

**Table B12-1
Summary of Chemical Constituents Detected in Soil, March 2000
Solid Waste Management Unit B-12**

	Sample ID	Sample Date	Sample Type	Soil Type	Beginning Depth	Ending Depth	Lab ID	RW-B12-SB01				RW-B12-SB01				RW-B12-SB01				RW-B12-SB01				RW-B12-SB02				
								AP89910 / Q0829				AP89911 / Q0830				Q0831				AP89912 / Q0832				AP89913 / Q0833				
								03/15/00				03/15/00				03/15/00				03/15/00				03/15/00				
Soil Comparison Criteria								Results				Results				Results				Results				Results				
Lab	Lab	Background ^a	Background ^a	RRS2-GWP	RRS2-SAI			Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	
MDL	RL	Soil	GR	(Ind.)	(Ind.)																							
SW6010B (mg/kg)																												
Barium	0.044	1.0	186	10.	200	59,000		8.0	J	5	5.0	7.1	J	5	5.0	5.4	J	5	5.0	6.7	J	5	5.0	10.8	J	5	5.0	
Chromium	0.078	20.0	40.2	8.1	10	350,000		5.2	F	5	100.0	6.1	F	5	100.0	4.5	F	5	100.0	6.0	F	5	100.0	5.3	F	5	100.0	
Copper	0.072	2.0	23.2	13.1	130	74,000		3.9	F	5	10.0	2.8	F	5	10.0	4.7	F	5	10.0	2.7	F	5	10.0	5.0	F	5	10.0	
Nickel	0.118	2.0	35.5	6.8	200	12,000		4.4	F	5	10.0	6.0	F	5	10.0	10.6	F	5	10.0	3.0	F	5	10.0	4.0	F	5	10.0	
Zinc	0.42	2.0	73.2	11.3	3,100	410,000		66.4	J	5	10.0	19.2	J	5	10.0	16.1	J	5	10.0	14.7	J	5	10.0	21.8	J	5	10.0	
SW7060A (mg/kg)																												
Arsenic	0.032	0.5	19.6	3.8	5	200		2.13	J	1	0.5	2.05	J	1	0.5	2.86	J	1	0.5	1.16	J	1	0.5	1.95	J	1	0.5	
SW7131A (mg/kg)																												
Cadmium	0.022	0.1	3.	0.1	0.5	410		0.15		1	0.1	0.04	F	1	0.1	0.03	F	1	0.1	0.03	F	1	0.1	0.04	F	1	0.1	
SW7421 (mg/kg)																												
Lead	0.069	0.5	84.5	5.5	1.5	1,000		8.97	J	5	2.5	2.01	J	1	0.5	2.79	J	1	0.5	2.32	J	1	0.5	7.08	J	2	1.0	
SW7471A (mg/kg)																												
Mercury	0.024	0.1	0.77	0.1	0.2	9.6		0.024	U	1	0.1	0.024	U	1	0.1	0.024	U	1	0.1	0.024	U	1	0.1	0.024	U	1	0.1	
SW8260B (mg/kg)																												
Bromobenzene	0.0003	0.002	--	--	NA	NA		0.0003	U	1	0.002	0.0003	U	1	0.002		0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002
Methylene chloride	0.0007	0.005	--	--	0.5	16		0.0007	U	1	0.005	0.0007	U	1	0.005		0.0007	U	1	0.005	0.0007	U	1	0.005	0.0007	U	1	0.005
Naphthalene	0.001	0.02	--	--	200	270		0.001	U	1	0.02	0.001	U	1	0.02		0.001	U	1	0.02	0.001	U	1	0.02	0.001	U	1	0.02
Toluene	0.0003	0.005	--	--	100	2,400		0.0003	U	1	0.005	0.0003	U	1	0.005		0.0003	U	1	0.005	0.0003	U	1	0.005	0.0003	U	1	0.005
Trichlorobenzene, 1,2,3-	0.0008	0.004	--	--	NA	NA		0.0008	U	1	0.004	0.0008	U	1	0.004		0.0008	U	1	0.004	0.0008	U	1	0.004	0.0008	U	1	0.004
SW8270C (mg/kg)																												
Acenaphthene	0.04	0.7	--	--	610	53,000		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Anthracene	0.04	0.7	--	--	3,100	270,000		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Benzo(a)anthracene	0.04	0.7	--	--	0.039	3.4		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Benzo(a)pyrene	0.05	0.7	--	--	0.02	0.34		0.05	U	1	0.7	0.05	U	1	0.7		0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7
Benzo(b)fluoranthene	0.06	0.7	--	--	0.39	34		0.06	U	1	0.7	0.06	U	1	0.7		0.06	U	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7
Benzo(g,h,i)perylene	0.04	0.7	--	--	310	27,000		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Bis(2-ethylhexyl)phthalate	0.03	0.7	--	--	0.6	65		0.03	U	1	0.7	13.00	U	5	3.5		6.60	U	2	1.4	0.03	U	1	0.7	0.03	U	1	0.7
Chrysene	0.04	0.7	--	--	3.9	340		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Fluoranthene	0.04	0.7	--	--	410	36,000		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Indeno(1,2,3-cd)pyrene	0.04	0.7	--	--	0.039	3.4		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Naphthalene	0.04	0.7	--	--	200	270		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Phenanthrene	0.04	0.7	--	--	310	27,000		0.04	U	1	0.7	0.04	U	1	0.7		0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Phenol	0.04	0.3	--	--	6,100	610,000		0.04	U	1	0.3	0.15	F	1	0.3		0.07	F	1	0.3	0.04	U	1	0.3	0.04	U	1	0.3
Pyrene	0.05	0.7	--	--	310	27,000		0.05	U	1	0.7	0.05	U	1	0.7		0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7

Tables present all laboratory results for analytes detected above the method detection limit. Results from all laboratory analysis are presented in Appendix A. All samples were analyzed by APPL Inc. and O'Brien and Gere Laboratories. Referenced laboratory package numbers: APPL Inc.: 32237

O'Brien and Gere: 4975, 5012
All MS/MSD results are presented in the Data Verification Report, Appendix D.

Abbreviations and Notes:

Highlighted and bolded sample concentrations exceed RRS1 (background) Standards.

- No risk reduction standard or background level available
- a Background values from Second Revised Background Report, Parsons, February 2002
- BrE Brackett Soils
- DL Dilution
- FD1 Field Duplicate
- GR Glen Rose
- GWP-Ind Soil MSC based on groundwater protection
- MDL Method Detection Limit
- N1 Environmental Sample
- NA Not Available
- RL Reporting Limit
- SAI-Ind Soil MSC for industrial use based on inhalation, ingestion, and dermal contact
- SQL Sample Quantitation Limit

Data Qualifiers:

- F- The analyte was positively identified, but the associated numerical value is below the RL.
- J - The analyte was positively identified, the quantitation is an estimation.
- M - A matrix effect was present.

**Table B12-1
Summary of Chemical Constituents Detected in Soil, March 2000**

Solid Waste Management Unit B-12

Sample ID	Sample Date	Sample Type	Soil Type	Beginning Depth	Ending Depth	Lab ID	Soil Comparison Criteria																																		
							RW-B12-SB02							RW-B12-SB02							RW-B12-SB02							RW-B12-SB03							RW-B12-SB03						
							Lab MDL	Lab RL	Background ^a Soil	Background ^a GR	RRS2-GWP (Ind.)	RRS2-SAI (Ind.)	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL					
SW6010B (mg/kg)																																									
Barium	0.044	1.0	186	10.	200	59,000					2.9	F	5	5.0	6.0	J	5	5.0	32.2	J	5	5.0	7.9	J	5	5.0															
Chromium	0.078	20.0	40.2	8.1	10	350,000					2.7	F	5	100.0	6.0	F	5	100.0	6.8	F	5	100.0	6.5	F	5	100.0															
Copper	0.072	2.0	23.2	13.1	130	74,000					1.2	F	5	10.0	2.0	F	5	10.0	8.3	F	5	10.0	2.3	F	5	10.0															
Nickel	0.118	2.0	35.5	6.8	200	12,000					2.6	F	5	10.0	3.6	F	5	10.0	6.1	F	5	10.0	5.9	F	5	10.0															
Zinc	0.42	2.0	73.2	11.3	3,100	410,000					10.1	J	5	10.0	11.2	J	5	10.0	36.6	J	5	10.0	11.2	J	5	10.0															
SW7060A (mg/kg)																																									
Arsenic	0.032	0.5	19.6	3.8	5	200					0.79	J	1	0.5	0.89	J	1	0.5	1.77	J	1	0.5	3.25	J	1	0.5															
SW7131A (mg/kg)																																									
Cadmium	0.022	0.1	3.	0.1	0.5	410					0.03	F	1	0.1	0.03	F	1	0.1	0.10	F	1	0.1	0.03	F	1	0.1															
SW7421 (mg/kg)																																									
Lead	0.069	0.5	84.5	5.5	1.5	1,000					0.87	J	1	0.5	1.74	J	1	0.5	53.04	J	20	10.0	4.03	J	1	0.5															
SW7471A (mg/kg)																																									
Mercury	0.024	0.1	0.77	0.1	0.2	9.6					0.024	U	1	0.1	0.024	U	1	0.1	0.024	U	1	0.1	0.024	U	1	0.1															
SW8260B (mg/kg)																																									
Bromobenzene	0.0003	0.002	--	--	NA	NA	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002															
Methylene chloride	0.0007	0.005	--	--	0.5	16	0.0007	U	1	0.005	0.0007	U	1	0.005	0.0007	U	1	0.005	0.0007	U	1	0.005	0.0007	U	1	0.005															
Naphthalene	0.001	0.02	--	--	200	270	0.001	U	1	0.02	0.001	U	1	0.02	0.001	U	1	0.02	0.001	U	1	0.02	0.001	U	1	0.02															
Toluene	0.0003	0.005	--	--	100	2,400	0.0003	U	1	0.005	0.0003	U	1	0.005	0.0003	U	1	0.005	0.0006	F	1	0.005	0.0003	U	1	0.005															
Trichlorobenzene, 1,2,3-	0.0008	0.004	--	--	NA	NA	0.0008	U	1	0.004	0.0008	U	1	0.004	0.0008	U	1	0.004	0.0008	U	1	0.004	0.0008	U	1	0.004															
SW8270C (mg/kg)																																									
Acenaphthene	0.04	0.7	--	--	610	53,000	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Anthracene	0.04	0.7	--	--	3,100	270,000	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Benzo(a)anthracene	0.04	0.7	--	--	0.039	3.4	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Benzo(a)pyrene	0.05	0.7	--	--	0.02	0.34	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7															
Benzo(b)fluoranthene	0.06	0.7	--	--	0.39	34	0.06	U	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7															
Benzo(g,h,i)perylene	0.04	0.7	--	--	310	27,000	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Bis(2-ethylhexyl)phthalate	0.03	0.7	--	--	0.6	65	0.05	F	1	0.7	3.00	1	0.7	3.90	5	3.5	0.03	U	1	0.7		3.10	F	5	3.5																
Chrysene	0.04	0.7	--	--	3.9	340	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Fluoranthene	0.04	0.7	--	--	410	36,000	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Indeno(1,2,3-cd)pyrene	0.04	0.7	--	--	0.039	3.4	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Naphthalene	0.04	0.7	--	--	200	270	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Phenanthrene	0.04	0.7	--	--	310	27,000	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7															
Phenol	0.04	0.3	--	--	6,100	610,000	0.04	U	1	0.3	0.04	U	1	0.3	0.04	U	1	0.3	0.04	U	1	0.3	0.04	U	1	0.3															
Pyrene	0.05	0.7	--	--	310	27,000	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7															

Tables present all laboratory results for analytes detected above the method detection limit. Results from all laboratory analysis are presented in Appendix A. All samples were analyzed by APPL Inc. and O'Brien and Gere Laboratories. Referenced laboratory package numbers: APPL Inc.: 32237
O'Brien and Gere: 4975, 5012

All MS/MSD results are presented in the Data Verification Report, Appendix D.

Abbreviations and Notes:
Highlighted and bolded sample concentrations exceed RRS1 (background) Standards.
-- No risk reduction standard or background level available
a Background values from Second Revised Background Report, Parsons, February 2002
BrE Brackett Soils
DL Dilution
FD1 Field Duplicate
GR Glen Rose
GWP-Ind Soil MSC based on groundwater protection
MDL Method Detection Limit
N1 Environmental Sample
NA Not Available
RL Reporting Limit
SAI-Ind Soil MSC for industrial use based on inhalation, ingestion, and dermal contact
SQL Sample Quantitation Limit

Data Qualifiers:
F- The analyte was positively identified, but the associated numerical value is below the RL.
J - The analyte was positively identified, the quantitation is an estimation.
M - A matrix effect was present.

**Table B12-1
Summary of Chemical Constituents Detected in Soil, March 2000**

Solid Waste Management Unit B-12

	Sample ID						RW-B12-SB03				RW-B12-SB04				RW-B12-SB04				RW-B12-SB04				RW-B12-SB04			
	Sample Date						03/15/00				03/15/00				03/15/00				03/15/00				03/15/00			
	Sample Type						N1				N1				N1				FD1				N1			
Soil Type						GR				Soil (BrE)				GR				GR				GR				
Beginning Depth						10				0				4.5				4.5				9				
Ending Depth						10.5				0.5				5				5				9.5				
Lab ID						AP89926 / Q0838				AP89927				AP89928 / Q0840				AP89929 / Q0841				AP89931 / Q0842				
Soil Comparison Criteria																										
Lab MDL	Lab RL	Background ^a Soil	Background ^a GR	RRS2-GWP (Ind.)	RRS2-SAI (Ind.)	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	Results	Flags	Dilution	SQL	
SW6010B (mg/kg)																										
Barium	0.044	1.0	186	10.	200	59,000	2.6	F	5	2.6	208.8	J	5	5.0	3.7	F	5	5.0	6.1	J	5	5.0	5.3	J	5	5.0
Chromium	0.078	20.0	40.2	8.1	10	350,000	2.4	F	5	100.0	13.2	F	5	100.0	2.3	F	5	100.0	4.3	F	5	100.0	4.3	F	5	100.0
Copper	0.072	2.0	23.2	13.1	130	74,000	0.9	F	5	10.0	54.4	5	10.0	3.0	F	5	10.0	5.3	F	5	10.0	3.3	F	5	10.0	
Nickel	0.118	2.0	35.5	6.8	200	12,000	1.5	F	5	10.0	11.5	5	10.0	4.1	F	5	10.0	7.0	F	5	10.0	3.5	F	5	10.0	
Zinc	0.42	2.0	73.2	11.3	3,100	410,000	15.9	J	5	10.0	182.5	J	5	10.0	25.8	M	5	10.0	10.8	M	5	10.0	12.8	J	5	10.0
SW7060A (mg/kg)																										
Arsenic	0.032	0.5	19.6	3.8	5	200	0.73	J	1	0.5	6.99	J	5	2.5	2.36	M	1	0.5	1.75	M	1	0.5	1.96	J	1	0.5
SW7131A (mg/kg)																										
Cadmium	0.022	0.1	3.	0.1	0.5	410	0.03	F	1	0.1	0.51	1	0.1	0.022	U	1	0.1	0.022	U	1	0.1	0.022	U	1	0.1	
SW7421 (mg/kg)																										
Lead	0.069	0.5	84.5	5.5	1.5	1,000	0.90	J	1	0.5	773.2	J	400	200.0	2.11	M	1	0.5	1.64	M	1	0.5	2.01	J	1	0.5
SW7471A (mg/kg)																										
Mercury	0.024	0.1	0.77	0.1	0.2	9.6	0.024	U	1	0.1	0.65	1	0.1	0.024	M	1	0.1	0.024	M	1	0.1	0.024	U	1	0.1	
SW8260B (mg/kg)																										
Bromobenzene	0.0003	0.002	--	--	NA	NA	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0003	U	1	0.002	0.0004	F	1	0.002
Methylene chloride	0.0007	0.005	--	--	0.5	16	0.0007	U	1	0.005	0.0007	U	1	0.005	0.0012	F	1	0.005	0.0007	U	1	0.005	0.0011	F	1	0.005
Naphthalene	0.001	0.02	--	--	200	270	0.001	U	1	0.02	0.001	U	1	0.02	0.002	F	1	0.02	0.001	U	1	0.02	0.001	U	1	0.02
Toluene	0.0003	0.005	--	--	100	2,400	0.0003	U	1	0.005	0.0006	F	1	0.005	0.0003	U	1	0.005	0.0003	U	1	0.005	0.0003	U	1	0.005
Trichlorobenzene, 1,2,3-	0.0008	0.004	--	--	NA	NA	0.0008	U	1	0.004	0.0008	U	1	0.004	0.0012	F	1	0.004	0.0008	U	1	0.004	0.0008	U	1	0.004
SW8270C (mg/kg)																										
Acenaphthene	0.04	0.7	--	--	610	53,000	0.04	U	1	0.7	0.07	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Anthracene	0.04	0.7	--	--	3,100	270,000	0.04	U	1	0.7	0.08	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Benzo(a)anthracene	0.04	0.7	--	--	0.039	3.4	0.04	U	1	0.7	0.35	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Benzo(a)pyrene	0.05	0.7	--	--	0.02	0.34	0.05	U	1	0.7	0.35	F	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7
Benzo(b)fluoranthene	0.06	0.7	--	--	0.39	34	0.06	U	1	0.7	0.59	F	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7	0.06	U	1	0.7
Benzo(g,h,i)perylene	0.04	0.7	--	--	310	27,000	0.04	U	1	0.7	0.19	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Bis(2-ethylhexyl)phthalate	0.03	0.7	--	--	0.6	65	8.90	10	7.0	0.24	F	1	0.7	3.30	F	5	3.5	3.90	5	3.5	3.50	5	3.5	3.50	5	3.5
Chrysene	0.04	0.7	--	--	3.9	340	0.04	U	1	0.7	0.37	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Fluoranthene	0.04	0.7	--	--	410	36,000	0.04	U	1	0.7	0.75	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	
Indeno(1,2,3-cd)pyrene	0.04	0.7	--	--	0.039	3.4	0.04	U	1	0.7	0.12	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Naphthalene	0.04	0.7	--	--	200	270	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Phenanthrene	0.04	0.7	--	--	310	27,000	0.04	U	1	0.7	0.47	F	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7	0.04	U	1	0.7
Phenol	0.04	0.3	--	--	6,100	610,000	0.04	U	1	0.3	0.04	U	1	0.3	0.04	U	1	0.3	0.07	F	1	0.3	0.04	U	1	0.3
Pyrene	0.05	0.7	--	--	310	27,000	0.05	U	1	0.7	0.58	F	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7	0.05	U	1	0.7

Tables present all laboratory results for analytes detected above the method detection limit. Results from all laboratory analysis are presented in Appendix A. All samples were analyzed by APPL Inc. and O'Brien and Gere Laboratories. Referenced laboratory package numbers: APPL Inc.: 32237

O'Brien and Gere: 4975, 5012

All MS/MSD results are presented in the Data Verification Report, Appendix D.

Abbreviations and Notes:

- No risk reduction standard or background level available
- a Background values from Second Revised Background Report, Parsons, February 2002
- BrE Brackett Soils
- DL Dilution
- FD1 Field Duplicate
- GR Glen Rose
- GWP-Ind Soil MSC based on groundwater protection
- MDL Method Detection Limit
- N1 Environmental Sample
- NA Not Available
- RL Reporting Limit
- SAI-Ind Soil MSC for industrial use based on inhalation, ingestion, and dermal contact
- SQL Sample Quantitation Limit

Data Qualifiers:

- F - The analyte was positively identified, but the associated numerical value is below the RL.
- J - The analyte was positively identified, the quantitation is an estimation.
- M - A matrix effect was present.