

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293

Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.:** RSAQ5 Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/09/09 Date Completed: 09/09/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Qal SP-SM - 36 Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. Trace fine sub-angular gravel to 5/8", 30% fine sub-angular - 37 3.5 0.0 sand, 70% non to moderate-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings. - 38 UMCf (MCf1) ML - 39 0.0 Much caliche as grain coatings and nodules 39.0' - 40.0'. 6.1 -40 ∇ - 41 RSAQ5-41B, -41BMS, 14.4 0.0 Total depth 41.0' @ 13:26, 9-9-09 - 42 -41BMSD - 43 - 44 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	No.: RSAQ6
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/11/09	Date Completed: 09/11/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 38.0	Depth to Water (ft bgs): 32.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 38.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	RSAQ6-0.5B 09:26			SM	Qal	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose - loose, dry. 5% fine sub-angular gravel to 1/2"-, 75% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		38.9	0.0	
-4 -5								413	0.0	
- 6 - 7						Poorly Graded Sand (SP): Pale yellowish brown 10 YR (6/2), very loose - loose, dry. 5% fine sub-angular gravel to 1/2"-, 90% fine to medium sub-angular sand, 5% non-plastic fines. No odor		45.1	0.0	
8 9						or staining. Gravel lens 6.5' - 8.0'		50.0	0.0	
-10 -11	RSAQ6-10B 09:40									
- 12 - - 13						Gravel lens 12.5' - 13.0'		35.0	0.0	
- - 14 - -15				SP				65.9	0.0	
16 17				SP		Con all and 17.51 (10)		21.9	0.0	
- - 18 - - 19						Gravel lens 17.5' - 18'		54.3	0.0	
								22.5	0.0	
22 23								1.8	0.0	
24 25	RSAQ6-25B							6.9	0.0	
- 26 - 27	10:05					Silty Sand (SM): Light yellowish brown 10 YR (6/4), loose, dry. 5% coarse sub-angular gravel to 2", 65% fine to medium		23.1	0.0	
- - 28 - 29				SM	Qal	sub-angular sand, 30% non-plastic fines. No odor or staining.		29.9	0.0	
-30 -31 -32							Ā	16.9	0.0	
- 33 - 34				ML	UMCf (MCf1)			12.9	0.0	



2027.01.GPJ 1/13/10

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Fax: 949.260.9299 environmental management, inc **Boring No.:** RSAQ6 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/11/09 Date Completed: 09/11/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. Trace fine sub-angular gravel to 5/8", 30% fine sub-angular sand, 70% non to moderate-plastic fines. No odor or staining. 0.0 19.7 - 36 UMCf (MCf1) ML- 37 Some caliche as nodules and grain coatings. 8.3 0.0- 38 RSAQ6-38B, RSAQ6009-38B 10:40 Total depth 38.0' @ 10:40, 9-11-09 - 39 -40 -41 - 42 - 43 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 -61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	No.: RSAR5
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 10/06/09	Date Completed: 10/06/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 40.0	Depth to Water (ft bgs): 34.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 40.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	112-12-0
-1 -2 -3	RSAR5-0.5B 08:24					Silty Sand (SM): Light yellowish brown 10 YR (6/4), loose, dry. 3% fine sub-angular gravel to 5/8", 67% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.				
-4 -5								9.3	0.0	
- 6 - 7 - 8								12.9	0.1	
- 9 -10	DCAD5 10D					H. 4. 50/ 14. 1/2# ○ 10.0!		27.3	0.1	
- 11 - 12	RSAR5-10B 08:37					Up to 5% gravel to 1/2" @ 10.0'		9.2	0.0	
- 13 - 14								13.5	0.0	
-15 -16				SM	Qal	Gravel lens @ 15.0'		7.1	0.0	
17								10.3	0.0	
- 19 -20								8.6	0.0	
21 22								10.3	0.0	
23 24								13.4	0.0	
-25 26	RSAR5-25B 09:05					Up to 10% fine sub-angular gravel to 1" @ 25.0'		14.7	0.0	
27 28								19.6	0.0	
29 -30						Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. Trace fine sub-angular gravel to 5/8", 30% fine sub-angular sand, 70% non to moderate-plastic fines. No odor or staining.		5.6	0.0	
31 32				ML	UMCf (MCf1)	Some caliche as veinlets and grain coatings. 32.0' - 33.0': 10% fine sub-angular gravel to 1/2"		41.3	0.1	
33						First water @ 34.0'	∇	19.4	0.0	



Boring Log

environmental management, inc **Boring No.:** RSAR5 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 10/06/09 Date Completed: 10/06/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. Trace fine sub-angular gravel to 5/8", 30% fine sub-angular sand, 70% non to moderate-plastic fines. No odor or staining. 0.0 7.0 - 36 - 37 UMCf (MCf1) Some caliche as veinlets and grain coatings. 9.5 0.0 ML - 38 - 39 0.0 11.3 Much caliche as grain coatings and nodules 39.0' - 40.0'. -40 RSAR5-40B, -40BMS, -40BMSD Total depth 40.0' @ 09:50, 10-6-09 -41 09:46 - 42 - 43 - 44 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAR6
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/14/09	Date Completed: 09/14/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 37.0	Depth to Water (ft bgs): 33.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 37.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Bookfill
-1 -2 -3 -4	RSAR6-0.5B 11:52					Poorly Graded Sand (SP): Pale yellowish brown 10 YR (6/2), very loose - loose, dry. 5% fine sub-angular gravel to 1/2"-, 90% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.				
—5 - —6 -								1.7	0.1	
-7 - -8 - -9								8.9	0.1	
- 10 11	RSAR6-9B 12:04			SP	Qal	Gravel lens @ 9.0'		33.1	0.2	
- - 12 - 13						Gravel lens @ 13.0'		30.7	0.1	
-14 -15 -16						Graver lens (# 13.0		14.7	0.0	
- 17 - - 18 - - 19								0.9	0.0	
-20 -21						Massive caliche 20.0' - 21.5'		0.1	0.0	
- 22 - 23						Silty Sand (SM): Light yellowish brown 10 YR (6/4), loose, dry. 8% fine sub-angular gravel to 5/8", 62% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.		0.0	0.0	
- 24 - -25	RSAR6-25B							0.0	0.1	
- 26 - 27	12:27			SM	Qal			7.4	0.0	
- 28 - 29								2.3	0.0	
-30 -31			1.			Sandy Silt (ML): Light brown 5 YR (5/6), soft to medium-stiff, moist to wet. Trace fine sub-angular gravel to 5/8", 25% fine sub-angular sand, 75% non to moderate-plastic fines. No odor or		0.9	0.0	
- 32 - 33 - 34				ML	UMCf (MCf1)	staining. First water @ 33.0'	Ā	3.1 0.7	0.1	
- 34 -								0.7	0.0	



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Boring Log

Project Number: 2027.01	Boring No	o.: RSAS3
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/26/09	Date Completed: 08/26/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 44.0	Depth to Water (ft bgs): 28.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 44.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	RSAS3-0.5B, RSAS3009-0.5B 06:56					Poorly Graded Sand (SP): Pale yellowish brown 10 YR (6/2), loose to very loose, dry to damp. 8% fine sub-angular gravel to 1/2", 86% fine to coarse sub-angular to sub-rounded sand, 6% non-plastic fines. No odor or staining.		303	2.5	
-4 -5								1240	2.0	
-6 -7								288	1.7	
-8 - -9						Gravel lens 8.0' - 9'. Some caliche coatings on gravel clasts.		8.7	1.0	
-10 -11	RSAS3-10B 08:23			SP	Qal			112	1.1	
- 12 - 13								1494	1.9	
- 14 - -15								3540	1.9	
- 16 - 17								2833	2.1	
- 18 - 19						Gravel lens 18.0' -19.5'.		2901	2.1	
-20 -21				SP-SM	Qal	Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, damp to moist. 5% fine sub-angular gravel to 3/4"+, 85% fine to medium sub-angular sand, 10% non-plastic fine.		2186	2.3	
- 22 - 23						fines. No odor or staining. Silty Sand (SM): Light yellowish brown 10 YR (6/4),		122	2.1	
- 24 25	RSAS3-25B 08:59					medium-dense to loose, damp to moist. 10% fine sub-angular to sub-rounded gravel to 3/4", 65% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		968	1.8	
- 26 - 27	08.39						Ţ	1675	1.9	
28 — 29 — 30 — 31 — 32 — 34 — 34				SM	Qal			115	2.1	
-31 -32								892	2.0	
33								491	1.8	



Boring Log

environmental management, inc RSAS3 **Boring No.:** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/26/09 Date Completed: 08/26/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Silty Sand (SM): Light yellowish brown 10 YR (6/4), medium-dense to loose, damp to moist. 10% fine sub-angular to - 36 55.1 1.0 sub-rounded gravel to 3/4", 65% fine to medium sub-angular - 37 Qal sand, 10% non-plastic fines. No odor or staining. SM @ 37.0'; Color change to light yellowish brown 10 YR (6/4) - 38 55.7 0.9 39 -40 UMCf (MCf1) Sandy Silt (ML): Light yellowish brown 10 YR (6/4), ML medium-dense, wet. 5% fine sub-angular gravel to 3/8"+, 65% - 41 79.2 1.2 fine to medium sand, 30% non-plastic fines. No odor or staining. 42 UMCf (MCf1) Much caliche as grain coatings, and veinlets. ML43 Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), 25.4 0.9 medium-dense, wet. Trace fine sub-angular gravel to 5/8", 20% - 44 RSAS3-44B fine to medium sub-angular sand, 80% non to moderate-plastic 09:45 -45 fines. No odor or staining. Much caliche as grain coatings. Total depth 44.0' (a) 09:51, 8-26-09 - 46 - 47 48 - 49 -50 - 51 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 -71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAS4
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/21/09	Date Completed: 08/21/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 45.0	Depth to Water (ft bgs): 32.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 45.0'.

Depth (ft) Sample I.D. Sample Time	Sample Type Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
RSAS4-0.5B 06:12 -3 -4 -5 -6 -7		SM (Qal	Silty Sand with Gravel (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 15% fine sub-angular gravel to 3/4"+, 60% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Probable fill material. Gravel lens @ 6.0'; 10% - 12% fine sub-angular gravel to 1"-, 70% fine to medium sand, 18% non-plastic fines. Some caliche		2.9 3.3	1.1 1.2 1.0	
-8 -9 -10 RSAS4-10B -11 06:37				coatings on gravel clasts. Silty Sand (SM): Grayish orange 10 YR (7/4), loose, dry. Trace fine gravel to 3/4", 75% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Gravel 10.5' - 12.0'; 5/75/20.		2.3	1.0	
- 12 - 13 - 14 - 15 - 16						9.5	1.0	
- 17 - 18 - 19		SM (Qal	Gravel @ 18.0'; 10/70/20.		2.5	1.0	
-20 -21 -22						7.3	0.6	
- 23 - 24 - 25						61.5	0.6	
- 26 - 27						38.0	1.2	
- 28 - 29 - 30 RSAS4-30B			MCf (Cf1)	Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4), medium-stiff, damp to dry. Trace fine sub-angular gravel to 3/4"-, 40% fine sand, 60% non-plastic fines. No odor or staining.		9.1	1.2	
- 28 - 29 - 30 - 31 - 31 - 32 - 33 - 34			MCf	Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. 30% fine sub-angular sand, 70% moderate to non-plastic fines. No odor or staining.	Ţ	24.8	0.7	
- 34 - 34		(M	(Cf1)			19.7	0.4	



Boring Log

Boring No.: RSAS4 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 08/21/09 Date Completed: 08/21/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. 30% fine sub-angular sand, 70% moderate to non-plastic fines. - 36 31.3 0.4 No odor or staining. - 37 - 38 19.7 0.5 - 39 UMCf -40 ML(MCf1) - 41 29.1 0.3 - 42 43 19.3 0.7 - 44 -45 RSAS4-45B 08:00 Total depth 45.0' @ 08:00, 8-21-09 - 46 RSAS4009-45B 08:00 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.	: RSAS5
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 10/06/09	Date Completed: 10/06/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 36.0	Depth to Water (ft bgs): 32.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 36.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5 -6 -7	RSAS5-0.5B 11:07			SM	Qal	Silty Sand with Gravel (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 15% fine sub-angular gravel to 3/4"+, 60% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Probable fill material. Gravel lens @ 6.0'; 10% - 12% fine sub-angular gravel to 1"-, 70% fine to medium sand, 18% non-plastic fines. Some caliche coatings on gravel clasts				
- 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23	RSAS5-10B 11:17			SM	Qal	Silty Sand (SM): Grayish orange 10 YR (7/4), loose, dry. Trace fine gravel to 3/4", 75% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Gravel 10.5' - 12.0'; 5/75/20. Gravel @ 18.0'; 10/70/20.				
- 24 - 25 - 26 - 27 - 28	RSAS5-25B 11:52					Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4),				
- 29 - 30 - 30				ML	UMCf (MCf1)	medium-stiff, damp to dry. Trace fine sub-angular gravel to 3/4"-, 40% fine sand, 60% non-plastic fines. No odor or staining.				
28 — 29 — 30 — 31 — 32 — 33 — 34 — 34				ML	UMCf (MCf1)	Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. 30% fine sub-angular sand, 70% moderate to non-plastic fines. No odor or staining.	$ \underline{\nabla} $			



DRB-ENVIRO BORING 2027.01.GPJ 1/13/10

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Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAS6
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/01/09	Date Completed: 09/01/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 39.0	Depth to Water (ft bgs): 32.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 39.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
-1 -2 -3 -4	RSAS6-0.5B 06:51			SP-SM	Qal	Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose - loose, dry. 10% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.				
-5 -6						Gravel lens @ 6.0'; 15% fine sub-angular gravel to 1"-, 75% fine		11.7	0.2	
-7 -8						to medium sand, 10% non-plastic fines. Silty Sand (SM): Light yellowish brown 10 YR (6/4), loose, dry.		39.4	0.1	
-9 -10	RSAS6-10B 07:07					8% fine sub-angular gravel to 5/8", 62% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.		17.1	0.1	
- 11 - 12 - 13	V/.V/					Gravel 10.75' - 11.5'		0.9	0.0	
· 14 -15								1.6	0.0	
· 16 · 17						Gravel lens @ 17.0', 8" thick.		2.9	0.1	
18 19				SM	Qal			0.1	0.0	
20 21 22								0.0	0.0	
23 24								1.9	0.1	
25 26	RSAS6-25B 07:45							17.4	0.0	
27 28								0.9	0.0	
-30						Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet.		0.1	0.0	
31 32				ML	UMCf	Trace fine sub-angular gravel to 5/8", 30% fine sub-angular sand, 70% non to moderate-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings.	$ \nabla$	0.9	0.0	
33 34					(MCf1)	- -		7.3	0.1	



1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293

Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.:** RSAS6 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/01/09 Date Completed: 09/01/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. Trace fine sub-angular gravel to 5/8", 30% fine sub-angular sand, 70% non to moderate-plastic fines. No odor or staining. 0.1 11.4 - 36 UMCf (MCf1) - 37 0.9 Some caliche as veinlets and grain coatings. 0.0- 38 - 39 RSAS6-39B 08:14 3.7 0.1 Total depth 39.0' @ 08:43, 9-1-09 -40 -41 - 42 43 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 -61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: RSAS7
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/21/09	Date Completed: 08/21/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 42.0	Depth to Water (ft bgs): 31.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 42.0'.

Sample I.D. Sample Time Sample Time Craphic Log USCS Code USCS Code Water Level 10.6 ev PID (ppm)
Do and a Constant Con
Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry. 2% fine sub-angular gravel to 3/8"+, 90% fine sand, 8% non-plastic fines. No odor or staining. Locally with Poorly Graded Sand with Silt (SP-SM) interbeds to 6", and also intervals of coarser sands (fine to medium) with up to 5% fine gravel.
183 1.1
-7 -8
-9 -10 RSAS7-10B 107 0.4
$\begin{bmatrix} -11 \\ -12 \end{bmatrix} \qquad \begin{array}{c ccccccccccccccccccccccccccccccccccc$
- 13 - 14 - 14 - 15 - 14 - 17 - 18 - 18 - 18 - 18 - 18 - 18 - 18 - 18
$\begin{bmatrix} -15 \\ -16 \\ -17 \end{bmatrix}$ 69.7 0.9
$\begin{bmatrix} 17 \\ -18 \\ -19 \end{bmatrix}$ 128 0.7
Gravelly lens 20.0' - 21.0'
$\begin{bmatrix} -22 \\ -23 \end{bmatrix}$ 129 1.0
-24 -25 RSAS7-250B 98.3 0.0
27 Poorly Graded Sand with Silt (SP-SM): Very pale orange 10YR
Control of Graded Said with Shift (S1 - Shift). Very pate thange 10 1/2", 90% fine to medium sub-angular gravel to 1/2", 90% fine to medium sub-angular sand, 10% non-plastic fines. No odor. Massive caliche 23.5' - 25.0'. SP-SM Qal (8/2), loose, dry to damp. Trace fine sub-angular gravel to 1/2", 90% fine to medium sub-angular sand, 10% non-plastic fines. No odor. Massive caliche 23.5' - 25.0'. First water @31.0' 106 1.0 Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic fines. No odor or staining.
First water @31.0'
Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic fines. No odor or staining.
Page 1 of 2



Boring Log

Boring No.: RSAS7 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 08/21/09 Date Completed: 08/21/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic - 36 113 0.7 fines. No odor or staining. - 37 - 38 UMCf (MCf1) ML78.6 0.5 - 39 -40 -41 0.7 36.9 - 42 RSAS7-42B 10:44 Total depth 42.0' @ 11:06, 8-21-09 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 DRB-ENVIRO BORING 2027.01.GPJ 1/13/10 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAT3
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/26/09	Date Completed: 08/26/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 53.0	Depth to Water (ft bgs): 39.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 53.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
- 1 - 2 - 3 - 4						Poorly Graded Sand (SP): Pale yellowish brown 10 YR (6/2), very loose to loose, dry to damp. 5% fine sub-angular to angular gravel to 1/2"-, 85% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.				X///XX///XX///XX
-5 - -6				.]				8.4	0.0	
- 7 - 8								90.9	0.4	
9				SP	Qal			135	0.4	
-10 -11 -12 -13	RSAT3-10B, -10BMS, -10BMSD 11:59					Gravel 10.5' - 11.5'; 10/70/20.				
- 14 -15								54.9	0.0	
- 16 - 17								123	0.7	
- 18 - 19						Gravel @ 18.0'; 8" lens.		168	0.9	
-20						Poorly Graded Sand with Silt (SP-SM): Very pale orange 10 YR (8/2), very-loose to loose, dry to damp. 10% fine sub-angular gravel to 1/2", 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		179	0.8	
22						non plastic lines. I to odor of stamming.		143	0.7	
-24 -25 -26	RSAT3-25B 12:30			SP-SM	Qal			109	0.6	
- 27 - 28								79.4	0.8	(/XX///X
- 29 -30						Perched water @ 29.0'		103	0.6	X
- 31 - 32 - 33				SM	UMCf (MCf1)	Silty Sand (SM): Light yellowish brown 10 YR (6/4), medium-dense to loose, damp to wet. 10% fine sub-angular to angular gravel to 3/4"-, 40% fine to coarse sub-angular to angular sand, 25% non-plastic fines. No odor or staining.		32.6	0.0	.//\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
- 34								98.3	0.6	



Boring Log

RSAT3 **Boring No.:** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/26/09 Date Completed: 08/26/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Silty Sand (SM): Light yellowish brown 10 YR (6/4), medium-dense to loose, damp to wet. 10% fine sub-angular to - 36 119 0.0 angular gravel to 3/4"-, 40% fine to coarse sub-angular to - 37 angular sand, 25% non-plastic fines. No odor or staining. UMCf (MCf1) SM - 38 169 0.7 - 39 ∇ First water @ 39.5' -40 RSAT3-40B Sandy Silt (ML): Light brown 5 YR (6/4), medium-stiff, wet. 12:55 - 41 Trace fine sub-angular to sub-rounded gravel to 5/8", 15% fine - 42 sub-angular sand, 85% moderate to non-plastic fines. No odor or 2.9 0.0 staining. Much caliche as nodules and veinlets. 43 - 44 0.9 0.0 -45 - 46 0.0 3.2 UMCf (MCf1) ML- 47 48 0.0 21.0 - 49 -50 24.1 0.0- 51 52 0.0 24.3 - 53 RSAT3-53B 14:07 Total depth 53.0' @ 14:07, 8-26-09 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 -71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAT4
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/21/09	Date Completed: 09/21/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 53.0	Depth to Water (ft bgs): 32.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 53.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
-1 -2 -3 -4	RSAT4-0.5B 07:38			Fill		Fill Material: Silty Sand with Gravel (SM), light brown 5 YR (6/4), very loose to loose, dry. 15% fine sub-angular to angular gravel to 1", 75% fine to coarse sub-angular to sub-rounded sand, 10% non-plastic fines. No odor or staining.		0.2	0.0	
-5 -6								0.3	0.0	
- 7 - 8						Silty Sand (SM): Dark yellowish orange 10 YR (6/6), very loose to loose, dry. 10% fine sub-angular to angular gravel to 1/2", 65% fine to coarse sub-angular to sub-rounded sand (65/25/10),		0.7	0.0	
- 9 -10	RSAT4-10B					25% non-plastic fines. No odor or staining.@10.0', coarsening to 15% gravel to 1".		0.1	0.0	
- 11 - 12	07:59			SM	Qal	Fining to 5% gravel @ 12.0'		1.3	0.0	
13 14						Timing to 3 / v graves (b) 12.0		1.2	0.0	
-15 -16 -17								0.9	0.0	XXIIXXI
· 18 · 19 -20						Poorly Graded Sand with Silt (SP-SM): Dark yellowish orange 10 YR (6/6), very-loose to loose, dry. 5% fine sub-angular gravel to 3/8", 85% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		1.8	0.0	
21								0.4	0.0	
23 24				SP-SM	Qal			0.0	0.0	
-25 -26 -27	RSAT4-25B 08:24							0.9	0.0	
- 28 - 29 - 30				SM	Qal	Silty Sand (SM): Light yellowish brown 10 YR (6/4), medium-dense to loose, damp to wet. 10% fine sub-angular to angular gravel to 1/2"-, 65% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining. Much caliche as		1.2	0.0	
- 31 - 32						nodules and grain coatings. — First water @ 32.5'	Ţ	2.2	0.0	
- 33 - 34				ML	UMCf (MCf1)			0.8	0.0	X X X



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Boring Log

Fax: 949.260.9299 environmental management, inc RSAT4 **Boring No.:** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/21/09 Date Completed: 09/21/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), dense to medium-dense, wet. Trace fine sub-angular to sub-rounded gravel - 36 to 3/8"+, 25% fine sub-angular sand, 75% non-plastic fines. No 6.8 0.0 - 37 odor or staining. - 38 0.2 0.0 39 -40 RSAT4-40B 2.9 09:11 0.0- 41 - 42 UMCf 43 ML(MCf1) 2.6 0.0 - 44 -45 2.8 0.0 - 46 46.0' - 46.5', 6" seam of Sandy Silt (ML): trace gravel, 25% fine sand, 75% non-plastic fines. - 47 27.9 0.0 48 - 49 45.1 0.0-50 - 51 Sandy Elastic Silt (MH): Moderate yellowish brown 10 YR (5/4), UMCf (MCf1) 28.6 0.0 52 dense to medium-dense, wet. 20% fine sub-angular sand, 80% moderate-plastic fines. Up to 4% caliche as nodules, veinlets, and - 53 grain coatings. No odor or staining. RSAT4-53B 09:55 Total depth 53.0' @ 10:00, 9-21-09 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAT5
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/20/09	Date Completed: 08/20/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 51.0	Depth to Water (ft bgs): 46.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 51.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)
1 2	sub-angular sand, 25% non-plastic fines. No odor or staining.								
3 4								5.9	1.8
5				SM	Qal			102	0.8
6 7 8								29.6 277	1.5
9								161	1.3
10 11 12	RSAT5-10B 11:25					Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry. 2% fine sub-angular gravel to 3/8"+, 90% fine sand, 8% non-plastic fines. No odor or staining. Locally with interbeds of Poorly Graded Sand with Silt (SP-SM) to 6", and		199	0.0
13 14						intervals of fine to medium sands with up to 5% fine gravel.		3.9	0.7
15 16								53.4	1.4
17 18				SP	Qal			80.2	0.4
19 20 21						Gravelly @ 19.0'.		40.7	6.5
22 23								34.2	0.6
24								12.9	1.5
26 27	RSAT5-25B 11:54					Massive caliche 25.0' - 26.5'. Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry.		33.6	0.0
28 29				SM	Qal	5% fine sub-angular gravel to 1", 70% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		84.6	0.9
30								68.2	1.8
32 33 34				ML	UMCf (MCf1)			13.7	0.2
۴					(IVICII)	fines. No odor or staining.		152	0.5



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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.:** RSAT5 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 08/20/09 Date Completed: 08/20/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Depth (ft) Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic - 36 64.8 0.5 fines. No odor or staining. - 37 Coarsening to 15% fine to very fine sand @ 34.0', 35% fine sand - 38 89.8 0.8 @ 35.0'. - 39 -40 RSAT5-40B 21.3 0.0 12:30 -41 - 42 Fining to 30% fine sand, 70% non-plastic fines @ 42.0'. No 69.1 0.9 UMCf (MCf1) - 43 ML- 44 0.3 31.4 -45 - 46 ∇ 152 0.5 - 47 - 48 105 0.8 - 49 -50 73.6 0.3 - 51 RSAT5-51B 13:14 Total depth 51.0' @ 13:14, 8-20-09 - 52 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: RSAT6
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/27/09	Date Completed: 08/27/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 49.0	Depth to Water (ft bgs): 29.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 49.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
-1 -2 -3 -4 -5 -6 -7 -8				SM	Qal	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 1/2"+, 70% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		127	21.3	
- 8 - 9 - 10 - 11 - 12	RSAT6-10B 11:26					Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry. 2% fine sub-angular gravel to 3/8"+, 90% fine sand, 8% non-plastic fines. No odor or staining. Locally with Poorly graded sand with silt (SP-SM) interbeds to 6", and also intervals of coarser sands (fine to medium) with up to 5% fine gravel.		22919994.4	0.0	
- 13 - 14 - 15 - 16								88.0	0.0	
- 17 - 18 - 19 - 20 - 21				SP	Qal	Gravelly @ 19.0', massive caliche @ 20'.		137 117	0.1	
- 22 - 23 - 24 - 25								65.0 87.4	0.0	
- 26 - 27 - 28						Massive caliche 26.5' - 29.5'.		23.1	0.0	
- 29 - 30 - 31 - 32	RSAT6-30B 14:23					Bit sanded in @ 30'; 12:15 to 14:20 spent recovering tools and re-drilling interval. Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic	∇	33.6	0.0	
- 33 - 34				ML	UMCf (MCf1)	fines. No odor or staining. Coarsening to 15% fine to very fine sand @ 34.0', 35% fine sand @ 35.0'.		31.0	0.0	118/1181



Boring Log

Boring No.: RSAT6 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 08/27/09 Date Completed: 08/27/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Depth (ft) Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic 0.0 19.8 - 36 fines. No odor or staining. - 37 4.7 0.0 - 38 - 39 0.0 16.2 -40 - 41 0.0 7.1 UMCf - 42 ML (MCf1) Fining to 30% fine sand, 70% non-plastic fines @ 42.0'. No - 43 9.3 0.0 - 44 -45 9.9 0.0 - 46 - 47 11.7 0.1 48 - 49 RSAT6-49B 21.3 0.0 15:02 Total depth 49.0' @ 15:05, 8-27-09 -50 - 51 - 52 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: RSAT7						
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown						
Drilling Contractor: Boart Longyear	Date Started: 09/22/09	Date Completed: 09/22/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 44.0	Depth to Water (ft bgs): 33.0					
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 44.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	RSAT7-0.5B 11:09					Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose to loose, dry. 2% fine sub-angular gravel to 3/8"+, 90% fine sand, 8% non-plastic fines. No odor or staining. Locally with Poorly graded sand with silt (SP-SM) interbeds to 6", and also intervals of coarser sands (fine to medium) with up to 5% fine gravel.		1.1	0.0	
-4 -5 -6						giavei.		8.9	0.0	
-7								33.4	0.0	
- 8 - 9 - 10 - 11	RSAT7-10B 11:29			SP	Qal			17.5	0.0	
- 12 - 13				Sr	Qai	Gravelly lens 12.0' - 13.0'.		7.4	0.0	
- 14 15						Graverry lens 12.0 - 15.0.		18.4	0.0	
- 16 - 17								13.6	0.0	
- 18 - 19 - 20						Gravelly lens 20.0' - 22.0'		9.0	0.0	
- 21 - 22						Glavelly lens 20.0 22.0		6.1	0.1	
- 23 - 24 - 25	RSAT7-25B			SP-SM		Poorly Graded Sand with Silt (SP-SM): Very pale orange 10YR (8/2), loose, dry to damp. Trace fine sub-angular gravel to 1/2", 90% fine to medium sub-angular sand, 10% non-plastic fines. No odor. Massive caliche 23.5' - 25.0'.		0.9	0.0	
- 26 - 27	11:56					Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry.		0.7	0.1	
28 - 29 - 30 - 30 - 31 - 32 - 31 - 32 - 33 - 34 - 34 - 34 - 34 - 34 - 34				SM	Qal	5% fine sub-angular gravel to 1", 70% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		2.3	0.0	
30 - 31 - 32						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic		0.9	0.0	
9 - 32 - 33 - 34				ML	UMCf (MCf1)	fines. No odor or staining.	$ \bar{\Delta} $	0.0	0.0	
34 - - - - -						Page 1 of 2		0.3	0.0	



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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.:** RSAT7 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/22/09 Date Completed: 09/22/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), stiff to medium stiff, wet. 10% fine sub-angular sand, 90% non-plastic - 36 7.0 0.1 fines. No odor or staining. - 37 - 38 0.0 0.0 - 39 UMCf (MCf1) ML-40 0.3 0.0 - 41 - 42 0.9 0.043 - 44 RSAT7-44B, -44BMS, -44BMSD 12:45 Total depth 44.0' @ 12:45, 9-22-09 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: RSAT8					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/22/09	Date Completed: 09/22/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 44.0	Depth to Water (ft bgs): 32.5				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 44.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
- 1 - 2 - 3	RSAT8-0.5B 07:14					Fill Material: silty sand with gravel (SM), light brown 5 YR (6/4), loose to very loose, dry to damp. 15% fine sub-angular gravel to 1", 70% fine to coarse sub-angular to sub-rounded sand (35/40/25), 15% non-plastic fines. No odor or staining.		0.2	0.0	***************************************
-4 -5				Fill	Qal			2.2	0.0	
- 6 - 7								6.2	0.0	
- 8 - 9						Blocky gravel to 1" @ 10.0'		11.4	0.0	
-10 -11	RSAT8-10B 07:31					Silty Sand (SM): Dark yellowish orange 10 YR (6/6), loose, dry to damp. 10% fine sub-angular to sub-rounded gravel to 3/4", 70% fine to medium sub-angular sand, 5% non-plastic fines. No		7.8	0.0	
12						odor or staining.		12.9	0.0	X
-14 -15								22.5	0.0	
16								17.3	0.0	
18 19				SM	Qal			14.1	0.0	X///X
20 21						Gravel lens 20.0' - 21.0'.		2.5	0.0	
22 23 24								1.8	0.0	
25 26	RSAT8-25B, RSAT8009-25B							9.1	0.0	
27 28	07:55							10.3	0.0	///////
29						Sandy Silt (ML): Light brown 5 YR (5/6), soft, damp to moist, wet below 32.5'. 20% fine sub-angular sand, 80% non to moderate-plastic fines. No odor or staining. Much caliche as		7.1	0.0	XX///XX
31 32				ML	UMCf (MCf1)	grain coatings, and veinlets.		8.9	0.0	
33 34							$ \nabla$	3.1	0.0	///X///
						Page 1 of 2		0.9	0.0	K



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Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.:** RSAT8 Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/22/09 Date Completed: 09/22/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill @ 35.5', fining to 0/15/85. UMCf - 36 ML (MCf1) 1.7 0.0 - 37 Elastic Silt (MH): Dark yellowish orange 10 YR (6/6), medium-dense, wet. 20% fine to medium sub-angular sand, 80% - 38 3.9 0.0 moderate-plastic fines. No odor or staining. Trace caliche as grain - 39 coatings. -40 UMCf (MCf1) 0.4 0.0 МН -41 - 42 0.9 0.0 - 43 - 44 RSAT8-44B 0.0 1.7 08:53 Total depth 44.0' @ 08:53, 9-22-09 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: RSAU4
Project Name: Tronox Phase B Investigation	Logged by: Brendan Mulholland	
Drilling Contractor: Boart Longyear	Date Started: 07/29/09	Date Completed: 07/29/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 56.0	Depth to Water (ft bgs):
Borehole Dia. (in): 8.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 56.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3			6 9 8 8	Conc		Concrete Slab, 8" thick, un-reinforced. Silty Sand (SM): Pale brown 10 YR (6/3), moist. 10% fine to coarse gravel, 70% medium to coarse sand, 20% non-plastic fines.	-	0.2		
- 4 - 5 - 6								0.1		
- 6 - 7 - 8								0.0		
-9 -10 -11						@ 10.0' <10% coarse gravel.				
- 12 - 13						@ 12.0' Color change: Pale brown 10 YR (6/3) to light yellowish brown 10 YR (6/4).		0.0 0.0		
- 14 15 16								0.0		
- 17 - 18 - 19 - 20				SM	Qal			0.0		
- 21 - 22 - 23 - 24								0.0		
-25 -26 -27						26.0' - 30.0' Caliche zone: White 10 YR (8/1) to light gray 10 YR (7/1), fine to coarse gravel sized caliche nodules, moderate to strong cementation, effervescence in dilute HCl.		0.0		
- 28 - 29					strong cementation, effervescence in dilute HCl.		0.0			
-30 -31 -32								0.0		
- 32 - 33 - 34				M	UMCf			0.0		
				ML	UMCf (MCf1)	Page 1 of 2				X



Boring Log

RSAU4 **Boring No.:** Project Number: 2027.01 Logged by: Brendan Mulholland Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 07/29/09 Date Completed: 07/29/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample Type Graphic Log USCS Code Water Level Material Description Silt (ML): Yellowish brown 10 YR (5/6), moist. Trace fine gravel, 5% fine sand, 95% non-plastic fines. - 36 0.0 - 37 - 38 39 @ 39.0' Trace of caliche nodules and <5% coarse gravel. -40 - 41 - 42 0.0 43 @ 43.0' Color change to brownish yellow 10 YR (6/6). UMCf ML- 44 (MCf1) -45 - 46 0.1 - 47 48 - 49 -50 - 51 0.1 - 53 Silty Sand (SM): Brownish yellow 10 YR (6/4), moist to wet. 5% 0.0 coarse gravel, 75% coarse sand, 20% non-plastic fines. - 54 UMCf SM (MCf1 -55 - 56 Total depth 56.0' @ 10:45, 7-29-09 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: RSAU5						
Project Name: Tronox Phase B Investigation	Logged by: Brendan Mulholland						
Drilling Contractor: Boart Longyear	Date Started: 08/05/09	Date Completed: 08/05/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 55.0	Depth to Water (ft bgs):					
Borehole Dia. (in): 8.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 55.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 -12 -13				SP	Qal	Poorly Graded Sand (SP): Yellowish brown 10 YR (5/6), moist. 15% fine to coarse gravel, 85% fine to medium sand.				
-13 -14 -15 -16 -17 -18 -19 -20 -21 -22 -23 -24 -25 -26 -27 -28 -29 -30 -31 -32 -33 -34				SM	Qal	Silty Sand (SM): Yellowish brown 10 YR (5/6), moist. 5% coarse gravel, 70% coarse sand, 25% non-plastic fines.				



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

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Boring Log

Fax: 949.260.9299 environmental management, inc RSAU5 **Boring No.:** Project Number: 2027.01 Logged by: Brendan Mulholland Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/05/09 Date Completed: 08/05/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Silty Sand (SM): Yellowish brown 10 YR (5/6), moist. 5% coarse - 36 gravel, 70% coarse sand, 25% non-plastic fines. - 37 Qal SM - 38 - 39 -40 - 41 Clayey Sand (SC): Yellowish brown 10 YR (4/4), moist. 5% fine - 42 gravel, 80% fine sand, 15% high-plastic fines. - 43 - 44 UMCf (MCf1) -45 - 46 - 47 - 48 Silt (ML): Dark yellowish brown 10 YR (5/4), damp to moist. 5% fine sand, 95% non-plastic fines. - 49 -50 - 51 UMCf ML (MCf1) 52 - 53 - 54 -55 Total depth 55.0' @ 13:00, 8-5-09 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: RSAU6					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 08/11/09	Date Completed: 08/11/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 53.0	Depth to Water (ft bgs): 46.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 53.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	RSAU6-0.5B, -0.5BMS, -0.5BMSD 06:50					Silty Sand (SM): Yellowish brown 10 YR (5/6), loose to very-loose, dry. 10% coarse angular to sub-angular gravel to 1"+, 65% coarse sand, 25% non-plastic fines. No odor or staining.		0.3	0.0	
5 6 7 8								0.2	0.0	
- 9 - 10 - 11 - 12 - 13 - 14	RSAU6-10B 07:14							0.2	0.0	
- 15 - 16 - 17 - 18 - 19				SM	Qal			0.5	0.0	
-20 -21 -22 -23 -24								0.3	0.0	
-25 -26 -27 -28 -29 -30	RSAU6-25B 07:37							0.2	0.0	
-31 -32 -33				SM	Qal	Silty Sand (SM): Dark yellowish orange 10 YR (6/6), loose, dry. 5% fine sub-angular gravel to 1/2", 70% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		0.2	0.0	
- 34				ML	UMCf (MCf1)			0.2	0.0	



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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.:** RSAU6 Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/11/09 Date Completed: 08/11/09 (0.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample Type Graphic Log USCS Code Water Level Material Description Sandy Silt (ML): Light brown 5 YR (5/6), soft, damp. 20% fine UMCf sub-angular sand, 80% non-plastic fines. No odor or staining. - 36 ML (MCf1 Some caliche as grain coatings and nodules to 1/8" - 37 Silty Sand (SM): Light yellowish brown 10 YR (6/4), - 38 medium-dense to loose, damp to wet. 10% fine sub-angular to 0.1 0.0 sub-rounded gravel to 1/2", 60% fine to medium sub-angular 39 sand, 30% non-plastic fines. Much caliche as grain coatings. -40 RSAU6-40B 08:29 - 41 - 42 43 UMCf (MCf1) -45 0.0 0.0 ∇ - 46 - 47 48 - 49 0.1 0.0 -50 - 51 52 - 53 RSAU6-53B Total depth 53.0' @ 09:10, 8-11-09 09:10 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 -71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No	.: RSAU7
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/03/09	Date Completed: 09/03/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 54.0	Depth to Water (ft bgs): 49.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 54.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
- 1 - 2 - 3	RSAU7-0.5B, RSAU7009-0.5B 06:42					Poorly Graded Sand (SP): Dark yellowish orange 10 YR (6/6), loose, dry. 10% fine sub-angular gravel to 1/2", 85% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.				
- 4 -5								0.1	0.4	
- 6 - 7								2.0	0.4	
- 8 - 9								0.3	0.5	
11	RSAU7-10B 07:00							0.8	0.6	
12								0.6	0.5	
14 -15 16								1.0	0.7	
17				SP	Qal			22.4	0.3	
19								5.1 7.8	0.9	
21 22								13.9	0.2	
23 24								18.9	0.6	
25 26	RSAU7-25B 07:30							6.6	0.4	
27 28 29		•						9.9	0.4	
30								16.8	0.7	
32 33								26.6	0.2	
34								23.2	0.3	



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.:** RSAU7 Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/03/09 Date Completed: 09/03/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample Type Graphic Log USCS Code Water Level Material Description Backfill Poorly Graded Sand with Silt (SP-SM): Dark yellowish orange 10 YR (6/6), very-loose to loose, dry. 5% fine sub-angular gravel to - 36 13.0 0.4 5/8", 85% fine to medium sub-angular sand, 10% non-plastic - 37 fines. No odor or staining. SP-SM Qal - 38 0.3 21.1 39 -40 RSAU7-40B Silty Sand (SM): Light yellowish brown 10 YR (6/4), 08:15 - 41 medium-dense to loose, damp to wet. 10% fine sub-angular to sub-rounded gravel to 1/2", 60% fine to medium sub-angular - 42 18.5 0.3 sand, 30% non-plastic fines. Much caliche as grain coatings. 43 28.3 0.5 UMCf (MCf1) -45 SM - 46 54.9 0.1 - 47 48 78.1 0.6 ∇ - 49 First water @ 49.0' -50 Sandy Silt (ML): Light brown 5 YR (5/6), soft, damp. 20% fine sub-angular sand, 80% non-plastic fines. No odor or staining. - 51 UMCf (MCf1) Some caliche as grain coatings and nodules to 1/8". 0.2 10.8 53 - 54 RSAU7-54B 34.2 0.4 08:59 Total depth 54.0' @ 09:02, 9-3-09 -55 - 56 - 57 - 58 - 59 -60 - 61 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 -71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA111					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 10/05/09	Date Completed: 10/05/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 39.0	Depth to Water (ft bgs): 30.8				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 39.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	D1-611
-1 -2 -3	SA111-1.5B 07:15			FILL	Recent	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 2% - 10% fine angular to sub-angular gravel to 1", 70% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		0.1	0.4	
-4 -5 -6		•				Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose, dry. 5% fine sub-angular gravel to 1/2"+, 90% fine to medium sub-angular sand, 5% non-plastic fines. No odor or staining.		0.1	0.4	
- 6 - - 7 -				SP	Qal	Statilling.		0.0	1.2	
- 8 - 9 - 10 - 11	SA111-10B 07:26					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 2% - 10% fine sub-angular gravel, 70% fine sand, 20% non-plastic fines. Gravelly lens 11' - 12'.		0.0	0.6	
- 12 - 13 - 14								0.0	6.0	
-15 -16				SM	Qal			0.1	7.9	
- 17 - 18						Gravelly lens 17' - 18'. 10/65/25		0.0	0.8	
- 19 -20 - 21								0.0	0.5	
- 22						Silty Sand (SM): Pale yellowish brown 10 YR (6/2), loose, dry to		0.0	0.9	
- 23 - 24						damp. 2% fine sub-angular gravel, 70% fine sand, 28% non-plastic fines. Some caliche at upper contact.		0.0	0.2	
-25 -26	SA111-25B, BMS, BMSD 07:57			SM	Qal			0.0	0.7	
- 27 - 28								0.0	0.4	X
- 29 -30						Sandy Silt (ML): Moderate brown 5 YR (4/4), medium dense to	$ \underline{\nabla} $	0.0	0.1	
- 31 - 32				М	UMCf	loose locally, damp to wet. Trace fine gravel/coarse sand to 3/8"+, 30% fine sand, 70% non to moderate-plastic fines.		0.0	2.7	
- 33 - 34				ML	(MCf1)			0.0	7.1	



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA111** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 10/05/09 Date Completed: 10/05/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Moderate brown 5 YR (4/4), medium dense to 2.3 0.1 loose locally, damp to wet. Trace fine gravel/coarse sand to - 36 3/8"+, 30% fine sand, 70% non to moderate-plastic fines. UMCf (MCf1) - 37 ML 0.0 9.0 - 38 - 39 SA111-39B 08:49 Total depth 39.0' @ 08:50, 10-5-09 -40 -41 - 42 - 43 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA115					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 08/11/09	Date Completed: 08/11/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 51.0	Depth to Water (ft bgs): 44.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 51.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	SA115-0.5B 10:54					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 1"-, 75% medium sub-angular sand, 20% non-plastic fines. Vague flinty odor, no staining. Rare caliche as grain coatings.				
-5 -6 -7 -8						4" caliche bed @ 7.5'.		0.9	0.8	
-9 -10 -11 -12 -13 -14 -15	SA115-10B 11:07			SM	Qal	2/78/20		0.6	0.0	
- 16 - 17 - 18								0.1	0.0	
- 19 -20 - 21 - 22						Coarsening to 10% gravel, 15% non-plastic fines @ 20.0'. Caliche as nodules and veinlets.		0.0	0.0	
- 23 - 24 - 25 - 26 - 27	SA115-25B 11:35					Massive and bedded caliche 26.0' - 28.0'. Some euhedral gypsum crystals in fine sandy matrix.		0.2	0.0	
- 28 - 29 - 30 - 31 - 32 - 33				ML	UMCf (MCfl)	Sandy Silt (ML): Pale brown 5 YR (5/2), medium-stiff to stiff, dry. Trace fine sub-angular gravel to 1/2"-, 35% fine sand, 65% non-plastic fines. Most gravel clasts have caliche coatings, some caliche nodules to 3/8".		0.0	0.0	
- 34								0.1	0.0	



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA115** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/11/09 Date Completed: 08/11/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Sandy Silt (ML): Pale brown 5 YR (5/2), medium-stiff to stiff, dry. Trace fine sub-angular gravel to 1/2"-, 35% fine sand, 65% - 36 non-plastic fines. Most gravel clasts have caliche coatings, some UMCf - 37 (MCf1) caliche nodules to 3/8". - 38 39 0.0 Silty Sand (SM): Dark yellowish brown 10 YR (4/2), 0.2 -40 medium-dense to dense, dry to damp. 2% fine sub-angular gravel SA115-40B to 3/8"+, 78% medium sand, 20% non-plastic fines. Sand 12:25 - 41 consists of 10% coarse sub-angular, 60% medium sub-angular, - 42 and 30% fine sub-angular and frosted grains. Locally interbedded with Silty Gravelly Sand (SM) 15% fine sub-angular to sub-rounden gravel to 3/8"+, 65% fine to coarse sub-angular 43 ∇ sand, 20% non-plastic fines. 0.2 0.0 UMCf (MCf1) -45 - 46 - 47 48 - 49 0.2 0.0 -50 - 51 SA115-51B 0.3 10.4 Total depth 51.0' @ 12:45, 8-11-09 - 52 0.2 0.0 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 62 63 - 64 -65 - 66 - 67 - 68 - 69 -71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA116					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/02/09	Date Completed: 09/02/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 50.0	Depth to Water (ft bgs): 34.5				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 50.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	1 ::1	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	SA116-0.5B 11:00						Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 1"-, 75% medium sub-angular sand, 20% non-plastic fines. Vague flinty odor, no staining. Rare caliche as grain coatings.				
-5 -6 -7							Gravelly @ 5.0'		27.7	0.6	
-8 -9									12.7	0.3	
-10 -11	SA116-10B 11:32				SM	Qal	Gravelly with caliche @ 10.0'.		13.6	0.1	
- 12 - 13			-						1.9	0.0	
- 14 15									15.8	0.0	
- 16 - 17									13.8	0.2	
- 18 - 19									13.4	0.0	
$\begin{bmatrix} -20 \\ -21 \end{bmatrix}$							Poorly Graded Sand (SP): Pale yellowish brown 10 YR (6/2),		7.5	0.0	
- 22 - 23					SP	Qal	very loose, dry. 95% fine sand, 5% non-plastic fines. No odor or staining.		10.0	0.2	
-24 -25 -26							Sandy Silt (ML): Pale brown 5 YR (5/2), medium-stiff to stiff, dry. Trace fine sub-angular gravel to 1/2"-, 15% fine sand, 85% non-plastic fines. Most gravel clasts have caliche coatings, some caliche nodules to 3/8".		9.4	0.0	
$\begin{bmatrix} -27 \\ -28 \end{bmatrix}$							Massive caliche 27.5' - 29.5'.		11.7	0.1	
-29 -30	SA116-30B				ML	UMCf (MCf1)			24.5	0.0	
31 32	12:31								14.9	0.0	
28 29 30 31 31 32 33 34								Ţ	31.2	0.0	
				Ш			Page 1 of 2				<u> </u>



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

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Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA116** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/02/09 Date Completed: 09/02/09 11.7 ev PID (ppm) Formation Name (0.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Pale brown 5 YR (5/2), medium-stiff to stiff, dry. Trace fine sub-angular gravel to 1/2"-, 15% fine sand, 85% - 36 18.1 0.0 non-plastic fines. Most gravel clasts have caliche coatings, some - 37 caliche nodules to 3/8". UMCf ML - 38 (MCf1) 17.9 0.0 39 -40 0.1 37.2 - 41 Silt with Sand (ML): Light brown 5 YR (5/6), medium-stiff to 42 stiff, wet. Trace fine sub-angular gravel to 3/8"+, 25% fine sand, 19.0 0.0 75% non-plastic fines. Most gravel clasts have caliche coatings, some caliche nodules to 3/8"-. 43 - 44 0.0 21.6 -45 UMCf ML(MCf1) - 46 0.0 17.4 - 47 48 7.9 0.0 - 49 -50 SA116-50B, BMS, BMSD 13:09 - 51 Total depth 50.0' @ 13:10, 9-2-09 - 52 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74

Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA118					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/02/09	Date Completed: 09/02/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 51.0	Depth to Water (ft bgs): 34.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 51.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	SA118-0.5B 06:45					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 7% fine sub-angular gravel to 1"-, 70% fine to medium sub-angular sand, 23% non-plastic fines. No odor or staining.		1.2	4.8	
- -5 -6 -7 -8						Fining downward to Silty Sand (SM): 2% fine sub-angular gravel, 75% fine to medium sand, 25% non-plastic fines. Gravel lens @ 6.0'; 10% - 12% fine sub-angular gravel to 1"-, 70% fine to medium sand, 18% non-plastic fines. Some caliche coatings on gravel clasts.		0.6	3.8	
-9 -10 -11	SA118-10B 07:05							0.4	2.3	
- 11 - 12 - 13	07.00					Gravel @ 12.0' - 12.8'; sub-angular gravel to 1".		0.0	0.6	
- 14 - 14 - 15				SM	Qal			0.5	0.9	
- 16 - 17							0.0	0.3		
- 18 - 19 -						Gravel @ 18.5'; <0.5'.		0.2	10.2	
-20 -21 -22								0.2	0.8	
- 22 - 23 -								0.8	4.8	
- 24 - -25	SA118-25B							0.5	6.5	
- 26 - 27	07:30					Condu Cit (MI), Dork vallovish 10 VD ((() 1)		0.4	6.2	
						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or staining. Locally with caliche cementation.		0.5	6.3	
-30 -31				ML	UMCf (MCf1)	Color change @ 31.0'; Silt (ML) Dark yellowish orange 10 YR		0.7	5.6	
28 29 30 31 31 22 32 33 34					(1/1011)	(6/6), medium stiff, damp. 15% fine sand, 85% non-plastic fines. Some caliche as grain coatings and fine nodules. Color change and coarsening @ 33.0'; Sandy Silt (ML): Grayish		0.4	1.0	
34						orange 10 YR (7/4), medium stiff to soft, damp to wet. 30% fine sand, 70% moderate to non-plastic fines. No odor or staining. Page 1 of 2	$\overline{\Delta}$	0.5	2.9	



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293 Fax: 949.260.9299

Boring Log

environmental management, inc **Boring No.: SA118** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/02/09 Date Completed: 09/02/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium 0.7 4.2 dense, dry. 25% fine sand, 75% non-plastic fines. No odor or - 36 staining. Locally with caliche cementation. - 37 0.4 14.8 - 38 - 39 9.0 0.6 -40 SA118-40B Some caliche as grain coatings and fine veinlets 40.5' - 44.0'. 08:18 - 41 - 42 0.6 12.7 UMCf (MCf1) 43 ML- 44 8.3 0.6 -45 Color change and fining @ 45.0': Silt (ML) light brown 5 YR (5/6), 20% fine sand, 80% non-plastic fines. No odor or staining. - 46 11.7 0.2 - 47 48 0.3 7.1 - 49 -50 - 51 SA118-51B Massive caliche @ 51". 0.3 10.4 08:49 - 52 Total depth 51.0' @ 08:30, 9-2-09 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA119					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 08/10/09	Date Completed: 08/10/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 48.0	Depth to Water (ft bgs): 34.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 48.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	SA119-0.5B 10:14					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 8% fine sub-angular gravel to 3/4"-, 72% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.				
-5 -6 -7								0.1	0.0	
-8 -9 -10 -11 -12	SA119-10B 10:41			SM	Qal	Gravelly @ 12.0'		0.0	0.0	
- 13 - 14 - 15 - 16								0.0	0.0	
- 17 - 18 - 19 - 20 - 21						Gravelly lens 17.0' - 18.0'		0.1	0.0	
- 22 - 23 - 24 - 25						Silty Sand (SM): Dark yellowish orange 10 YR (6/6), medium dense, dry. 5% fine sub-angular gravel to 1/2"-, 75% fine sand, 20% non-plastic fines. No odor or staining.		0.4	0.0	
- 26 - 27 - 28 - 28 - 29				SM	Qal			0.0	0.0	
-30 -31 -32 -32 -33	SA119-30B 11:30						Ā	0.4	0.0	
34						Page 1 of 2	-			



Boring Log

Boring No.: SA119 Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/10/09 Date Completed: 08/10/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4), medium dense, dry. Trace of fine sub-rounded gravel to 3", 25% - 36 UMCf (MCf1) 0.1 0.0 MLfine sand, 75% non-plastic fines. No odor or staining. - 37 - 38 Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to 39 loose, dry. 5% fine sub-angular gravel to 3/4"-, 75% fine to medium sub-angular sand, 20% non-plastic fines. No odor or -40 0.0 0.0 staining. UMCf (MCf1) - 41 - 42 43 0.0 0.0 Sandy Silt (ML): Light brown 5 YR (5/6), medium dense, damp to wet. 20% fine sand, 80% non-plastic fines. No odor or -45 UMCf (MCf1) staining. Locally with caliche cementation. - 46 ML - 47 0.0 0.0 48 Total depth 48.0' @ 12:05, 8-10-09 - 49 SA119-48B 12:05 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 -71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Tun: > 15.200.5255		
Project Number: 2027.01	Boring No	.: SA122
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/09/09	Date Completed: 09/09/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 31.0	Depth to Water (ft bgs): 25.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 31.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
- 1 - 2 - 3 - 4	SA122-0.5B 06:58					Silty Sand (SM): Moderate yellowish brown 10 YR (5/2), loose, dry. 5% fine sub-angular gravel to 3/4"+, 65% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.				
_5 _6 _7						Gravelly lens @ 6.0', approx. 6" thick.		0.3	0.1	
-8 -9 -10	SA122-10B			SM	Qal	Gravelly lens @10.0', approx. 6" thick.		0.9	0.2	
- 11 - 12 - 13	07:14							0.5	0.0	
- 14 15 16						Gravelly lens @ 15.0', approx. 1' thick with massive caliche 15.5' - 16.5'.		0.9	0.5	
- 17 - 18 - 19										
-20 -21 -22	SA122-20B 07:39					Silty Sand (SM): Pale brown 5 YR (5/2), loose, dry. 5% fine sub-angular gravel to 3/4"+, 65% fine to medium sub-angular sand, 30% moderate-plastic fines. No odor or staining.		0.6	0.0	
- 23 - 24				SM	Qal			0.9	0.4	
-25 -26 -27						Sandy Silt (ML): Pale brown 5 YR (5/2), medium-stiff to loose, wet. Trace fine sub-rounded gravel to 3/4"+, 35% fine sub-angular sand, 65% non-plastic fines. No odor or staining.	Ā	0.8	0.2	
				ML	UMCf (MCf1)			0.7	0.2	
- 28 - 29 - 30 - 31 - 32 - 33 - 34	SA122-30.5B 08:05					Total depth 31.0' @ 08:05, 9-9-09		1.0	0.6	
_ 34						Page 1 of 1				



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA124					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown						
Drilling Contractor: Boart Longyear	Date Started: 09/10/09	Date Completed: 09/11/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 42.0	Depth to Water (ft bgs):					
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 42.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	SA124-0.5B 13:02					Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 10% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		0.0	0.0	
-4 -5								0.1	0.0	
-6 -7								0.7	0.0	
-8								2.3	0.1	
-9 -10 -11 -12	SA124-10B 13:35					Gravel lens @ 9.0'		0.3	0.0	
- - 13 - 14				SP-SM	Qal			0.7	0.0	
-15 -16								3.8	2.0	
- 17 - 18								0.7	0.3	
-19 -20 -21						Gravel @ 19.0'; 15% sub-angular gravel to 1 1/2-"		0.4	0.1	
- 22 - 23						Gravel @ 22.0'; 10% sub-angular gravel to 1 1/2-"		0.9	0.0	
- 24 25 26	SA124-25B 07:04							2.1	0.0	
- 27 - 28				SM	Qal	Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry. 5% fine sub-angular gravel to 1/2"-, 70% medium to fine sub-angular sand, 25% non-plastic fines. No odor or staining.		0.1	0.0	
- 29 - 30			<u>v - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - </u>	ML	UMCf (MCf1)	Massive caliche @ 28.0". Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or		0.0	0.0	
31 - 32 - 32				SM	UMCf (MCf1)	\staining. Locally with caliche cementation. Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry. 10% fine sub-angular gravel to 1/2"-, 82% medium to fine		0.7	0.0	
28 — 29 — 30 — 31 — 32 — 33 — 34 —				ML	UMCf (MCf1)	sub-angular sand, 8% non-plastic fines. No odor or staining.		0.0	0.1	



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA124** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/10/09 Date Completed: 09/11/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Sandy Silt (ML): Light brown 5 YR (6/4), medium stiff, dry. Trace fine sub-angular gravel to 3/8"+, 15% fine sub-angular - 36 sand, 85% non-plastic fines. No odor or staining. - 37 0.0 0.0 - 38 UMCf (MCf1) ML- 39 0.3 0.0 -40 -41 - 42 SA124-42B 07:39 Total depth 42.0' @ 07:45, 9-11-09 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA125					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown						
Drilling Contractor: Boart Longyear	Date Started: 09/10/09	Date Completed: 09/10/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 39.0	Depth to Water (ft bgs):					
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 39.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)
1 2	SA125-0.5B 09:59			Fill		Fill Material: Poorly graded sand with gravel (SP), very loose, dry. 15% fine sub-angular to angular gravel to 1", 80% fine to coarse sub-angular sand, 5% non-plastic fines. No odor or staining.		0.6	0.0
3 4								0.7	0.0
5			(XXXXX			Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry. 5% fine sub-angular gravel to 1/2"-, 70% medium to fine sub-angular sand, 25% non-plastic fines. No odor or staining.	-	2.2	0.0
7 8						Gravelly 6.0' - 8.0'; up to 15% fine sub-angular gravel to 1 1/2".		27.9	0.0
10	SA125-10B 10:09							7.4 9.2	0.0
12								14.7	0.0
14						@ 15.0'; up to 15% sub-angular to angular gravel to 1".		11.9	1.1
16 17 18				SM	Qal			3.9	0.0
19 20 21								3.1	0.0
22 23								2.0	0.1
24 25 26	SA125-25B 10:36							0.2	0.0
27 28								0.9	0.0
29 80						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium	-	7.0	0.3
31 32				ML	UMCf (MCf1)	dense, dry. 25% fine sand, 75% non-plastic fines. No odor or staining. Locally with caliche cementation. Sandy Silt (ML): Light brown 5 YR (6/4), medium stiff, dry.	-	5.0	0.0
34				ML	UMCf (MCf1)	Trace fine sub-angular gravel to 3/8"+, 15% fine sub-angular sand, 85% non-plastic fines. No odor or staining.		6.0	0.0



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA125** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/10/09 Date Completed: 09/10/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Sandy Silt (ML): Light brown 5 YR (6/4), medium stiff, dry. Trace fine sub-angular gravel to 3/8"+, 15% fine sub-angular - 36 sand, 85% non-plastic fines. No odor or staining. UMCf (MCf1) - 37 ML 0.0 0.1 - 38 39 SA125-39B, SA125009-39B Total depth 39.0' @ 11:15, 9-10-09 -40 11:03 -41 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA126					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown						
Drilling Contractor: Boart Longyear	Date Started: 09/10/09	Date Completed: 09/10/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 40.0	Depth to Water (ft bgs): Dry					
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 40.0'.

Depth (ft) Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
SA126-0. 07:10	В		Fill		Fill Material: Poorly graded sand with gravel (SP), loose, dry. 20% fine angular to sub-angular gravel to 1-1/2"-, 75% fine to coarse sub-angular to angular sand, 5% non-plastic fines. No odor or staining. Some stratification visible (approx. 1/2" lifts).		0.1	0.0	
-3 -4					· · · · · · · · · · · · · · · · · · ·		0.2	0.0	
_5 _6					Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 10% fine sub-angular gravel to 1/2"-,		0.2	0.0	
-7 -8					80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		0.3	0.0	
-9 -10 SA126-1	В				Gravel lens @ 9.0': 25% sub-angular gravel to 3/4".		0.3	0.0	
- 11 07:25 - 12 07:25		s	SP-SM	Qal			0.5	0.0	
- 13 - 14							0.3	0.0	
-15 -16							0.3	0.0	
- 17 - 18 SA126-1	В				Gravel 18.0' - 19.5'; 15% sub-angular gravel to 1 1/2".		0.4	0.0	
- 19 07:40 20					Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry to damp. 5% fine sub-angular gravel to 1/2"-, 70% medium to fine		0.4	0.0	
- 21 - 22					sub-angular sand, 25% non-plastic fines. No odor or staining.		0.3	0.0	
- 23 - 24			SM	Qal			0.6	0.0	
—25 SA126-2 —26 07:59	В						0.5	0.0	
- 27 - 28					Gravel 27.5' - 28.0". Up to 15% sub-angular gravel to 1 1/4".		1.0	0.0	
- 29 30					Silty Sand (SM): Very pale orange 10 YR (8/2), very loose to loose, damp to moist. 5% fine sub-angular gravel to 1/2", 70%		0.6	0.0	
- 31 - 32			SM	Qal	fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Fining downward to 30% non-plastic fines @ 31.0'.		0.4	0.0	
- 33 - 34			ML	UMCf (MCf1)			0.4	0.0	



Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA126** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/10/09 Date Completed: 09/10/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill 0.0 Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), dense to 0.7 medium-dense locally, damp. 2% fine sub-angular to sub-rounded gravel to 3/8"+, 28% fine to medium sub-angular - 36 - 37 UMCf (MCf1) sand, 70% non-plastic fines. No odor or staining. 0.4 0.0 Sandy lens 35.5' - 36.0'. - 38 - 39 0.0 0.6 -40 SA126-40B, 40BMS, 40BMSD Total depth 40.0' @ 08:30, 9-10-09 -41 08:30 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA136					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/15/09	Date Completed: 09/15/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 40.0	Depth to Water (ft bgs): 34.0'				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 40.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
-1 -2 -3 -4	SA136-0.5B 07:10			Fill		Fill Material: Poorly graded sand with gravel (SP), very pale orange 10 YR (8/2), very-loose to loose, dry. 20% fine angular to sub-angular gravel to 1", 75% fine to coarse sub-angular to angular sand (25/50/25), 5% non-plastic fines. No odor or staining. Some stratification visible (approx. 1/2" lifts). Clay pipes, brick chips, and angular gravels in the fill.		1.6	0.1	
-5 -6 -7						Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 10% fine sub-angular gravel to 1/2", 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		0.9	0.0	
- 8 - 9				: : :		Gravel lens @ 8.0': 20% sub-angular gravel to 5/8".		1.1	0.0	
-10 -11	SA136-10B 07:42			1				1.4	0.0	
12 13 14								0.5	0.0	
15 16				SP-SM	Qal			0.1	0.0	
17 18					-	Gravel @ 17.5'; 15% sub-angular gravel to 1 1/2".		0.0	0.0	
19 20								0.1	0.0	
21 22				- - -		Gravel @ 22'; 15% sub-angular gravel to 1 1/2".		3.0	0.0	
23 24								1.4	0.1	
25 26	SA136-25B 08:10							3.0	0.1	
27 28						Silty Sand (SM): Very pale orange 10 YR (8/2), very loose to		0.9	0.0	
29 30 31				SM	Qal	loose, dry. 5% fine sub-angular gravel to 1/2", 70% medium to fine sub-angular sand, 25% non-plastic fines. No odor or staining.		0.3	0.0	XIIXXIIX
32 33 34				ML	UMCf (MCf1)	Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), dense to medium-dense locally, damp. 2% fine sub-angular to sub-rounded gravel to 3/8"+, 28% fine to medium sub-angular sand, 70% non-plastic fines. No odor or staining.		0.0	0.0	XIIXXIIX



Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA136** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 09/15/09 Date Completed: 09/15/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill 0.0 First water @ 34.0' 0.3 UMCf - 36 ML (MCf1) - 37 Sandy Elastic Silt (MH): Moderate yellowish brown 10 YR (5/4), 0.7 0.0 - 38 medium-stiff, wet. Trace fine sub-rounded gravel to 5/8", 20% МН fine sub-angular sand, 80% moderate-plastic fines. Much caliche - 39 0.0 1.4 as nodules, veinlets, and grain coatings on gravel clasts. No odor -40 SA136-40B Total depth 40.0' @ 08:30, 9-15-09 08:42 -41 - 42 - 43 - 44 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74

Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA146					
Project Name: Tronox Phase B Investigation	Logged by: Brendan Mulhollar	nd					
Drilling Contractor: Boart Longyear	Date Started: 08/04/09	Date Completed: 08/04/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 55.0	Depth to Water (ft bgs): 49.0					
Borehole Dia. (in): 8.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 55.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
- -1 -2 -3						Poorly Graded Sand (SP): Yellowish brown 10 YR (5/6), moist. 15% fine to coarse gravel, 85% fine to medium sand.		0.0		
-4 -5 -6				SP	Qal			0.0		
- 7 - 7 - 8 - 9						7.0' - 9.0' approx. 10% coarse gravel.		0.1		
-10 -11								0.0		
- 12 - 13 - 14						Silty Sand (SM): Yellowish brown 10 YR (5/6), moist. 5% coarse gravel, 70% coarse sand, 25% non-plastic fines.		0.1		
—15 —16								0.1		
17 18								0.1		
- 19 20								0.0		
- 21 - 22						21.0' - 22.8' Coarse gravel and volcanic cobbles.		0.0		
- 23 - 24 - 25				SM	Qal			0.0		
- 26 - 27 - 28								0.0		
								0.0		
- 31 - 32 - 33						33.0' - 34.0' Caliche zone, effervescence in dilute HCl.		0.0		
- 34						Page 1 of 2				



DRB-ENVIRO BORING 2027.01.GPJ 1/13/10

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293

Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA146** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Brendan Mulholland Drilling Contractor: Boart Longyear Date Started: 08/04/09 Date Completed: 08/04/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample Type Graphic Log USCS Code Water Level Material Description Qal - 36 Silt (ML): Dark yellowish brown 10 YR (5/4), moist. 5% fine - 37 sand, 95% non-plastic fines. 0.0 - 38 - 39 -40 -41 0.0 - 42 - 43 - 44 -45 UMCf 0.0 ML(MCf1) - 46 - 47 - 48 $\overline{\Delta}$ - 49 @ 49.0' Moist to wet. -50 0.0 - 51 - 53 - 54 0.0 -55 Total depth 55.0' @ 13:00, 8-4-09 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA147					
Project Name: Tronox Phase B Investigation	Logged by: Brendan Mulhollan	nd					
Drilling Contractor: Boart Longyear	Date Started: 08/04/09	Date Completed: 08/04/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 56.0	Depth to Water (ft bgs):					
Borehole Dia. (in): 8.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 56.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4			A A	Conc		Concrete Slab, 7" thick, un-reinforced. Silty Sand (SM): Pale brown 10 YR (6/3), moist. 10% fine to coarse gravel, 70% medium to coarse sand, 20% non-plastic fines.		0.1		
5 6								0.0		
-7 -8 -9								0.0		
-10 -11								0.0		
- 12 - 13						@ 13.0' Color change to Light yellowish brown 10 YR (6/4).		0.1		
-14 -15				SM	Qal			0.0		
- 16 - - 17								0.1		
- 18 - 19 - 20						18.0' - 21.0' Coarse gravel and volcanic cobbles.		0.1		
- 21 - 22								0.0		
- 23 - 24								0.0		
-25 -26								0.0		
- 27 - 28								0.0		
- 29 - 29 - 20						28.0' - 30.0' Caliche zone, fine to coarse gravel sized caliche nodules, strong cementation, effervescence in dilute HCl.		0.0		
28 - 202 - 203 - 2				SM	Qal	Silty Sand (SM): Light yellowish brown 10 YR (6/4), moist. Trace fine gravel, 75% medium to coarse sand, 5% fine sand, 20% non-plastic fines.				
08 — 33 0 — 34 — 34								0.0		
DRB						Page 1 of 2				



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293

Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA147** Project Number: 2027.01 Logged by: Brendan Mulholland Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/04/09 Date Completed: 08/04/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample Type Graphic Log USCS Code Water Level Material Description Silty Sand (SM): Light yellowish brown 10 YR (6/4), moist. Trace fine gravel, 75% medium to coarse sand, 5% fine sand, - 36 Qal SM 0.0 20% non-plastic fines. - 37 Silt (ML): Yellowish brown 10 YR (5/6), moist. Trace fine - 38 gravel, 5% fine sand, 95% non-plastic fines. 39 -40 - 41 0.0 43 0.0 -45 - 46 UMCf (MCf1) - 47 @ 47.0' Color change to dark yellowish brown 10 YR (4/4). 48 0.0 - 49 -50 0.0 - 51 - 53 0.0 - 54 -55 - 56 0.0 Total depth 56.0' @ 09:30, 8-4-09 - 57 - 58 - 59 -60 - 61 62 63 - 64 -65 - 66 - 67 - 68 - 69 -71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	Boring No.: SA150					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown						
Drilling Contractor: Boart Longyear	Date Started: 08/24/09	Date Completed: 08/24/09					
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 32.0	Depth to Water (ft bgs):					
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):						

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 32.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3						Silty Sand (SM): Light brown 5 YR (6/4), very loose, dry. 10% fine sub-angular gravel to 3/4"+, 70% fine to medium sub-angular sand, 20% non-plastic fines. Vague organic odor, no staining.		11.1	0.4	
-4 -5								7.5	0.2	
-6 -7						Gravelly lens 12.5' - 15.0'; Well Graded Sand with Gravel (15%		8.9	0.4	
-8 -9						fine sub-angular gravel to 1"+, 65% fine to medium sub-angular sand, 20% non-plastic fines.		11	0.6	
-10 -11	SA150-10B 10:46			SM	Qal			16.5	1.1	
- 12 - 13 - 14								8.8	0.4	
- 14 15 16								7.1	0.2	
- 17 - 18 - 19								6.5	0.2	
-20 -21 -22						Poorly Graded Sand (SP): Dark yellowish orange 10 YR (6/6), loose, dry. Trace fine sub-angular gravel to 3/8", 90% fine to medium sand, 10% non-plastic fines. No odor or staining.		19.3	1.1	
- 23 - 24								7.8	0.2	
-25 -26 -27				SP	Qal	Gravel with caliche 26.0' - 28.7'; 10% fine gravel, 75% fine to medium sand, 15% non-plastic fines.		9.5	0.4	
						medium sand, 1570 non-piasue mies.		8.8	0.2	
28 - 29 - 30 - 31 - 32 - 33 - 34	SA150-30B 11:45			ML	UMCf (MCf1)	Sandy Silt (ML): Pale brown 5 YR (5/2), medium stiff, damp to moist. Trace fine sub-angular gravel to 1/2"+, 35% fine sub-angular sand, 65% non to moderate-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings.		7.6	0.8	
32 - 33 - 34						Total depth 32' @ 12:00, 8-24-09				
						Page 1 of 1				



Boring Log

Tux. 747.200.7277		
Project Number: 2027.01	Boring No	.: SA154
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/24/09	Date Completed: 08/24/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 33.0	Depth to Water (ft bgs):
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 33.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5	SA154-0.5B 07:38			SM	Qal	Silty Sand (SM): Light brown 5 YR (6/4), very loose, dry. 5% fine sub-angular gravel to 1/2"+, 75% fine to medium sub-angular sand, 20% non-plastic fines. Slight odor, no staining.		9.0	1.0	
-6 -7 -8 -9								8.8	0.8	
-10 -11 -12	SA154-10B 07:50					Poorly Graded Sand with Silt (SP-SM)): Grayish orange 10 YR (7/4), loose to very loose, dry. 5% fine sub-angular gravel to 1"-, 85% fine to medium sand, 15% non-plastic fines. No odor or staining. Some caliche as grain coatings.		9.5	1.2	
- 13 - 14 - 15 - 16				SP-SM	Qal			5.8 7.1	0.4	
- 10 - 17 - 18					Silty Sand (SM): Light brown 5 YR (6/4), loose, dry. Trace to		7.0	0.7		
- 19 20 21	SA154-20B 08:21					15% locally fine sub-angular gravel to 1/2", 75% fine to medium sub-angular sand, 25% non-plastic fines. Slight odor, no staining.		7.2	0.4	
- 22 - 23				SM	Qal			7.0	0.4	
- 24 - 25 - 26						Gravelly lens 24' - 28'		7.5	0.8	
- 27 - 28 - 29								7.3	0.8	
-30 -31 -32				SM	UMCf (MCf1)	Silty Sand (SM): Pale brown 5 YR (5/2), medium stiff, damp to moist. 75% fine sub-angular sand, 25% non to moderate-plastic fines. No odor or staining. Some caliche as grain coatings and nodules.		7.6	1.1	
- 33 - - 34	SA154-33B 08:58					Total depth 33.0' @ 09:00, 8-24-09				



Boring Log

Project Number: 2027.01	Boring No.: SA170					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/08/09	Date Completed: 09/08/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 31.0	Depth to Water (ft bgs): 29.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 31.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	- 000	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	SA170-0.5B 11:20						Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 2% (up to 5% locally) fine sub-angular gravel to 3/4"-, 70% fine sub-angular sand, 30% non-plastic fines. No odor or staining.		13.4	0.4	
-4									1.5	0.2	
-5 -6 -7									26.4	0.6	
-7 -8 -9 -10				s	SM (Qal	Gravelly lens @ 9.0', approx. 6" thick.		14.7	0.7	
- 10 - 11 - 12	SA170-10B 11:30								65.6	1.7	
- 13 - 14									21.9	0.2	
-15 -16									30.8	0.2	
- -17 -18				s	SM (Oal	Silty Sand (SM): as above by with massive caliche 17.0' - 19.0'.		23.2	0.0	
-19 -20	SA170-20B						Sandy Silt (ML): Grayish orange 10 YR (7/4), soft, dry. Trace fine sub-angular gravel to 3/4"-, 45% fine sub-angular sand, 55%		46.4	0.9	
-21 -22	12:00			N		JMCf JCf1)	non-plastic fines. No odor or staining.		47.7	1.0	
-23 -24									26.6	0.4	
-25 -26							Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4), medium-stiff to soft, damp to moist. Trace fine sub-angular gravel to 1/2", 40% fine sub-angular sand, 60% non-plastic fines. No odor or staining.		12.9	0.2	
27 -27 -28				N		MCf ACf1)			0.6	0.0	
29 - 30								$ \nabla$	3.1	0.0	
28 29 30 31 31 32 33 34	SA170-30.5B 12:28						Total depth 31.0' @ 12:30, 9-8-09		3.1	0.0	
34							Page 1 of 1				



Boring Log

Project Number: 2027.01	Boring No.: SA191					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/29/09	Date Completed: 09/29/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 40.0	Depth to Water (ft bgs): 39.5				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 40.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5	SA191-0.5B 07:25					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 10% fine sub-angular gravel to 1"-, 70% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		1.0	0.9	
- 6 - 6 - 7 - 8						Gravel lens @ $6.0'$; 10% - 15% fine sub-angular gravel to 1"-, 70% fine to medium sand, 15% non-plastic fines. Some caliche coatings on gravel clasts		0.4	0.2	
- 9 - -10 - -11	SA191-10B 07:55	Τ		SM	Qal			0.4	0.1	
- - - - 13				5141	Qui	Gravel @ 12.0' - 12.8'; sub-angular gravel to 1".		0.0	0.2	
- 14 - -15								0.5	0.1	
- 16 - - 17 - - 18						Gravel @ 17.0'-17.5', sub-angular gravel to 1".		0.0	0.3	
- 19 - 19 - 20								0.2	0.4	
- 21 - 22								0.2	0.1	
- 23 - 24						Poorly Graded Sand with Silt (SP-SM): Very pale orange 10YR (8/2), very loose, dry to damp. 5% fine sub-angular gravel to 1", 85% fine to medium sub-angular sand, 10% non-plastic fines. No		0.8	0.0	
-25 -26 -27	SA191-25B 08:20					odor or staining.		0.4	0.0	
- 28 - 29				SP-SM				0.5	0.1	
-30 -31						Massive caliche 30.0' - 31.25'.		0.7	0.0	
- 32						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium		0.4	0.1	
- 33 - - 34 -				ML	UMCf (MCf1)	dense, dry. 25% fine sand, 75% non-plastic fines. No odor or staining. Locally with caliche cementation.		0.5	0.1	



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293

Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA191** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/29/09 Date Completed: 09/29/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium 0.7 0.0 dense, dry. 25% fine sand, 75% non-plastic fines. No odor or - 36 staining. Locally with caliche cementation. - 37 UMCf (MCf1) 0.4 0.0 ML - 38 - 39 ∇ 0.0 0.6 -40 SA191-40B, SA191009-40B Total depth 40.0' @ 09:00, 9-29-09 -41 09:00 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA193					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/29/09	Date Completed: 09/29/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 42.0	Depth to Water (ft bgs): 41.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 42.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5	SA193-0.5B 10:25 SA193-2.5B 12:03					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 10% fine sub-angular gravel to 1"-, 70% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		2.7	0.1	
- 6 - 7 - 8						Gravel lens @ 7.0'; 15% fine sub-angular gravel to 1".		0.2	0.0	
-9 -10 -11	SA193-10B 10:35			SM	Qal			0.5	0.1	
- 12 - 13 - 14 - 15						Gravel @ 12.0' - 13.0'; sub-angular gravel to 1".		0.0	0.0	
- 16 - 16 - 17 - 18						Gravel @ 17.0'-17.5', sub-angular gravel to 1".		0.0	0.0	
- 19 - 19 - 20 - 21								0.2	0.1	
- 22 - 23						Poorly Graded Sand with Silt (SP-SM): Very pale orange 10YR		1.4	0.0	
- 23 - 24 - 25	SA193-25B					(8/2), very loose, dry to damp. 5% fine sub-angular gravel to 1", 85% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		0.5	0.0	
- 26 - 27	11:05			SP-SM				0.4	0.0	
- 28 - 29						Massive caliche 29.0' - 30.0'.		0.9	0.1	
-30 -31						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or		0.3	0.0	
-32 -33				ML	UMCf (MCf1)	staining. Locally with caliche cementation.		1.5	0.1	
- - 34 -								2.7	0.1	



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA193** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/29/09 Date Completed: 09/29/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium 0.9 0.0 dense, dry. 25% fine sand, 75% non-plastic fines. No odor or - 36 staining. Locally with caliche cementation. - 37 0.3 0.0 - 38 UMCf (MCf1) ML- 39 0.0 0.1 -40 ∇ -41 - 42 SA193-42B Total depth 42.0' @ 11:45, 9-29-09 11:45 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA204					
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown					
Drilling Contractor: Boart Longyear	Date Started: 09/03/09	Date Completed: 09/03/09				
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 45.0	Depth to Water (ft bgs): 32.0				
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):					

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 45.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5	SA204-0.5B 11:10			SM	Qal	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 3/4"+, 65% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Possible fill material.				
6 7 8						Silty Sand (SM): Grayish orange 10 YR (7/4), loose, dry. Trace fine gravel to 3/4", 75% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		9.2	0.8	
-9 -10	SA204-10B,					Gravel 10.0' - 11.0'; 5/75/20.		9.5	0.2	
- 11 - 12	SA204009-10B 11:23					3.4.0.10.10 11.10,0,767.20.		1.4	0.2	
- 13 - 14 - 15				SM	Qal			2.4	0.0	
- 16 - - 17				SW	Qui			6.9	0.0	
- 18 - 19 - 20								7.9	0.1	
- 21 - 22 - 22								4.6	0.0	
- 23 - 24 - 25						Gravel @ 23.0'; 10/70/20.		0.9	0.0	
-25 -26 -27						Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4), medium-stiff, damp to dry. Trace fine sub-angular gravel to 3/4"-, 40% fine sand, 60% non-plastic fines. No odor or staining.		0.7	0.0	
- 27 - 28 - 29				ML	UMCf (MCf1)			6.9	0.0	
-30 -31 -32	SA204-30B 11:56					Massive caliche 30.0' - 32.5'	∇			
- 28 - 29 - 30 - 31 - 32 - 33 - 34				ML	UMCf (MCf1)	Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. 30% fine sub-angular sand, 70% moderate to non-plastic fines. No odor or staining.	-	1.6	0.0	



Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA204** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/03/09 Date Completed: 09/03/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Depth (ft) Backfill Sandy Silt (ML): Light brown 5 YR (5/6), medium-stiff, wet. 30% fine sub-angular sand, 70% moderate to non-plastic fines. - 36 2.8 0.0 No odor or staining. - 37 - 38 1.4 0.0 - 39 UMCf (MCf1) -40 ML- 41 0.5 0.0 - 42 43 0.5 0.0 - 44 -45 SA204-45B 12:47 Total depth 45.0' @ 12:49, 9-3-09 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 DRB-ENVIRO BORING 2027.01.GPJ 1/13/10 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA209			
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown			
Drilling Contractor: Boart Longyear	Date Started: 09/28/09	Date Completed: 09/28/09		
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 35.0	Depth to Water (ft bgs): 27.5		
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):			

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 35.0'. Perched water @16.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3	SA209-0.5B 07:35					Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 10% fine sub-angular gravel to 1/2", 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.				
-4 -5 -								7.1	0.1	
-6 -7								11.8	0.1	
-8 -9 -				SP-SM	Qal			39.4	0.2	
-10 -11 -12	SA209-10B, SA209009-10B 07:55					Gravel @ 10.0'		115	0.1	
- 12 - 13 - 14								61.5	0.0	
- -15 - -16								0.7	0.0	
- 17 - 17 - 18						Silty Sand (SM): Pale brown 10 YR (6/3), medium dense, moist. 10% fine to coarse sub-angular gravel to 1 1/2"+, 65% fine to coarse sub-angular sand, 25% non-plastic fines. No odor or staining. Locally with caliche cementation. Perched water @ 16'.		1.9	0.1	
- - - - - 20						Massive caliche @ 20.0'		1.6	0.0	
- - 21 - 22				SM	Oal	massive canone at 20.0		2.6	0.0	
- 23 - 24				SIVI	Qal			2.9	0.0	
-25 -26	SA209-25B 08:25							1.1	0.1	
- 27 - 28						First water at 27.5'	$\overline{\Delta}$	0.7	0.1	
- 29 - -30						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or staining. Some caliche cementation and nodules to 1/4".		0.7	0.0	
- 31 - 32				ML	UMCf (MCf1)	stanning. Some canone comentation and nodules to 1/4.		0.9	0.0	
- 28 - 29 - 30 - 31 - 32 - 33 - 34								0.2	0.1	



DRB-ENVIRO BORING 2027.01.GPJ 1/13/10

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Boring Log

environmental management, inc. **SA209 Boring No.:** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/28/09 Date Completed: 09/28/09 10.6 ev PID (ppm) Formation Name 11.7 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Depth (ft) Material Description Backfill SA209-35B 08:50 2.1 0.0 Total depth 35.0' @ 08:50, 9-28-09 - 36 - 37 - 38 - 39 -40 -41 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60- 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 -- 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA210				
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown				
Drilling Contractor: Boart Longyear	Date Started: 08/27/09	Date Completed: 08/27/09			
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 49.0	Depth to Water (ft bgs): 29.5			
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):				

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 49.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5	SA210-0.5B 07:50					Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 5% fine sub-angular gravel to 3/4"-, 75% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		19.5	0.0	
-6 -7								31.3	0.0	
-8 -9 -				SM	Qal			10.1	0.0	
-10 - -11	SA210-10B 08:00				Ç			17.5	0.0	
- 12 - 13 - 14						Gravel @ 12.0'		12.4	0.0	
- 14 - -15 -				시 기 기 시				22.4	0.0	
- 16 - 17 - 18								26.1	0.0	
- 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 27				SP-SM	Qal	Gravel @ 18.5' Poorly Graded Sand with Silt (SP-SM): Dark yellowish orange 10 YR (6/6), medium dense, dry. 85% fine sand, 15% non-plastic fines. No odor or staining. Locally with caliche cementation, massive caliche @ 28.5'.		233	0.0	
-29 -30	Q. Q. Q. Q. D.			<u> </u>		Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or	$ \underline{\nabla} $	28.4	0.0	
- 28 - 29 - 30 - 31 - 32 - 33 - 34	SA210-30B 08:29			ML	UMCf	staining. Locally with caliche cementation.		496	0.0	
- 33 - 34				17112	(MCf1)			25.1	0.0	
						Page 1 of 2		73.0	0.0	



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA210** Project Number: 2027.01 Logged by: Dana R. Brown Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/27/09 Date Completed: 08/27/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or - 36 20.6 0.0 staining. Locally with caliche cementation. - 37 - 38 57.9 0.0 - 39 -40 158 0.0 - 41 UMCf - 42 ML (MCf1) 169 0.043 2.7 Color change and fining @ 44.0': Silt (ML) light brown 5 YR 221 (5/6), 20% fine sand, 80% non-plastic fines. No odor or staining. -45 - 46 0.0 37.8 - 47 48 82.7 0.0 Massive caliche @ 48.0". - 49 SA210-49B 09:34 Total depth 49.5' @ 09:35, 8-27-09 -50 - 51 - 52 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: SA214
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 10/05/09	Date Completed: 10/05/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 43.0	Depth to Water (ft bgs): 31.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 43.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
-1 -2 -3	SA214-0.5B 10:20					Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 1/2", 85% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.				
-4 -5								7.3	0.0	
-6 -7 -8								11.4	0.0	
- 9 -10				SP-SM	Qal			9.3	0.2	
- 11 - 12								2.1	0.0	
- 13 - 14 - 15 - 16 - 17	SA214-15B 10:35					Gravel lens @ 12.5'		7.9 11.4	0.1	
- 18 - 19 -20						Silty Sand (SM): Grayish orange 10 YR (7/4), loose, dry. Trace fine gravel to 3/4", 75% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.	-	19.5	0.0	
- 21 - 22								27.2	0.0	
23								21.0	0.0	
-25				SM	Qal	Massive caliche 25.0' - 27.5'		18.5	0.0	
27				0.141	ζαι			4.3	0.0	
- 29 -30	SA214-30B							0.9	0.0	
31 - 32	11:34					First water @ 31.0'	$ \overline{\Delta} $	0.7	0.0	
33								0.9	0.0	



Boring Log

Boring No.: SA214 Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 10/05/09 Date Completed: 10/05/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill 0.0 0.2 Qal - 36 SM - 37 Sandy Silt (ML): Moderate yellowish brown 10 YR (5/4), 0.0 0.1 medium-stiff, damp to dry. Trace fine sub-angular gravel to 1/2", - 38 30% fine sand, 70% non-plastic fines. No odor or staining. - 39 UMCf (MCf1) -40 ML0.7 0.1 -41 - 42 7.3 0.4 - 43 SA214-43B 12:20 Total depth 43.0' @ 12:20, 10-5-09 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 52 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	g No.: SA28
Project Name: Tronox Phase B Investigation	Logged by: Brendan Mulholla	nd
Drilling Contractor: Boart Longyear	Date Started: 08/03/09	Date Completed: 08/03/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 55.0	Depth to Water (ft bgs): 55.0
Borehole Dia. (in): 8.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 55.0'.

Depth (ft)	Sample L.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3						Silty Sand (SM): Pale brown 10 YR (6/3), moist. 10% fine to coarse gravel, 70% medium to coarse sand, 20% non-plastic fines.		0.1		
5 6 7								0.1		
- 8 - 9 - 10 - 11						@ 9.0' Color change: Pale brown 10 YR (6/3) to light yellowish brown 10 YR (6/4).		0.0		
- 12 - 13 - 14 - 15						14.0' - 15.0' Volcanic cobbles.		0.0		
- 16 - 17 - 18				SM	Qal			0.1		
-19 -20 -21								0.0		
- 22 - 23 - 24								0.0		
-25 -26 -27						Silty Sand (SM): Light yellowish brown 10 YR (6/4), moist. 5% coarse gravel, 75% medium to coarse sand, 20% non-plastic		0.1		
- 28 - 29 - 29						fines.		0.2		
28 - 29 - 30 - 30 - 31 - 32 - 31 - 32 - 34 - 34 - 34 - 34 - 34 - 34 - 34				ML	UMCf (MCf1)	Silt (ML): Yellowish brown 10 YR (5/6), moist. 7% fine gravel, 5% fine sand, 93% non-plastic fines.		0.0		
34 - - -					(MCII)	Page 1 of 2				



2027.01.GPJ 1/13/10

DRB-ENVIRO BORING

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Boring Log

environmental management, inc **Boring No.: SA28** Project Number: 2027.01 Logged by: Brendan Mulholland Project Name: Tronox Phase B Investigation Drilling Contractor: Boart Longyear Date Started: 08/03/09 Date Completed: 08/03/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample Type Graphic Log USCS Code Water Level Material Description Silt (ML): Yellowish brown 10 YR (5/6), moist. 7% fine gravel, 0.0 5% fine sand, 93% non-plastic fines. - 36 - 37 - 38 0.0 39 39.0' - 48.0', >5% - <12% fine gravel. -40 0.0 - 41 42 @ 42.5' Color change to brownish yellow 10 YR (6/6). 43 0.0 UMCf ML (MCf1) -45 - 46 0.1 - 47 48 Silt (ML): Brownish yellow 10 YR (6/6), moist. 5% fine sand, 0.0 - 49 95% non-plastic fines. -50 0.0 - 51 0.0 - 53 Silty Sand (SM): Brownish yellow 10 YR (6/6), moist to wet. 5% UMCf - 54 (MCf1) coarse gravel, 75% fine to coarse sand, 20% non-plastic fines. ∇ -55 0.1 Total depth 55.0' @ 12:10, 8-3-09 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 - 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: SA29
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/28/09	Date Completed: 09/28/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 40.0	Depth to Water (ft bgs): 28.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 40.0'.

D 1 C 1 1C 1 1 CH (OD CLO D 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		11.7 ev PID (ppm) Backfill
Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 10% fine sub-angular gravel to 1/2", 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		
$\begin{bmatrix} -4 \\ -5 \end{bmatrix}$	3.1	0.1
-6 -7	7.8	0.1
- 8		
-10 SA29-10B 10:14	0.9	0.0
- 12 - 13 - 13 - 13 - 14 - 15 -	0.1	0.0
- 14 -15	0.7	0.0
Silty Sand (SM): Light yellowish brown 10 YR (6/4), very loose to loose, dry to damp. 10% fine sub-angular gravel to 1/2"+, 65% fine to coarse sub-angular sand (35/45/20), 25% non-plastic fines. No odor or staining.	3.8	0.0
-19 -19	1.1	0.1
-21 -22 SM Oct	33.6	0.1
23 Qal Qal Qal	17.9	0.1
-25 SA29-25B T 10:40 T	0.7	0.0
- 27 Massive caliche 27.0' - 29.0'	0.9	0.1
Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or staining. Some caliche cementation and nodules to 1/4".	0.0	0.0
- 32 - 33 ML UMCf (MCf1)	0.9	0.0
Page 1 of 2	0.5	0.0



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Boring Log

Fax: 949.260.9299 environmental management, inc **Boring No.: SA29** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/28/09 Date Completed: 09/28/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium dense, dry. 25% fine sand, 75% non-plastic fines. No odor or - 36 7.1 0.1 staining. Some caliche cementation and nodules to 1/4". - 37 UMCf (MCf1) ML - 38 0.9 0.0 - 39 -40 SA29-40B, 40BMS, 40BMSD 0.7 0.0 Total depth 40.0' @ 11:25, 9-28-09 -41 11:21 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring N	o.: SA30
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/15/09	Date Completed: 09/15/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 38.0	Depth to Water (ft bgs): 34.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 38.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4				Conc		Concrete slab: 0.0' - 5.0', un-reinforced.				
-5 -6 -7 -8	SA30-5B 11:15			SP-SM	Qal	Poorly Graded Sand with Silt (SP-SM): Dark yellowish orange 10 YR (6/6), very loose - loose, dry. 10% fine angular to sub-angular gravel to 5/8", 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining.		7.1	0.2	
-9 - -10 -11	SA30-9B 11:25				-			9.6	0.1	
- 12 - 13 - 14						Silty Sand (SM): Light yellowish brown 10 YR (6/4), medium-dense to loose, dry to damp. 5% fine sub-angular gravel to 5/8", 65% fine to medium sub-angular sand, 30% non-plastic fines. No odor or staining.		0.9	0.0	
-15 - 16 - 17								5.3	0.1	
- 18 - 19								6.0	3.0	
-20 -21								39.7	0.4	
- 22 - 23				SM	Qal			194	0.1	
- 24 -25 - 26	SA30-25B 11:48			!				39.1	0.0	
- 27 - 28						Massive caliche 26.0' - 27.5'		17.4	0.0	
- 29 -30						Massive caliche 29.0' - 30.0'		0.9	0.0	
- 31 - 32						Sondy Silt (MI), Dodg vallovich area at 10 VD (G/C). James		0.9	0.0	
- 33 - 34				ML	UMCf (MCf1)	Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), dense to medium-dense, moist to wet. 25% medium sub-angular sand, 75% non-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings. Rare lenses of silty sand to 1".	$\overline{\Delta}$	0.1	0.0	



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Boring Log

environmental management, inc Fax: 949.260.9299 **Boring No.: SA30** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/15/09 Date Completed: 09/15/09 11.7 ev PID (ppm) Formation Name 10.6 ev PID (ppm) Sample Type Graphic Log USCS Code Water Level Material Description Backfill 0.0 First water @ 34.0' 0.0 Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), dense to - 36 UMCf (MCf1) MLmedium-dense, moist to wet. 25% medium sub-angular sand, 75% non-plastic fines. No odor or staining. Some caliche as - 37 0.3 0.0- 38 veinlets and grain coatings. Rare lenses of silty sand to 1". SA30-38B Total depth 38.0' @ 13:20, 9-15-09 12:16 - 39 -40 - 41 - 42 43 -45 - 46 - 47 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 2027.01.GPJ 1/13/10 - 68 - 69 - 71 DRB-ENVIRO BORING - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring	g No.: SA31
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/09/09	Date Completed: 09/09/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 32.0	Depth to Water (ft bgs): 24.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 32.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4	SA31-0.5B 09:13					Asphalt paving 2" thick. Silty Sand (SM): Light brown 5 YR (6/4), very loose, dry. 8% fine sub-angular gravel to 3/4"+, 72% fine to medium sub-angular sand, 20% non-plastic fines. No odor or staining.		5.4	0.6	
5 6						Gravelly @ 4.0'		0.8	0.2	
-7 -8 -9				SM	Qal			5.7	0.0	
-10 -11 -12	SA31-10B 09:20					Gravelly @ 10.0'		3.8	0.0	
- 13 - 14 - 15 - 16						Caliche banding @ 15.0'; massive caliche 16.5' - 17.5'		2.4	0.0	
- 16 - 17 - 18 - 19						Poorly Graded Sand with Silt (SP-SM): Dark yellowish orange 10		15.5	0.2	
-20 -21	SA31-20B 09:41			SP-SM	Qal	YR (6/6), loose, dry. Trace fine sub-angular gravel to 3/8", 90% fine sand, 10% non-plastic fines. No odor or staining.		19.2	0.0	
- 22 - 23 - 24 - 25						Sandy Silt (ML): Pale brown 5 YR (5/2), medium stiff, damp to moist. Trace fine sub-angular gravel to 1/2"+, 35% fine	Ψ	19.5	0.0	
-25 -26 -27				M	UMCf	sub-angular sand, 65% non to moderate-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings. Sandy, gravelly lens 25.0' - 26.5'		13.8	0.2	
- 28 - 29 - 30				ML	(MCf1)			4.7	0.0	
28 29 30 31 32 33 33 34	SA31-32B 10:08					Total depth 32' @ 10:10, 9-9-09		4.8	0.0	
34						Page 1 of 1				



Boring Log

Project Number: 2027.01	Boring I	No.: SA32
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 09/21/09	Date Completed: 09/21/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 37.0	Depth to Water (ft bgs): 28.5
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 37.0'.

SA32-0.5B	Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
SP Qal SP Qal SP Qal SP Qal SP Qal SA32-9B Gravel 9.0' - 10.75', 10% fine sub-angular to angular gravel to 1". SP-SM Qal SP-SM Qal Gravel lens @ 18.0', 6" thick. SP-SM Qal SIlty Sand (SM): Light yellowish brown 10 YR (6/4) to dark yellowish orange 10 YR (6/6), medium dense to loose, damp to moist allow for sub-angular gravel to 1". SP-SM Qal Gravel lens @ 18.0', 6" thick. S2.1 0.1 15.1 0.0 16.9 0.0 13.8 0.0	-2	SA32-0.5B					loose, dry. 5% fine sub-angular gravel to 1", 90% fine to medium sub-angular sand, 5% non-plastic fines. No odor or		38.4	1.5	
SP Qal Gravel 9.0' - 10.75', 10% fine sub-angular to angular gravel to 1". 54.7 0.0	-4								163	0.1	
Gravel 9.0' - 10.75', 10% fine sub-angular to angular gravel to 1". Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), very loose - loose, dry. 10% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 10% non-plastic fines. No odor or staining. SP-SM Qal Gravel lens @ 18.0', 6" thick. S2.1 0.1	-6				SP	Qal			60.6	0.0	
10	- 1	SA32-9B					Gravel 9.0' - 10.75' 10% fine sub-angular to angular gravel to 1"		71.6	0.0	
12	- I				.]				54.7	0.0	
SP-SM Qal Gravel lens @ 18.0', 6" thick. SP-SM Qal SP-SM Qal SP-SM Date of thick. SP-SM Qal Gravel lens @ 18.0', 6" thick. SP-SM Qal SP-SM Date of thick. SP-SM Qal Gravel lens @ 18.0', 6" thick. SP-SM Qal SP-SM Date of	F 1						YR (6/2), very loose - loose, dry. 10% fine sub-angular gravel to 1/2"-, 80% fine to medium sub-angular sand, 10% non-plastic		90.0	0.0	
SP-SM Qal Gravel lens @ 18.0', 6" thick. SP-SM Qal Gravel lens @ 18.0', 6" thick. S2.1	-15								89.4	0.0	
SA32-25B, SA32-25B, SA3209-25B 13:44 SM Qal Silty Sand (SM): Light yellowish brown 10 YR (6/4) to dark yellowish orange 10 YR (6/6), medium dense to loose, damp to moist. 10% fine sub-angular gravel to 1", 65% fine to medium sub-angular g	17				SP-SM	Oal			28.3	0.0	
15.1 0.0 16.9 0.0 0.0 16.9 0.0 0.	19				S1 -SW	Qai	Gravel lens @ 18.0', 6" thick.				
SA32-25B, SA32-25B, SA3209-25B 13:44 SM Qal Silty Sand (SM): Light yellowish brown 10 YR (6/4) to dark yellowish orange 10 YR (6/6), medium dense to loose, damp to moist. 10% fine sub-angular gravel to 1", 65% fine to medium sub-angular gravel t	21										
SA32-25B, SA32-25B, SA3209-25B 13:44 Silty Sand (SM): Light yellowish brown 10 YR (6/4) to dark yellowish orange 10 YR (6/6), medium dense to loose, damp to moist. 10% fine sub-angular gravel to 1", 65% fine to medium sub-angular sand 25% pop plastic fines. No odor or staining	- I										
Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium-dense, wet. 25% fine sub-angular sand, 75% moderate to non-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings. ML UMCf (MCf1) ML UMCf (MCf1) ML 00.1 0.1 0.9 0.0	- 26 - 27	SA32009-25B			SM	Qal	yellowish orange 10 YR (6/6), medium dense to loose, damp to moist. 10% fine sub-angular gravel to 1", 65% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining. Much caliche as grain coatings, nodules to 1/4", and veinlets.				
N	-30 -30						Sandy Silt (ML): Dark yellowish orange 10 YR (6/6), medium-dense, wet. 25% fine sub-angular sand, 75% moderate to non-plastic fines. No odor or staining. Some caliche as veinlets		17.9	0.1	
	00 - 31 00 - 32 - 32				ML		and grain Coatings.		7.9	0.1	
	B								0.9	0.0	



DRB-ENVIRO BORING 2027.01.GPJ 1/13/10

1100 Quail Street, Suite 102 Newport Beach, CA 92660

Boring Log

Telephone: 949.260.9293 Fax: 949.260.9299 environmental management, inc. **Boring No.: SA32** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 09/21/09 Date Completed: 09/21/09 10.6 ev PID (ppm) 11.7 ev PID (ppm) Formation Name Sample Type Graphic Log USCS Code Water Level Material Description Backfill 0.1 0.0 UMCf (MCf1) ML- 36 - 37 SA32-37B 14:19 11.2 0.0 Total depth 37.0' @ 14:20, 9-21-09 - 38 - 39 -40 -41 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60 - 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 -- 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

Project Number: 2027.01	Boring No.: SA65				
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown				
Drilling Contractor: Boart Longyear	Date Started: 08/25/09	Date Completed: 08/25/09			
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 35.0	Depth to Water (ft bgs): 31.0			
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):				

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 35.0'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Backfill
-1 -2 -3 -4 -5 -6 -7				SM	Qal	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), loose to very loose, dry. 5% fine sub-angular gravel to 3/8"+, 70% fine to medium sub-angular sand, 25% non-plastic fines. No odor or staining.		0.2	1.4	
-8 -9 -10	SA65-10B							0.0	0.4	
- - 11 - 12	11:27					Poorly Graded Sand (SP) to Poorly Graded Sand with Silt (SP-SM): Very pale orange 10 YR (8/2), loose to very loose, dry. 2% - 5% fine sub-angular gravel to 1/2", 75% fine sand, 20% (to 10% locally) non-plastic fines. No odor or staining.		0.0	1.1	
- 13 - 14 - 15						Gravelly lenses 10.5' - 11.8'; and 14.5' to 15.5'		0.5	4.5	
- - - - - - - - - - 18				SP	Qal			0.6	5.3	
18 19 20	SA65-20B							0.5	10.1	
- 21 - 22	11:45							0.3	5.9	
- 23 - 24 - 25						Poorly Graded Sand with Silt (SP-SM): Pale yellowish brown 10 YR (6/2), loose, dry to damp. Trace fine sub-angular gravel to 1/2", 80% fine to medium sand, 20% non-plastic fines. Some caliche as veinlets and grain coatings from 25' - 29'.		0.0	0.6	
- 26 - 27 - 28				SP-SM	Qal			0.3	0.1	
- 29 30 31				SM	Qal	Silty Sand (SM): Dark yellowish brown 10 YR (4/2), very loose, wet. Trace fine sub-angular gravel to 3/8"+, 75% medium sub-angular sand, 25% non-plastic fines. Vague organic odor, no staining.	Ψ	0.0	14.4	
- 32 - 33 - 34	SA65-32.5B 12:15			ML	UMCf (MCf1)	Silt with Sand (ML): Light brown 5 YR (5/6), medium dense to dense, wet. Trace fine sub-rounded gravel to 3/8"+, 20% - 35% fine sand, 80% - 65% non to moderate-plastic fines. Vague organic odor, no staining. Some caliche as veinlets and grain		23.0	0.7	



DRB-ENVIRO BORING 2027.01.GPJ 1/13/10

1100 Quail Street, Suite 102 Newport Beach, CA 92660 Telephone: 949.260.9293 Fax: 949.260.9299

Boring Log

environmental management, inc. **Boring No.: SA65** Project Number: 2027.01 Project Name: Tronox Phase B Investigation Logged by: Dana R. Brown Drilling Contractor: Boart Longyear Date Started: 08/25/09 Date Completed: 08/25/09 Formation Name 10.6 ev PID (ppm) 11.7 ev PID (ppm) Sample I.D. Sample Time Sample Type Graphic Log USCS Code Water Level Material Description Backfill \coatings. - 36 Total depth 35.0' @ 12:20, 8-25-09 - 37 - 38 - 39 -40 -41 - 42 - 43 - 44 -45 - 46 - 47 - 48 - 49 -50 - 51 - 53 - 54 -55 - 56 - 57 - 58 - 59 -60- 61 - 62 63 - 64 -65 - 66 - 67 - 68 - 69 -- 71 - 72 - 73 - 74 Page 2 of 2



Boring Log

environmental management, inc. Fax. 949.260.9299		
Project Number: 2027.01	Boring No	o.: SA94
Project Name: Tronox Phase B Investigation	Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear	Date Started: 08/25/09	Date Completed: 08/25/09
Drilling Method: Rotary Sonic	Total Depth (ft bgs): 31.5	Depth to Water (ft bgs): 30.0
Borehole Dia. (in): 6.0	Surface Elevation (ft MSL):	

Remarks: Abandoned with neat cement grout containing 3% (v/v) bentonite powder from 0.0' to 31.5'.

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	
1 2	SA94-0.5B 08:09			SM	Qal	Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose, dry. 5% fine sub-angular gravel to 1"+, 70% fine to medium sub-angular sand, 25% non-plastic fines. Vague organic odor, no staining.				XIIIXIIIX
3 4 5						Poorly Graded Sand (SP): Very pale orange 10 YR (8/2), very loose, dry. 5% fine sub-angular gravel to 1/2", 89% fine to medium sand, 6% non-plastic fines. No odor or staining.		4.6	0.2	311183111
6								1.7	0.0	X
7 8 9 -10	SA94-10B					Gravelly lenses 7.0' - 8.0'; and 12.5' to 13.5'		1.8	0.0	(3)((1)(1)(1)
11 12	08:34			SP	Qal			7.0	0.0	
13 14 15								4.5	0.0	
16 17								4.2	0.0	///
18 19 20						Silty Sand (SM): Pale yellowish brown 10 YR (6/2), loose, dry. 2% fine sub-angular gravel to 3/8"+, 70% fine - medium sub-angular sand, 28% non to moderate-plastic fines. No odor or staining. Some caliche as veinlets and grain coatings.		5.5	0.0	18/1/18/1/
21 22				SM	Qal			8.4	0.0	XX///XX
23 24 25								8.3	0.1	
26 27								18.0	0.5	1//2
28 29	SA94-29B			SM	UMCf	Silty Sand (SM): Moderate brown 5 YR (4/4), medium-dense to loose, moist to damp. 2% fine sub-angular gravel to 1/2"+, 65% medium sub-angular sand, 33% moderate-plastic fines. No odor or staining.		18.6	0.4	
30 31	08:50				(MCf1)	o. o	$ \underline{\nabla} $	15.7	0.4	(3///2
32 33 34	SA94-32.5B 12:15		11. 1			Total depth 31.5' @ 09:00, 8-25-09				
										\perp