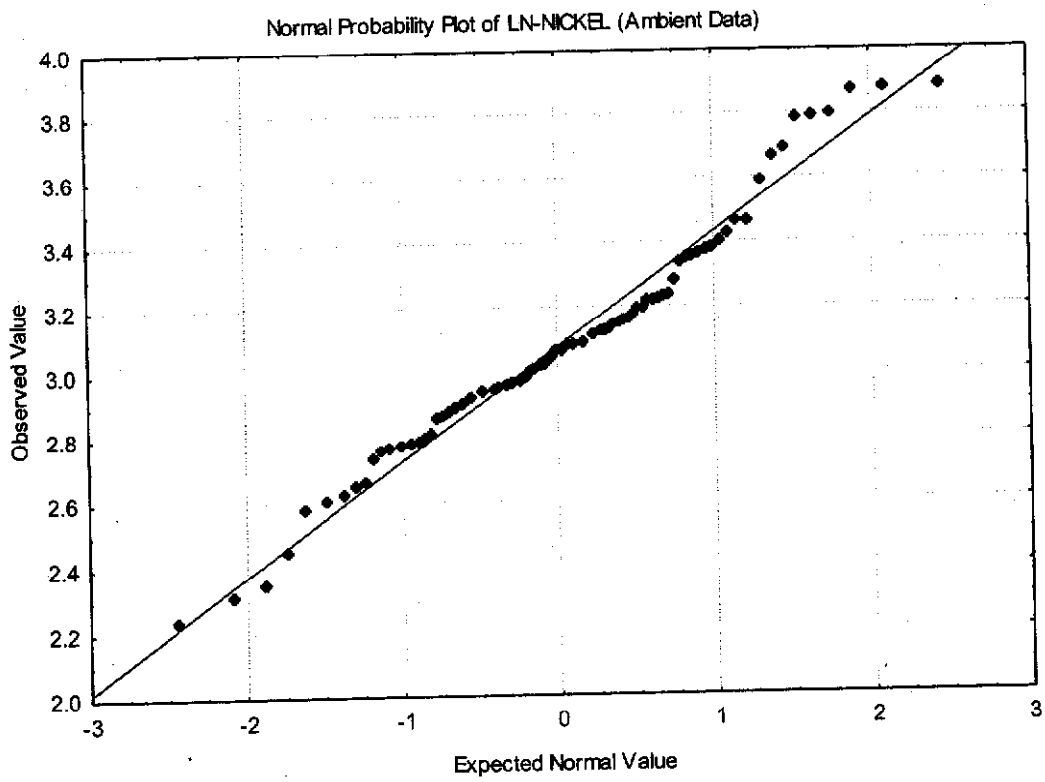
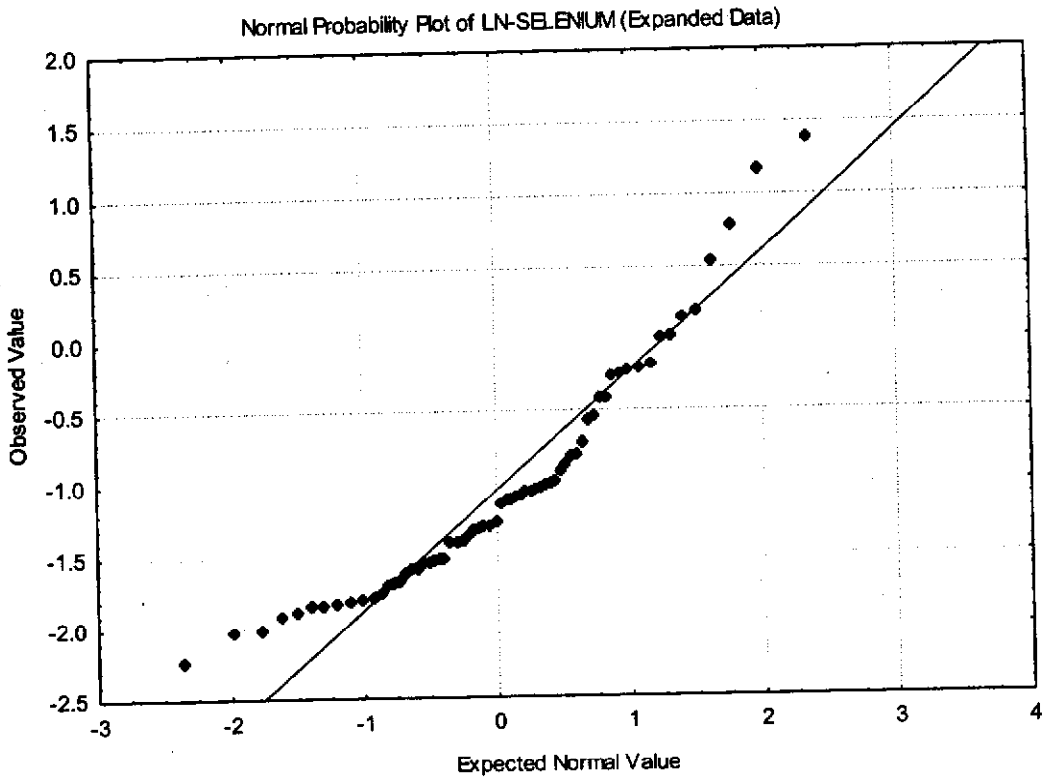


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



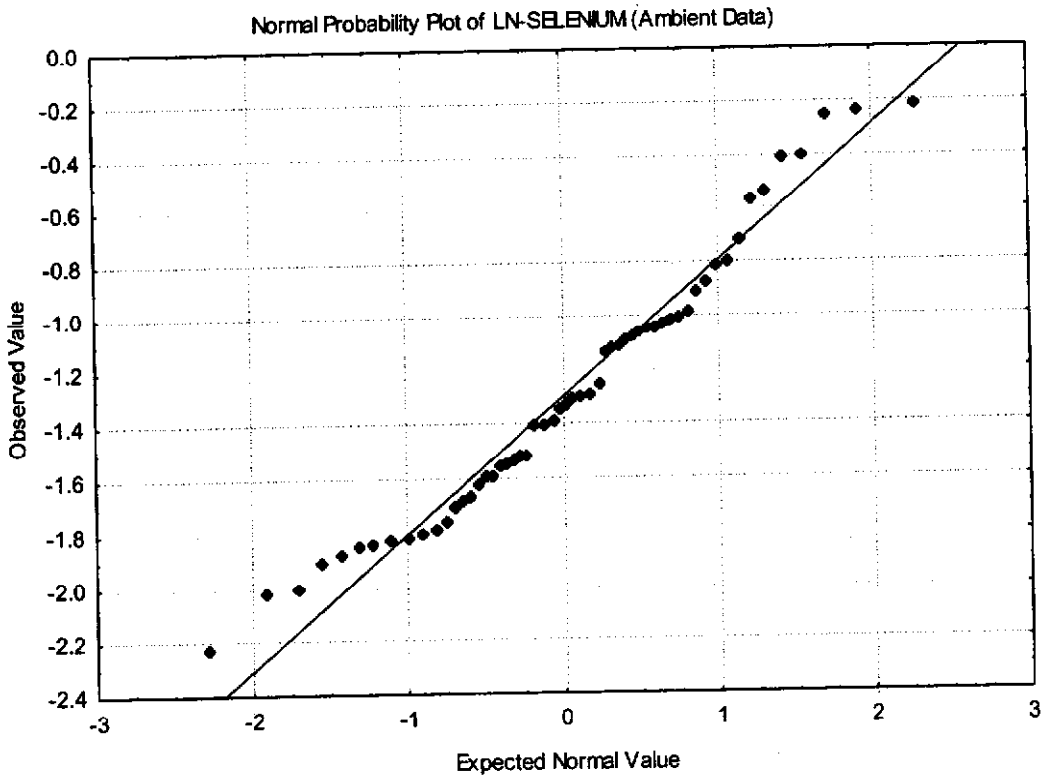
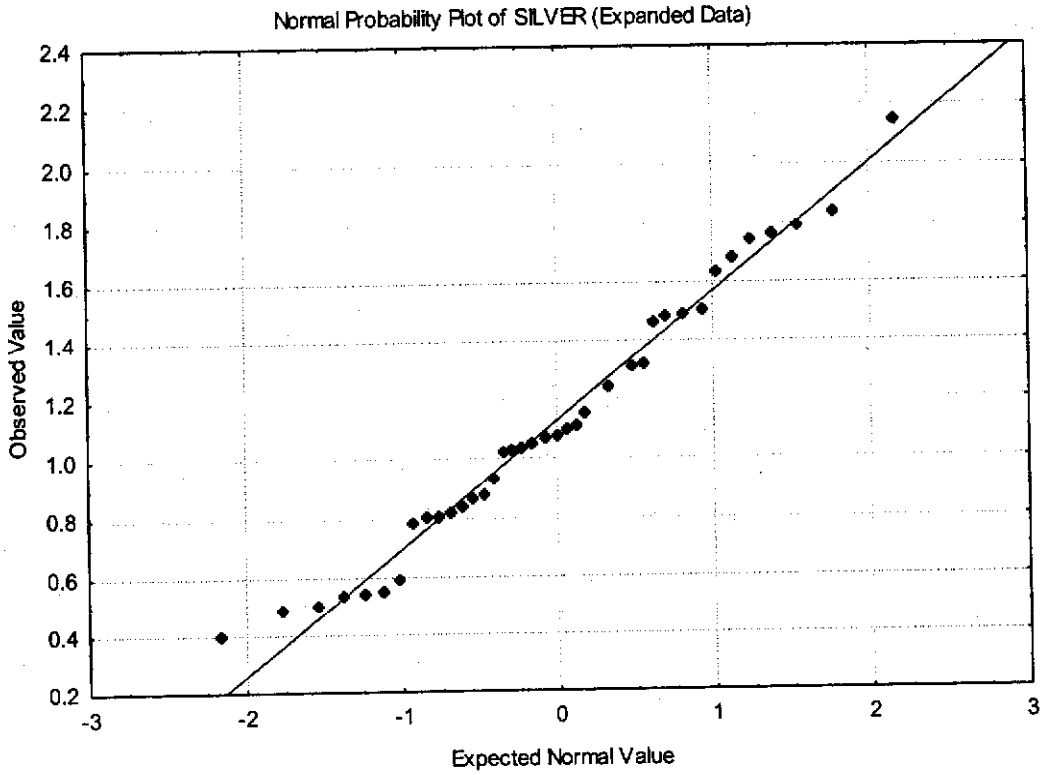


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



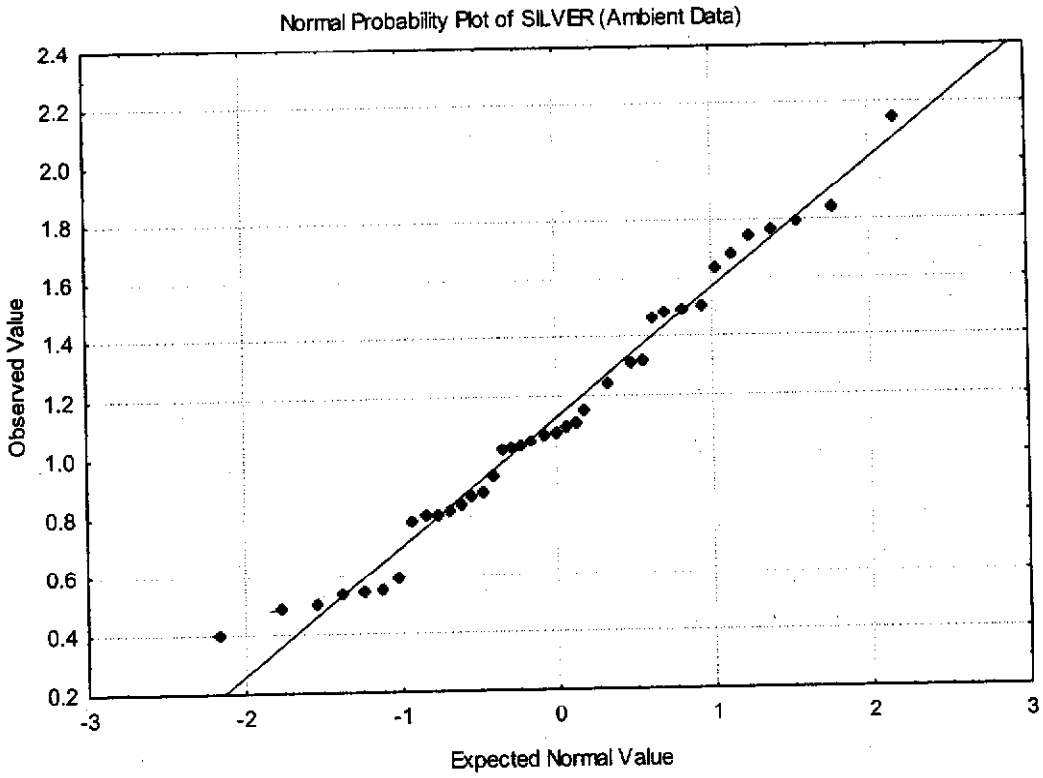
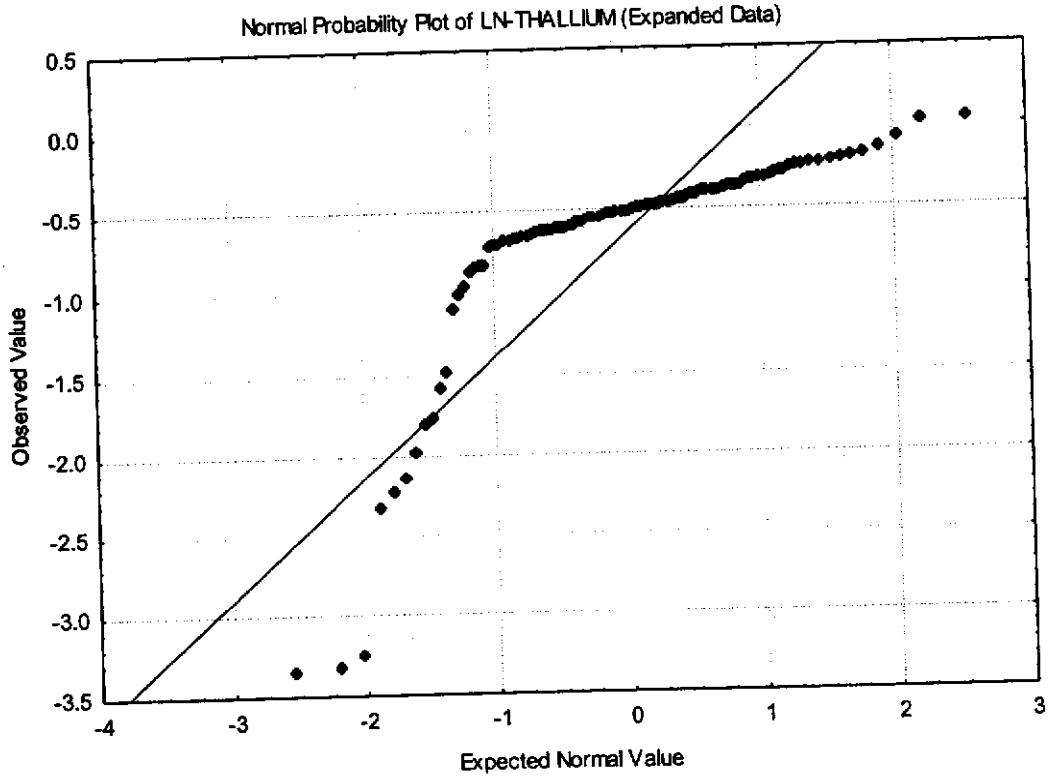


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



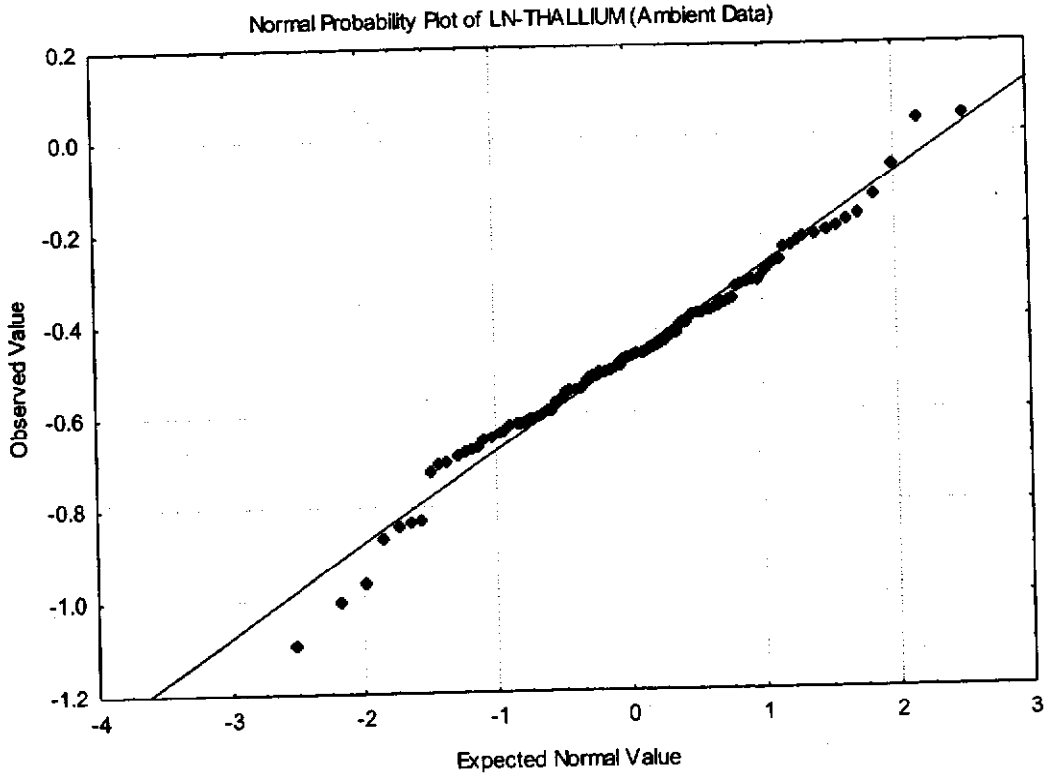
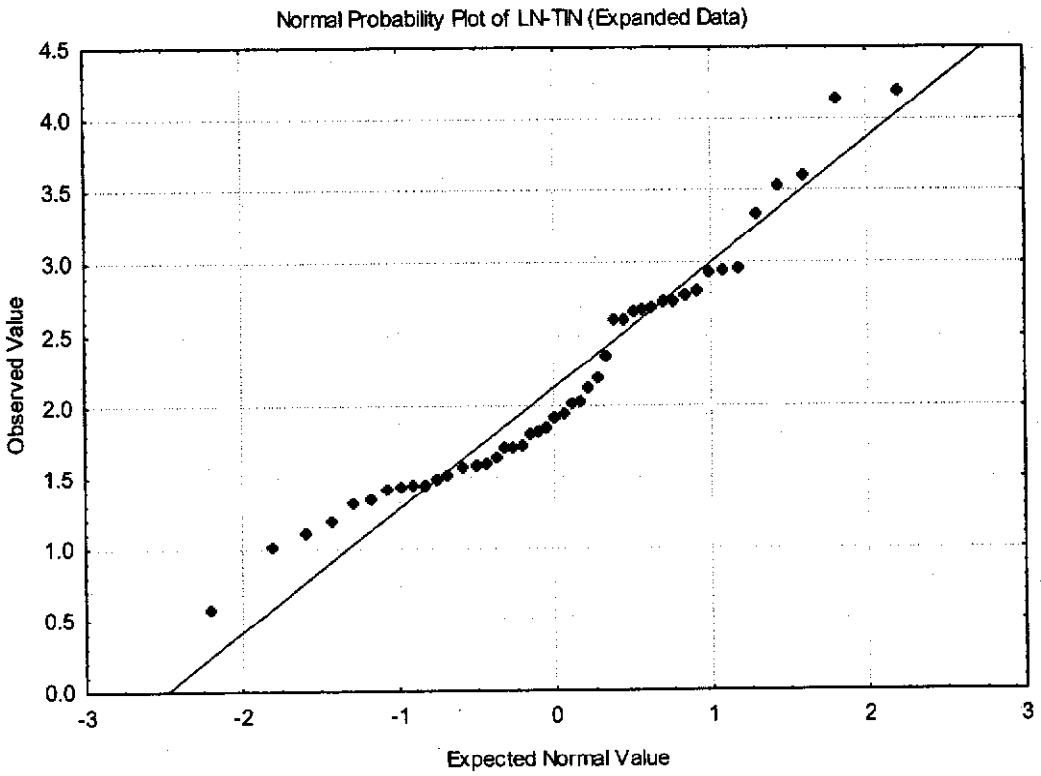


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



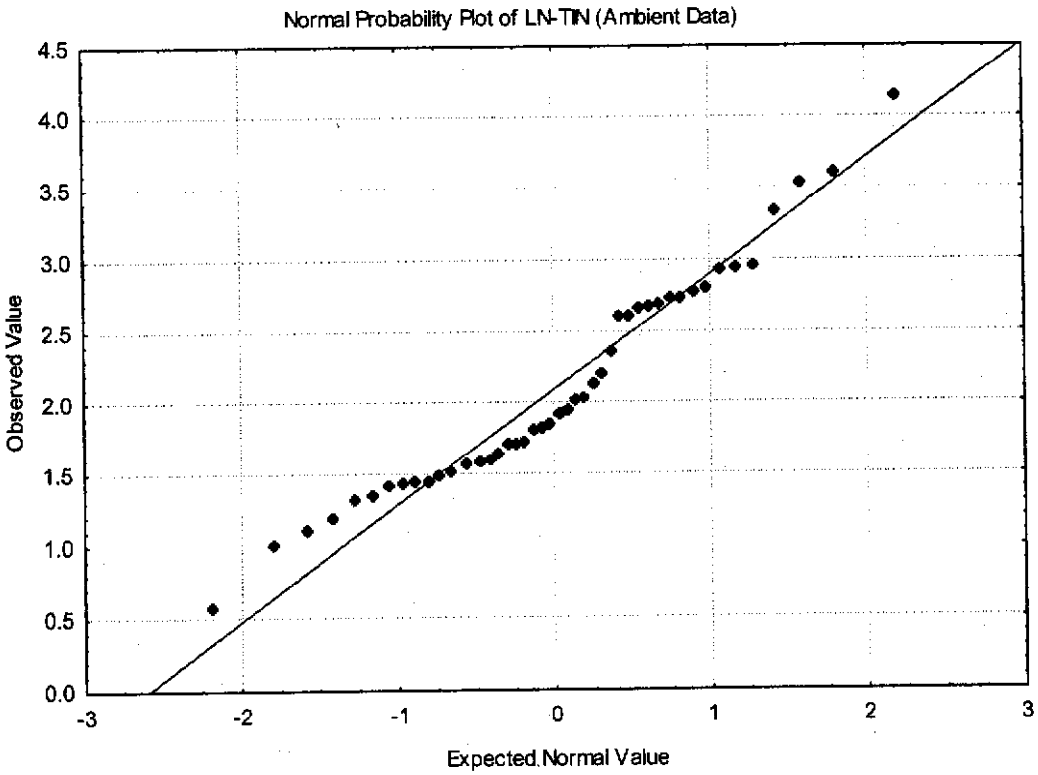
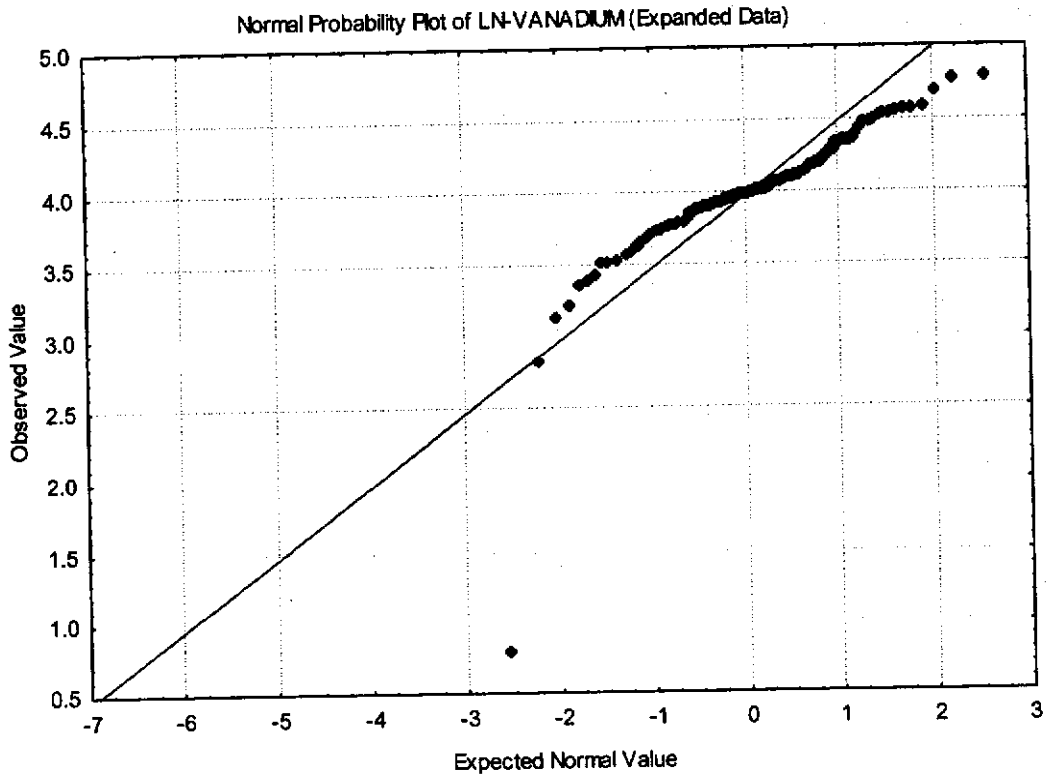


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)



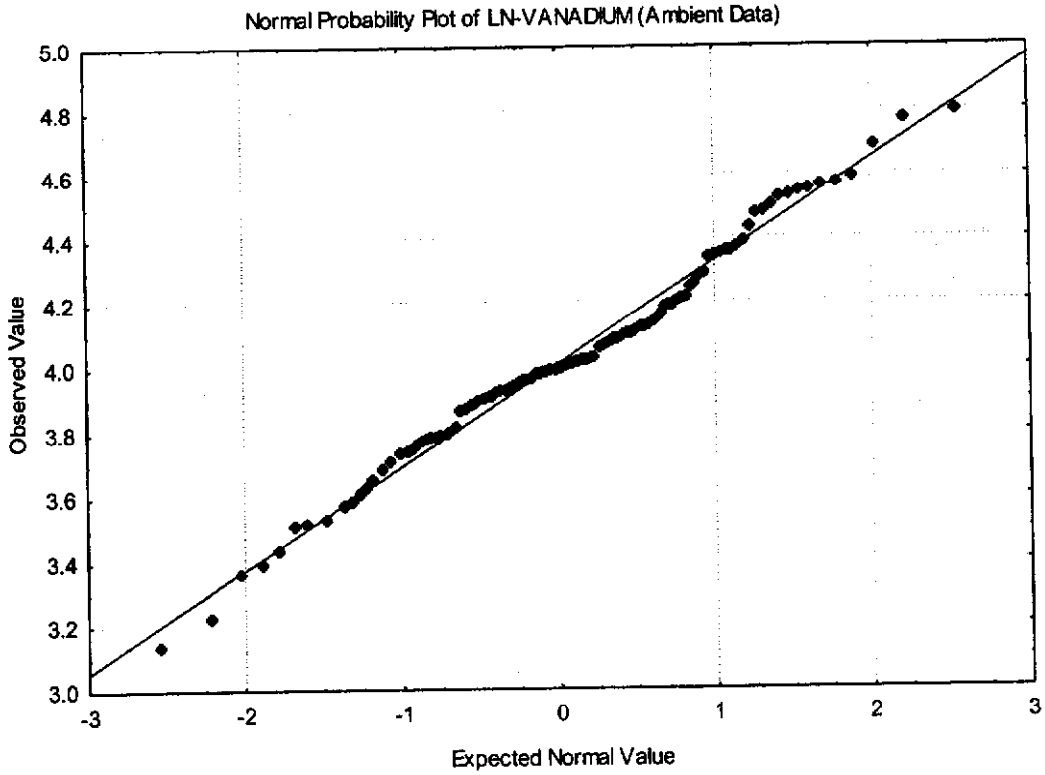
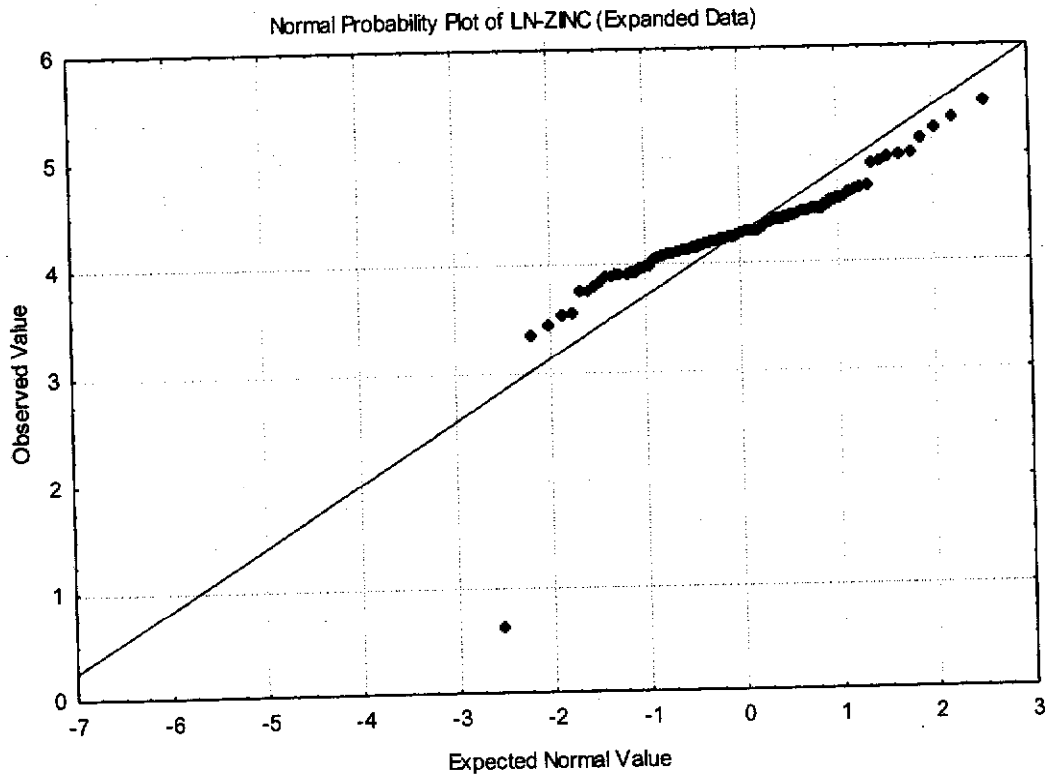
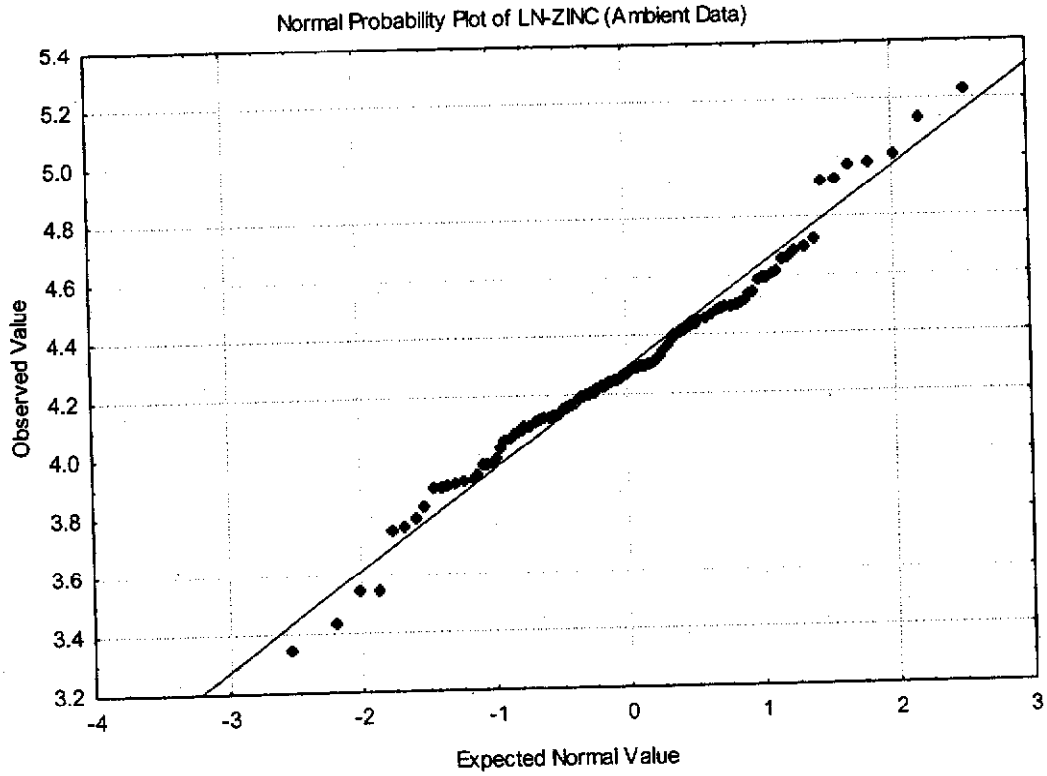


Figure H-2. Normal Probability Plots of Metals Concentrations in Soil - Expanded and Ambient Data (mg/kg)





APPENDIX I

LEGEND FOR ANALYTICAL RESULT TABLES

APPENDIX I

LEGEND FOR ANALYTICAL RESULT TABLES

Abbreviations

Abbreviation	Explanation
MDL	Method detection limit
MG/KG	Milligrams per kilogram
MG/L	Milligrams per liter
UG/L	Micrograms per liter
PPBV	Parts per billion by volume
PQL	Practical quantitation limit

Data Qualification Flags

Flag	Qualification
J	The analyte was positively identified. The value is an estimated quantity.
J-	The analyte was positively identified with low bias; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified with high bias; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates presumptive evidence for a tentative identification of the analyte such as an unconfirmed GC analyte.
NJ	The analysis indicates presumptive evidence for a tentative identification of the analyte. The value is an estimated quantity.
R	The material was analyzed for and was reported as detected by the laboratory. The data are unusable. The analyte may or may not be present.
UJ	The material was analyzed for, but not detected above the stated MDL.
UR	The material was analyzed for and was reported as not detected by the laboratory. The data are unusable. The analyte may or may not be present.
(blank)	Unqualified result.

Data Qualification
Reason Codes

Code	Explanation
1	Holding time exceeded.
2	Result was less than 5 times (ten times for common lab contaminants) the concentration found in the associated method blank. Result flagged as not detected (UJ) and detection limit raised to the concentration reported for the sample.
3	Surrogate recovery outside of acceptance criteria. (3H if high bias or 3L for low bias)
4	MS/MSD recovery outside of acceptance criteria. (4H if high bias or 4L for low bias)
5	MS/MSD precision outside acceptance criteria.
6	LCS recovery outside of acceptance. (6H if high bias or 6L for low bias)
7	Result was less than 5 times (10 times for common lab contaminants) the concentration found in an associated equipment or trip blank. Result flagged as not detected (UJ) and detection limit raised to the concentration reported for the sample.
8	Field duplicate precision outside of control limit.
9	Other deficiencies
A	Absence of required supporting QC analyses.
E	Exceeded the calibration range established by the initial instrument calibration without being diluted into range and re-analyzed.
F	Method of Standard Additions (MSA) not performed when required or correlation <0.995 when performed. Matrix interference present or suspected.
H	High bias.
I	Interference present during analysis, typically from another closely eluting compound which interfered with accurate quantitation.
L	Low bias.
P	First column vs. confirmation column (or detector) precision is outside of control limit.
Q	Initial calibration did not meet QC requirements.
S	Initial calibration verification or continuing calibration verification problems.
T	Trace level concentration above the method detection limit (MDL) but below the practical quantitation limit (PQL).
U	Reported concentration is already accounted for in another hydrocarbon range. The quantitation is solely the result of overlapping quantitation ranges. The result should be treated as a non-detect for site evaluation and risk assessment purposes.
V	Second-source standard calibration verification did not meet QC requirements.
X	Internal standard recovery outside of acceptance criteria.