THE
WHITMAN
COMPANIES, INC.

Setting the Standard in
Environmental Engineering & Management

SDMS Document
98444

FINAL REMEDIAL INVESTIGATION REPORT

FOR
ROCKAWAY BOROUGH WELL FIELD SITE
OPERABLE UNIT #3
FOR PROPERTY OF
KLOCKNER & KLOCKNER
ROCKAWAY BOROUGH, NEW JERSEY

VOLUME 1B
ATTACHMENTS 1-26

SUBMITTED TO
USEPA-REGION II
EMERGENCY & REMEDIAL RESPONSE DIVISION
NEW YORK, NEW YORK

SUBMITTED BY
THE WHITMAN COMPANIES, INC.
ON BEHALF OF KLOCKNER & KLOCKNER

IN ACCORDANCE WITH
ADMINISTRATIVE ORDER ON CONSENT
INDEX NO. II-CERCLA-95-0104

302388

MAY 2004

116 Tices Lane, Unit B-1, East Brunswick, NJ 08816
www.whitmanco.com

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSGT-1

PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER GEOPROBE MACROSAMPLER

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 8' DEPTH AT WATER N/A

BUILDING 12
FORMER GASOLINE TANK

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0 PPM	4 FT RECOVERY			0-7' LIGHT BROWN SAND WITH GRAVEL	
1	0					
2	0					
3	0					
4	0	4 FT RECOVERY				
5	0					
6	0					
7	0		SSGT-1		7-8' LIGHT BROWN SAND WITH SILT AND GRAVEL	DUPLICATE - SSGT-3
8						
9						
10						
11						
12						
13						
14						
15						
16						

302390

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSGT-2

PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER GEOPROBE MACROSAMPLER

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 8' DEPTH AT WATER N/A

BUILDING 12
FORMER GASOLINE TANK

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
					0-7' LIGHT BROWN SAND WITH GRAVEL, SOME ORGANIC MATTER	
	0 PPM				0.5-7' LIGHT BROWN SAND WITH GRAVEL	
1	0	4 FT RECOVERY				
2	0					
3	0					
4	0					
5	0	4 FT RECOVERY				
6	0					
7	0		SSGT-2		7-8' LIGHT BROWN SAND WITH SILT AND GRAVEL	
8						
9						
10						
11						
12						
13						
14						
15						
16						

302391

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSWT-1	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 8' DEPTH AT WATER N/A

BUILDING 12
FORMER GASOLINE TANK

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.2	3.5 FT RECOVERY			0-1.5' BROWN SILTY SAND WITH SOME CLAY AND SOME GRAVEL	
1	0.0					
	0.2					
	1.9				1.5-4' BROWN SILTY CLAY WITH FINE SAND	
2	5.3					
	0.8					
3	4.0					
	3.5					
4	1.9	4 FT RECOVERY			4-4.5' BROWN SILTY SAND WITH CLAY	
					4.5-8' BROWN SILTY CLAY WITH SOME SAND	
5	1.4					
	1.1					
6	5.7					
	3.8					
7	6.7		SSWT-1			
8						
9						
10						
11						
12						
13						
14						
15					302392	
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSWT-2
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 8' DEPTH AT WATER N/A

BUILDING 12
FORMER WASTE OIL TANK

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.5	4 FT RECOVERY			0-8' BROWN FINE SAND, SOME SILT	
	0.4					
1	0.0					
	0.0					
2	0.0					
	0.0					
3	0,0					
	0.0					
4	0,0	3.75 FT RECOVERY				
	0.0					
5	0.0					
	0.8					
6	1.0					
	0.8					
7	0.2		SSWT-2			
8						
9						
10						
11						
12						
13						
14						
15						
16						

302393

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSCB-1	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 3' DEPTH AT WATER N/A

BUILDING 12
CATCH BASIN

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0	1.5 FT RECOVERY			0-3' DARK BROWN SANDY SILT WITH SOME CLAY	
	0					
1	0					
	0					
2	0					
	0		SSCB-1			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

302394

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSLP-1
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12.5' DEPTH AT WATER N/A

BUILDING 12
FORMER LEACHING PIT

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0 PPM				0-11.5' DRY LOOSE BROWN SAND WITH GRAVEL	
1	0	4 FT RECOVERY				
2	0					
3	0					
4	0					
5	0	3 FT RECOVERY				
6	0					
7	0					
8	0					
9	0	3.5 FT RECOVERY				
10	0					
11	0					
12	0		SSLP-1		11.5-12.5' FINE SAND WITH SOME GRAVEL	
13						
14					302395	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSDP-1	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 4' DEPTH AT WATER N/A

BUILDING 12
FORMER DEGREASER PIT

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0	RECOVERY 1.5'			0-1' CONCRETE INTO GREY GRAVEL	
1	0				1-3' DARK BROWN SILTY CLAY	
	0					
2	0					
	0					
3	0	RECOVERY 2'	SSDP-1		3-4' ORANGE BROWN CLAY WITH SOME GRAVEL SAND AT 4'	
	0					
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

302396

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSAW-1

PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/6/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 15' DEPTH AT WATER 13.5'

BUILDING 12
ALLEYWAY

302397

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	2.5' FT RECOVERY			0-1' BROWN SAND WITH SILT, SOME ORGANIC MATERIAL, SOME ASH	
	3.6					
1	0.0				1-2.5' ORANGE-BROWN SILT WITH SOME SAND AND GRAVEL	
	0.0					
2	0.4					
	9.1		SSAW-1		2.5-3.5' SAND WITH SILT AND GRAVEL	
3	2.9					
	2.7				3.5-8' ORANGE-BROWN SILTY SAND WITH GRAVEL	
4	0.4	4 FT RECOVERY				
	0.2					
5	1.3					
	1.6					
6	1.2					
	1.0					
7	2.0					
	2.0					
8	5.2				8-10' BROWN FINE SAND WITH SILT, SMALL GRAVEL	
	0.0					
9	0.0					
	0.0					
10	1.9	4 FT RECOVERY			10-10.5' BROWN SILT WITH SOME CLAY	
	0.6				10.5-12' BROWN SILTY CLAY WITH SAND	
11	0.3					
	0.9					
12	3.4				12-13.5' BROWN SAND WITH SILT SOME GRAVEL, DAMP	
	4.4					DAMP
13	6.2	3 FT RECOVERY	SSAW-1			DAMP
	0.2				13.5-15' BROWN CLAY WITH STONE SAND	WET
14	0.2					
	0.2					
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-2	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 8' DEPTH AT WATER N/A

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	2.1				0-1' BROWN TOPSOIL WITH ROCK FRAGMENTS	
1	2.9					
	5.0	3 FT RECOVERY			1-2' BROWN SILTY SAND WITH GRAVEL AND SOME CLAY	
	5.3		SSAW-2			
2	4.8				2-2.5' ORANGE-BROWN SILTY CLAY WITH SOME GRAVEL	
	1.2				2.5-6.5' ORANGE-BROWN CLAY WITH SOME GRAVEL	
3	0.6					
	0.0					
4	0.0	4 FT RECOVERY				
	0.0					
5	2.1					
	2.9					
6	5.0					
	5.3				6.5-8' BROWN FINE SILTY SAND WITH SOME GRAVEL	
7	4.8					
	1.3		SSAW-2			
8					REFUSAL	
9						
10						
11						
12						
13						
14						
15						
16						

302398

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-3	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/6/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12' DEPTH AT WATER ~12'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	2.3	4 FT RECOVERY			0-2.5' BLACK-BROWN SAND WITH SILT AND GRAVEL	
	1.6					
1	16		SSAW-3			
	13.7					
2	6.3					
	1.1				2.5-3.5' BROWN CLAY WITH SOME SAND	
3	6.5					
	4.7				3.5-4' SILTY SAND WITH SOME GRAVEL	
4	3.6	4 FT RECOVERY			4-5' SAND WITH GRAVEL AND SOME CLAY	
	3.2					
5	2.4				5-5.5' BROWN SILTY CLAY WITH SOME SAND	
	2.8				5.5-9' BROWN SILTY SAND WITH SOME GRAVEL	
6	1					
	3.9					
7	0.4					
	1.8					
8	5.8					
	3.9					
9	3.9	4 FT RECOVERY			9-9.5' BROWN SAND WITH SOME CLAY AND GRAVEL	
	1.1				9.5-10.5' BROWN SILTY CLAY WITH SMALL GRAVEL	
10	1.7					
	2.2				10.5-12' BROWN SILTY SAND WITH SOME GRAVEL	
11	1.9					
	2.2		SSAW-3			
12						
13						
14						
15					302399	
16						

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/15/2000	
Drilling Co. : EFS	
Method : Geoprobe	Log of Boring
Geologist/Sampler : Cheryl Coffee	**SSAW-3**
Total Depth : 4.5 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.3 ft Asphalt	
1	0			0.3 - 4.5 ft Brown silty clay with some sand	
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0		SSAW-3		
5				End of Boring - Refusal	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302400

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-4
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI
DRILLING METHOD: GEOPROBE
HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON
HAMMER WT. _____ LBS. FALL _____
DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE
TOTAL DEPTH 13' DEPTH AT WATER 11.5-12'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	8.2				0-0.5' BROWN TOPSOIL WITH GRAVEL PIECES	
	8.3				0.5-2' LIGHT BROWN SILTY SAND	
1	23.3	2 FT RECOVERY				
	12.5					
2	36.6				2-3' BROWN SILTY CLAY	
	30.0					
3	24.5				3-4.5' ORANGE-BROWN SILTY SAND WITH SOME CLAY	
	12.3					
4	54.2		SSAW-4			
	41.6	3.5 FT RECOVERY			4.5-10.5' BROWN SILTY SAND WITH GRAVEL	
5	27.9					
	2.3					
6	8.2					
	7.2					
7	3.2					
	2.4					
8	3.2					
	3.3					
9	3.0					
	1.3		SSAW-4			
10	1.4					
	2.4	4 FT RECOVERY			10.5-11' BROWN SILTY CLAY	
11	1.6				11-13' WET BROWN SILTY SAND WITH GRAVEL (DAMP)	
	2.2					
12	1.8					
	1.8					
13						
14						
15					302401	
16						

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSAW-5

PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: HAND CORE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12.5' DEPTH AT WATER 12-12.5'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	2' RECOVERY			0-2.5' GREY TOPSOIL WITH COAL PIECES, CLAY TILE PIECES INTO GREY-BROWN SILT SAND	
1	0.0					
	0.0		SSAW-5			
2	0.0					
	0.0				2.5-3' ORANGE-BROWN CLAY WITH SOME SAND	
3	0.0	2' RECOVERY			3-12.5' BROWN SILTY SAND WITH GRAVEL, SOME CLAY	
4	0.0					
5	0.0	2' RECOVERY				
6	0.0					
7	0.0	2' RECOVERY				
8	0.0					
9	0.0	2' RECOVERY				
10	0.0					
11	0.0	2' RECOVERY				
12	0.0		SSAW-5			
13						
14						
15					302402	
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-6
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI
DRILLING METHOD: GEOPROBE
HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON
HAMMER WT. _____ LBS. FALL _____
DATE DRILLED 10/6/98 GEOLOGIST CHERYL COFFE
TOTAL DEPTH 12' DEPTH AT WATER ~12'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
		1.75' RECOVERY			0-1' BROWN TOPSOIL	
1	14.5				1-3.5' BROWN SILTY SAND, SOME GRAVEL	
	10.7					
2	30	2' RECOVERY	SSAW-6			
	25.6					
3	10.2					
	9.7				3.5-5' BROWN SILTY CLAY	
4	11.1	2' RECOVERY				
	10.3					
5	9.7				5-5.5' BROWN SILTY SAND	
	9.8				5.5-8.5' BROWN SILTY SAND	
6	11.1	2' RECOVERY				
	10.7					
7	1.1					
	1.2					
8	0.8					
	0.4				8.5-9' BROWN SILTY CLAY	
9	0.0	1.5' RECOVERY	SSAW-6		9-11.5' BROWN SILTY SAND WITH SOME CLAY AND GRAVEL	
	0.0					
10	0.0					
	0.0					
11	0.0	1.5' RECOVERY				
	0.0				11.5-12' BROWN SAND WITH CLAY, WET	
12						
13						
14					302403	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-7	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 16' DEPTH AT WATER 12.5-13'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	28.4				0-0.5' BROWN SANDY TOPSOIL WITH GRAVEL	
	14.2				0.5-2.5' BROWN SILTY SAND WITH SOME CLAY AND SOME GRAVEL	
1	14.5					
	9.8					
2	9.5	2 FT RECOVERY				
	8.7				2.5-3.5' BROWN SILTY CLAY WITH GRAVEL	
3	7.5					
	16.7				3.5-4.5' BROWN SILTY SAND WITH SOME GRAVEL	
4	10.2					
	17.3				4.5-5.5' BROWN SILTY CLAY WITH SOME SAND	
5	60.1		SSAW-7			
	9.6				5.5-9.5' BROWN AND ORANGE-BROWN SILTY SAND WITH GRAVEL	
6	10.5	3 FT RECOVERY				
	12.1					
7	13.4					
	10					
8	10.4					
	27					
9	24.4					
	30.9				9.5-10.5' ORANGE-BROWN SILTY CLAY	
10	30.6					
	21.7				10.5-13' ORANGE-BROWN SILTY SAND	
11	12.5	3.75 FT RECOVERY				
	11.1					
12	5.8		SSAW-7			
	3.8					WET
13	3.2				13-16' BROWN SILTY FINE SAND, WET	
	2.4					
14	2.9	4 FT RECOVERY				
	2.5					
15	2.3					
	2.2					
16						

302404

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-8	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12' DEPTH AT WATER 12'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	1.8, 3.0	3 FT RECOVERY			0-1' BROWN-BLACK TOPSOIL, SILTY SAND ASH/CINDERS	
1	2.5, 1.8				1-2.5' BROWN SANDY SILT WITH GRAVEL AND SOME CLAY	
2	4.4, 4.2				2.5-3' DARK-BROWN CLAY WITH SOME SAND AND GRAVEL	
3	3.7, 2.1				3-4' BROWN SANDY SILT WITH SOME GRAVEL AND CLAY	
4	3.1, 3.2	4 FT RECOVERY			4-7.5' BROWN CLAY WITH SOME SAND AND GRAVEL	
5	4.1, 4.9		SSAW-8			
6	4.2, 3.2					
7	3.6, 2.6				7.5-8' BROWN FINE GRAINED SAND	
8	1.2, 3.3				8-9' DARK TO LIGHT BROWN CLAY	
9	2.6, 3.2	4 FT RECOVERY			9-11' 1/2 INCH THICK LAYER OF BLACK GRAVEL INTO BROWN FINE SILTY SAND	
10	3.2, 2.9					
11	2.6, 3.1		SSAW-8		11-12' BROWN SILTY CLAY	
12						
13						
14					302405	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSAW-9	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI
DRILLING METHOD: GEOPROBE
HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON
HAMMER WT. _____ LBS. FALL _____
DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE
TOTAL DEPTH 13' DEPTH AT WATER 11.5-12'

BUILDING 12
ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	5.2				0-1' GREY-BROWN TOPSOIL WITH GRAVEL	DUPLICATE - SSAW-10
	7.2					
1	67.6	4 FT RECOVERY	SSAW-9		1-3' BROWN SILTY SAND WITH SOME CLAY AND GRAVEL	
	20.3					
2	14					
	23.8					
3	26.4				3-4.5' BROWN SILTY CLAY WITH SOME SAND	
	29.4					
4	1.9					
	2.5				4.5-8' BROWN SILTY FINE SAND WITH SOME GRAVEL	
5	2.2	3.75 FT RECOVERY				
	3.2					
6	3.8					
	3.0					
7	4.8					
	5.2					
8	5.0				8-8.5' BROWN SANDY SILT WITH SOME GRAVEL	
	3.2				8.5-9.5' BROWN SILTY SAND WITH SOME GRAVEL	
9	2.2					
	2.7				9.5-10.5' BROWN SILTY CLAY WITH SOME GRAVEL	
10	1.4					
	2.4				10.5-13' BROWN SILTY FINE SAND WITH SOME GRAVEL	
11	1.5	3.5 FT RECOVERY				
	1.0		SSAW-9			WET
12	1.1					
	1.0	1'				
13						
14					302406	
15						
16						

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-9

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0			0.5 - 1 ft Brown silt with sand and gravel	
	0			1 - 4 ft Silty brown clay	
2	0				
	0				
3	0				
	0				
4	0				
	0			4 -6 ft Silt with clay and sand	
5	0				
	0	SSAW-9			
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302407

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/8/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : *Cheryl Coffee*	**SSAW-11**
Total Depth : 6 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Concrete floor	
1	0			0.5 - 1 ft	Brown silty sand	
	0		SSAW-11	1 - 4 ft	Grey silty clay	
2	0					
	0					
3	0					
	0					
4	0					
	0			4 - 5.5 ft	Red brown silty clay with some sand	
5	0					
	0					
6	0			5.5 - 6 ft	Red brown silty sand with gravel	
				End of Boring		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Environmental Engineering & Management

302408

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/15/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-12**
Total Depth : 3 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0			0.5 - 1.5 ft Brown/dark grey silt	
	0		SSAW-12		
2	0			1.5 - 3 ft Silty tan sand with some rock fragements	
	0				
3	0				
				End of Boring - Refusal	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302409

G:\Projects\950302\Boring Logs\SSAW-12

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5.2 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-13

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0				
	0				
2	0		SSAW-13	1.5 - 2 ft Brown silt with black staining, some clay	
	0			2 - 4 ft Brown silty clay with some sand and gravel	
3	0				
	0				
4	0				
	0			4 - 5 ft Brown silt with some clay	
5	0				
				End of boring - Refusal	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302410

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/15/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-14**
Total Depth : 6 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0				
	0				
2	0				
	0			2 - 2.5 ft Gravel	
3	0			2.5 - 4 ft Fine brown silty sand	
	0				
4	0				
	0			4 - 6 ft Brown silt with some sand and gravel	
5	0		SSAW-14		
	0				
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302411

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/15/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-15**
Total Depth : 5 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 5 ft Silt with some clay, sand and gravel	
1	0				
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0				
5	0		SSAW-15		
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302412

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-16

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Concrete	
1	0			0.5 - 1.5 ft	Brown silt with some sand	
	0					
2	0		SSAW-16	1.5 - 2 ft	Brown silty clay withsome gravel and glass	Duplicate - SSAW-D
	0			2 - 4.5 ft	Brown silty clay	
3	0					
	0					
4	0					
	0					
5	0			4.5 - 6 ft	Brown silty sand and gravel	
	0					
6	0					
				End of Boring		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Environmental Engineering & Management

302413

G:\Projects\950302\Boring Logs\SSAW-16

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-17

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 5 ft Brown silt with sand and gravel	
1	0				
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0		SSAW-17		
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302414

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-18**
Total Depth : 5 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 5 ft Brown silt with sand and gravel	
1	0				
	0				
2	0		SSAW-18		
	0				
3	0				
	0				
4	0				
	0				
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302415

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 1.5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-19

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0			0.5 - 1.5 ft Brown silt with some gravel	
	0				
2				End of Boring - Refusal	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302416

G:\Projects\950302\Boring Logs\SSAW-19

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-21

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete floor	
1	0			0.5 - 5 ft Brown silty clay	
	0				
2	0		SSAW-21		
	0				
3	0				
	0				
4	0				
	0				
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302417

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-22

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Concrete floor	
1	0		SSAW-22	0.5 - 2.5 ft	Brown clay with some sand and gravel	
	0					
2	0					
	0					
3	0			2.5 - 5 ft	Brown silt with sand and gravel	
	0					
4	0					
	0					
5	0					
				End of Boring		
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Environmental Engineering & Management

302418

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-23

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 2.5 ft Brown silt with some sand and gravel	
1	0				
	0		SSAW-23		Duplicate - SSAW-DUP
2	0				
	0				
3	0			2.5 - 3.5 ft Brown clay, moist	
	0				
4	0			3.5 - 5 ft Brown silt clay and some gravel	
	0				
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302419

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-24**
Total Depth : 5 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 3 ft Brown silt with some gravel and clay	
1	0				
	0		SSAW-24		
2	0				
	0				
3	0				
	0			3 - 4 ft Brown clay, moist	
4	0				
	0			4 - 5 ft Brown silty clay with gravel	
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302420

G:\Projects\950302\Boring Logs\SSAW-24

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSAW-25**
Total Depth : 5 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 5 ft Brown silt with some clay and gravel	
1	0				
	0		SSAW-25		
2	0				
	0				
3	0				
	0				
4	0				
	0				
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302421

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSAW-26

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Concrete	
1	0			0.5 - 4.5 ft Brown silt with some clay and large gravel	
	0		SSAW-26		
2	0				
	0				
3	0				
	0				
4	0				
	0				
5	0			4.5 - 5 ft Silt with gravel and some clay	
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302422

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSSR-1

PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 5' DEPTH AT WATER N/A

BUILDING 12
SCALE ROOM

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	16	2' RECOVERY			0-1' GREY-BROWN FILL WITH GRAVEL	
	16					
1	16				1-1.5' BROWN SILTY FINE SAND	
	16				1.5-2.5' BROWN FINE SAND WITH GRAVEL	
2	16					
	16				2.5-3' GREY CONCRETE MATERIAL	
3	16	2' RECOVERY			3-5' BROWN SILTY SAND WITH SOME GRAVEL	
	16					
4	16					
	16		SSSR-1			DUPLICATE - SSSR-4
5					REFUSAL AT 5'	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

302423

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSSR-2

PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 0.5' DEPTH AT WATER N/A

BUILDING 12
SCALE ROOM

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	8.9	0.5'	SSSR-2		0-0.5' GREY BROWN SANDY SILT WITH CLAY, TILE AND COAL PIECES	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

302424

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSSR-3	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 0.5' DEPTH AT WATER N/A

BUILDING 12
SCALE ROOM

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	7.3	0.5'	SSSR-3		0-0.5' GREY BROWN SANDY SILT WITH METAL PIECES	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302425	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSFS-1	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 2' DEPTH AT WATER N/A

BUILDING 12
DRUM STORAGE SHED

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	4.7	1.5' RECOVERY	SSFS-1		0-0.5' BROWN TOP SOIL WITH COAL PIECES	DUPLICATE - SSFS-2
	3.8		SSFS-1		0.5-1' BROWN SANDY SILT WITH SOME CLAY, COAL PIECES, GRAVEL	
1	2.9				1-1.5' BROWN SAND WITH SILT, GRAVEL AND COAL PIECES	
	2.1				1.5-2' BROWN SILT WITH SOME CLAY, SAND AND GRAVEL	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

302426

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/8/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSFS-1C and 1D**
Total Depth : 6 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 2.5 ft 2 inches of asphalt, silt with sand and gravel	
1	0				
	0				
2	0				
	0		SSFS-1C		
3	0			2.5 - 4 ft Brown silt with sand and gravel	
	0				
4	0				
	0			4 - 6 ft Brown medium sand with silt and some gravel	
5	0				
	0		SSFS-1D		
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302427

G:\Projects\950302\Boring Logs\SSFS-1C

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 2.5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFS-3

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0		SSFS-3A	0 - 0.5 ft Topsoil with organic matter, metal pieces	
1	0			0.5 - 2.5 ft Brown silt with sand and gravel	
	0				
2	0		SSFS-3B		
	0		SSFS-3C		
3				End of Boring	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302428

G:\Projects\950302\Boring Logs\SSFS-3

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/8/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSFS-4**
Total Depth : 4 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0		SSFS-4A	0 - 0.5 ft	Topsoil with organic matter, metal pieces	
1	0			0.5 - 4 ft	Brown silt with sand and gravel, some fill material	
	0					
2	0					
	0		SSFS-4B			
3	0					
	0					
4	0					
				End of Boring		
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Environmental Engineering & Management

302429

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 4 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFS-5

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0		SSFS-5A	0 - 0.5 ft 2 inches asphalt, silt with sand and gravel	
1	0			0.5 - 4 ft Brown silt with sand and gravel	
	0				
2	0				
	0		SSFS-5B		
3	0				
	0				
4	0				
				End of Boring	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302430

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 4 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFS-6

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0		SSFS-6A	0 - 0.5 ft	2 inches asphalt, silt with sand and gravel	Duplicate - SSFS-D
1	0			0.5 - 4 ft	Brown silt with sand and gravel with some fill material	
	0					
2	0					
	0		SSFS-6B			
3	0					
	0					
4	0					
				End of Boring		
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Environmental Engineering & Management

302431

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSFS-7**
Total Depth : 8 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0		SSFS-7A	0 - 8 ft Brown silt with some gravel	Duplicate - SSFS-DUP (816)
1	0				
	0				
2	0				
	0		SSFS-7B		
3	0				
	0				
4	0				
	0				
5	0				
	0				
6	0				
	0				
7	0				
	0		SSFS-7C		
8	0				
				End of Boring	
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302432

G:\Projects\950302\Boring Logs\SSFS-7

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSFS-8**
Total Depth : 8 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.4 ft Asphalt	
1	0		SSFS-8A	0.4 - 4 ft Brown silt with some gravel	
	0				
2	0				
	0		SSFS-8B		
3	0				
	0				
4	0				
	0			4 - 8 ft Brown silt with sand	
5	0				
	0				
6	0				
	0				
7	0				
	0		SSFS-8C		
8	0				
				End of Boring	
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302433

CLIENT: KLOCKNER & KLOCKNER

LOG OF BORING No. SSDSA-1

PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ

THE WHITMAN COMPANIES, INC.

SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 2' DEPTH AT WATER N/A

BUILDING 12
DRUM STORAGE IN ALLEYWAY

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	1.2 1.2	1.5' RECOVERY	SSDSA-1		0-1' BROWN TOPSOIL WITH ORGANIC MATERIAL	DUPLICATE - SSDSA-2
1	1.4 1.9				1-2' TOPSOIL INTO ASH-LIKE MATERIAL, SOME GREY SAND AND GRAVEL	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302434	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSNDS--1	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 2' DEPTH AT WATER N/A

BUILDING 12
NORTH DRUM STORAGE AREA

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	4.3				0-1' BROWN TOPSOIL	
1	8.5	RECOVERY	SSNDS-1A			
	15.0		SSNDS-1		1-1.5' BROWN SILTY SAND WITH GRAVEL, LITTLE CLAY	
	9.2	1'				
	3.5				1.5-2' BROWN FINE SAND WITH SILT & GRAVEL	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302435	
15						
16						

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 2/8/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSNDS-1C and 1D**
Total Depth : 16 ft Water Depth: 12.5 ft	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Asphalt and gravel sub-base	
1	0			0.5 - 4 ft	Brown silt with sand and gravel, fill material, coal and glass	
	0					
2	0					
	0					
3	0					
	0					
4	0					
	0			4 - 6 ft	Orange brown silt with clay and some gravel	
5	0		SSNDS-1C			
	0					
6	0					
	0			6 - 12 ft	Fine to medium tan sand	
7	0					
	0					
8	0					
	0					
9	0					
	0					
10	0					
	0					
11	0					
	0					
12	0					
	0		SSNDS-1D	12 - 16 ft	Medium brown sand, wet at 12.5 ft.	
13	0					
	0					
14	0					
	0					
15	0					
	0					
16	0					
				End of Boring		
17						

Environmental Engineering & Management

302436

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSNDS-2	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 2' DEPTH AT WATER N/A

BUILDING 12
NORTH DRUM STORAGE AREA

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	3.2	RECOVERY 1.5'			0-2' BROWN FINE SILTY SAND, SOME ORANGE BROWN CLAY AND COAL PIECES	
1	4.2		SSNDS-2A			
	3.7					
2	5.7		SSNDS-2			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302437	
15						
16						

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-2C

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Asphalt and gravel sub-base	
1	0			0.5 - 4 ft Brown silt with clay, and some sand and gravel	
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0			4 - 6 ft Silty brown clay with sand and some gravel	
5	0				
	0		SSNDS-2C		
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302438

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-3

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.3 ft Asphalt and gravel sub-base	
1	0.3			0.3 - 1.5 ft Brown silt with gravel and sand	
	0.8		SSNDS-3A		
2	0.4			1.5 - 6 ft Brown silt with fill material (ie glass, coal, ash)	
	0.1				
3	0				
	0				
4	0				
	0				
5	0		SSNDS-3B		
	0				
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302439

G:\Projects\950302\Boring Logs\SSNDS-3

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-4

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Asphalt and gravel sub-base	
1	0			0.5 - 1 ft	Brown silt with gravel and sand	
	0			1 - 4 ft	Silt with fill material (ceramic, coal, glass)	
2	0.2		SSNDS-4A			
	0					
3	0					
	0.1					
4	0					
	0			4 - 6 ft	Red brown silt with sand and gravel	
5	0		SSNDS-4B			
	0					
6	0					
				End of Boring		
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Environmental Engineering & Management

302440

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 4 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-5

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Asphalt and gravel sub-base	
1	0			0.5 - 1 ft	Coal	
	0.8		SSNDS-5	1 - 4 ft	Orange silt with fine sand and some gravel	Duplicate - SSNDS-D
2	0.2					
	0					
3	0					
	0					
4	0					
				End of Boring		
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Environmental Engineering & Management

302441

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 2 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-6

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Asphalt and gravel sub-base	
1	0			0.5 - 1.5 ft Grey brown silt and gravel, some fill material	
	0		SSNDS-6		
2	0			1.5 - 2 ft Brown silty sand	
				End of Boring	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302442

G:\Projects\950302\Boring Logs\SSNDS-6

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 12 ft Water Depth: ~12 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-7

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Asphalt and gravel sub-base	
1	0			0.5 - 4 ft	Grey silt with sand and gravel, some clay	
	0					
2	0		SSNDS-7A			
	0					
3	0					
	0					
4	0					
	0			4 - 5 ft	Wet brown silty clay with some sand	
5	0		SSNDS-7B			
	0			5 - 6.5 ft	Dry orange brown silt with clay, sand and gravel	
6	0					
	0					
7	0			6.5 - 11.5 ft	Dry medium sand with some silt and gravel	
	0					
8	0					
	0					
9	0					
	0					
10	0					
	0					
11	0					
	0					
12	0			11.5 - 12 ft	Fine brown sand	
				End of Boring		
13						
14						
15						
16						
17						

Environmental Engineering & Management

302443

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/8/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 12 ft Water Depth: ~11.5 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-8

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Asphalt and gravel sub-base	
1	4.5			0.5 - 2 ft Grey silt with clay and some sand and gravel	
	6		SSNDS-8		
2	5.8				
	5			2 - 11 ft Brown silty sand with gravel	
3	4.3				
	3.2				
4	3				
	0				
5	0				
	0				
6	0				
	0				
7	0				
	0				
8	0				
	0				
9	0				
	0				
10	0				
	0				
11	0				
	0			11 - 12 ft Medium sand, moist	
12	0				
				End of Boring	
13					
14					
15					
16					
17					

Environmental Engineering & Management

302444

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-9

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 5 ft Brown silt with gravel	
1	0				
	0				
2	0		SSNDS-9A		Duplicate - SSNDS-DUP (816)
	0				
3	0				
	0				
4	0				
	0		SSNDS-9B		
5	0				
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302445

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 8/16/2000	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSNDS-10**
Total Depth : 8 ft Water Depth: NA	Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 4 ft Brown silt with gravel with some fill material such as glass, ash and coal	
1	0				
	0		SSNDS-10A		
2	0				
	0				
3	0				
	0				
4	0				
	0			4 - 8 ft Brown silt with gravel	
5	0		SSNDS-10B		
	0				
6	0				
	0				
7	0				
	0		SSNDS-10C		
8	0				
				End of Boring	
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302446

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 8/16/2000

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSNDS-11

Building 12

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 3 ft Brown silt with gravel with some fill material such as glass, ash and coal	
1	0				
	0		SSNDS-11A		
2	0				
	0				
3	0				
	0			3 - 5 ft Brown silt with clay and gravel	
4	0				
	0				
5	0		SSNDS-11B		
				End of Boring	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302447

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSSP-1
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/7/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 5' DEPTH AT WATER N/A

BUILDING 12
SUMP APPROXIMATELY 3' DEEP

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	5.4, 9.3	2 FT RECOVERY			0-1' FILL UNDER CONCRETE FLOOR , WITH GREY GRAVEL	
1	7.8, 6.4				1-2' BROWN SILTY CLAY WITH SOME SAND	
2	5.1, 6.2				2-3' BROWN SILTY SAND WITH GRAVEL	
3	3.2				3-3.5' GREY GRAVEL	
	2.4	2 FT RECOVERY			3.5-5' ORANGE BROWN SILTY SAND WITH GRAVEL	
4	2.4, 2.2		SSSP-1			
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302448	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSOSS--1	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: JAMES McFARLAND

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/8/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 2' DEPTH AT WATER NA

BUILDING 13
OIL STORAGE SHED

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	5.8	2 FT RECOVERY			0-1' BROWN TOPSOIL WITH ORGANIC MATERIAL	
1	7.7					
	12.8				1-2' BROWN FINE SILTY SAND WITH SOME GRAVEL	
2	7.3		SSOSS-1			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14					302449	
15						
16						

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/98 8/16/00

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 14 ft Water Depth: 11 - 11.5 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-1/SSFA-1R

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 0.5 ft	Brown topsoil with organics	
1	0			0.5 - 3 ft	Brown silty sand with some gravel	
	0					
2	0		SSFA-1			Duplicate - SSFA-6A
	0					
3	0					
	0			3 - 3.5 ft	Orange brown clay	
4	0			3.5 - 4 ft	Brown silty clay with sand	
	0			4 - 6 ft	Brown silty sand with gravel	
5	0					
	0		SSFA-1R			Duplicate - SSFA-D
6	0					
	0			6 - 6.5 ft	Brown sand with gravel	
7	0			6.5 - 8 ft	Brown fine sand	
	0					
8	0					
	0			8 - 14 ft	Brown sand with some silt and gravel	
9	0					
	0					
10	0					
	0					
11	0		SSFA-1			
	0					
12	0					
	0					
13	0					
	0					
14	0					
				End of Boring		
15						
16						

Environmental Engineering & Management

302450

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/00

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-1

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 4 ft Red brown silty clay with some sand and gravel	
1	0				
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0			4 - 6 ft Brown silty sand and gravel	
5	0				
	0		SSFA-1		
6	0				
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

Environmental Engineering & Management

302451

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/98

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 12 ft Water Depth: 11.5 - 12 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-2

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	1.1			0 - 0.5 ft	Brown topsoil with organics	
1	5.1		SSFA-2	0.5 - 2 ft	Brown sand and clay	
	0.8					
2	1.1					
	0.7					
3	0.8					
	0.5			3 - 3.5 ft	Orange brown clay	
4	0.8			3.5 - 4 ft	Brown silty clay with sand	
	2.3			4 - 6 ft	Brown silty sand with gravel	
5	0.9					
	0.9					
6	0.9					
	0.9			6 - 6.5 ft	Brown sand with gravel	
7	0.9			6.5 - 8 ft	Brown fine sand	
	0.7					
8	0.6					
	1.1			8 - 14 ft	Brown sand with some silt and gravel	
9	1.3					
	1.2					
10	0.6					
	0.4					
11	0.6					
	0.6					
12	0.5					
				End of Boring		
13						
14						
15						
16						

Environmental Engineering & Management

302452

G:\Projects\950302\Boring Logs\Ssfa-2

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/98

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 12 ft Water Depth: 11.5 - 12 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-3

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 1.5 ft	Degraded asphalt into brown topsoil with gravel	
1	2.9		SSFA-3			
	0.2					
2	0.6			1.5 - 3.5 ft	Brown hard compact clay with gravel with some silt and gravel	
	0.3					
3	0					
	0					
4	0			3.5 - 4 ft	Brown silt with sand	
	0.6			4 - 6 ft	Brown sand with silt and gravel	
5	0.4					
	0.3					
6	0.7					
	0.5			6 - 7 ft	Fine brown sand with some gravel	
7	0.3					
	0.2			7 - 8 ft	Brown fine silt - wet	
8	0.2					
	0.2			8 - 9.5 ft	Brown sand with gravel, dry	
9	1.6					
	0.5					
10	0.4			9.5 - 11.5 ft	Brown fine sand	
	0.2					
11	0					
	1					
12	0			11.5 - 12'	Brown sand with gravel, wet	
				End of Boring		
13						
14						
15						
16						

Environmental Engineering & Management

302453

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/98

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 12 ft Water Depth: ~12 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-4

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	1.1			0 - 0.5 ft	Brown topsoil	
1	4.4		SSFA-4	0.5 - 1 ft	Brown black sandy clay with gravel	
	2.1			1 - 1.5 ft	Brown clay with some gravel	
2	1.8			1.5 - 2.5 ft	Brown silty clay with some sand and gravel	
	0.7					
3	0			2.5 - 5.5 ft	Brown to orange brown clay with sand and gravel	
	0					
4	0					
	0					
5	0					
	0					
6	0			5.5 - 6 ft	Brown clay with silt and sand	
	0			6 - 9.5 ft	Brown silty sand with gravel	
7	0					
	0					
8	0					
	0					
9	0					
	0					
10	0			9.5 - 11.5 ft	Brown sand with some gravel	
	0					
11	0					
	0					
12	0			11.5 - 12'	Brown sand with gravel, wet	
				End of Boring		
13						
14						
15						
16						

Environmental Engineering & Management

302454

G:\Projects\950302\Boring Logs\Ssfa-4

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 2/15/00

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 12 ft Water Depth: ~11 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-4

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 4 ft Brown silt with sand and gravel	
1	0				
	0				
2	0				
	0				
3	0				
	0				
4	0				
	0			4 - 12 ft Brown silty sand and gravel	
5	0				
	0		SSFA-4A		
6	0				
7					
			SSFA-4B		
8					
9					
10					
			SSFA-4C		
11					
12					
				End of Boring	
13					
14					
15					
16					
17					

Environmental Engineering & Management

302455

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/98

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 15 ft Water Depth: 12.5 - 13 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSFA-5

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 1 ft	Brown topsoil	
1	0					
	0			1 - 2.5 ft	Brown clay with some gravel	
2	0.1			1.5 - 2.5 ft	Brown silty sand with gravel	
	0					
3	0			2.5 - 5 ft	Orange brown clay with some gravel	
	0.5		SSFA-5			
4	0					
	0					
5	0					
	0			5 - 7 ft	Brown silty sand with some gravel	
6	0.1					
	0					
7	0					
	0			7 - 8 ft	Brown fine silty sand	
8	0					
	0			8 - 9 ft	Brown silty sand with some clay	
9	0.1					
	0			9 - 11 ft	Brown sand with some gravel and silt	
10	0					
	0					
11	0					
	0			11 - 12 ft	Brown fine sand	
12	0					
	0			12 - 13 ft	Brown sand with gravel	
13	0					
	0			13 - 15 ft	Brown fine sand, wet	
14	0					
	0					
15	0					
				End of Boring		
16						

Environmental Engineering & Management 302456

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 10/16/1998	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee	**SSDW-1**
Total Depth : 12 ft Water Depth: 10 - 10.5 ft	Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 1 ft	Brown topsoil with organic material	
1	0					
	0			1 - 4 ft	Brown sand with some clay some silt gravel and brick fragments	
2	0		SSDW-1			
	0					
3	0					
	0					
4	0					
	0			4 - 5.5 ft	Brown clay with some gravel	
5	0					
	0					
6	0			5.5 - 7.5 ft	Brown silty sand with some clay and some gravel	
	0					
7	0					
	0					
8	0			7.5 - 9 ft	Brown silt with some fine sand and clay	
	0					
9	0					
	0			9 - 10.5 ft	Brown sand with small gravel, wet	
10	0					
	0					
11	0			10.5 - 12 ft	Brown silty sand with gravel	
	0					
12	0					
				End of Boring		
13						
14						
15						
16						

Environmental Engineering & Management

302457

G:\Projects\950302\Boring Logs\SSDW-1

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/1998

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 6 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSSD-1

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Asphalt	
1	0			0.5 - 1.5 ft Brown clay with gravel	
	0				
2	0			1.5 - 4 ft Brown silty clay with gravel	
	0				
3	0				
	0				
4	0				
	0			4 - 4.5 ft Grey gravel	
5	0			4.5 - 5.5 ft Brown silty sand with gravel	
	0.1				
6	0			5.5 - 6 ft Gravel with brown medium sand	
				End of Boring	
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302458

Client : Klockner & Klockner	THE WHITMAN CompanieS, INC.
Project No. : 95-03-02	
Site Location : Rockaway, NJ **Date :** 10/16/1998	
Drilling Co. : EFS	
Method : Geoprobe	**Log of Boring**
Geologist/Sampler : Cheryl Coffee/Lee Westcott	**SSPP-1**
Total Depth : 12 ft Water Depth: 9 - 9.5 ft	Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	0			0 - 1 ft	Brown topsoil with organic	
1	0					
	0			1 - 3 ft	Brown silty clay with gravel	
2	0.1					
	0					
3	0					
	0.5			3 - 4.5 ft	Brown gravel	
4	0					
	0					
5	0			4.5 - 6.5 ft	Brown clay with some gravel and silt	
	0					
6	0.1					
	0					
7	0		SSPP-1	6.5 - 7.5 ft	Brown sand with clay and gravel	
	0					
8	0			7.5 - 9.5 ft	Brown silty sand with some gravel	
	0					
9	0.1					
	0					
10	0			9.5 - 11.5 ft	Brown silty fine sand, wet	
	0					
11	0					
	0					
12	0			11.5 - 12 ft	Brown sand, wet	
	0			End of Boring		
13	0					
	0					
14	0					
	0					
15	0					
16						

Environmental Engineering & Management

302459

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/8/1998

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 3 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFD-1

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0					
	0			0 - 0.5 ft Gravel under concrete	
1	0			0.5 - 2 ft Brown sand with gravel and silt	
	0				
2	0		SSFD-1		
	0			2 - 3 ft Orange brown sand with gravel	
3	0				
				End of Boring	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302460

G:\Projects\950302\Boring Logs\SSFD-1

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/16/1998

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee

Total Depth : 5.2 ft Water Depth: NA

THE WHITMAN CompanieS, INC.

Log of Boring

SSFD-2

Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification	Remarks
0				0 - 3 ft No recovery	
1					
2					
3					
	0.5		SSFD-2	3 - 5.2 ft Brown silty sand with some gravel	
4	0				
	0.3				
5	0				
				End of Boring - Refusal	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Environmental Engineering & Management

302461

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSDA-1	
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: JAMES McFARLAND

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/16/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12' DEPTH AT WATER 9.5-10'

BUILDING 13
DUMPSTER PAD AREA

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	3.5 FT RECOVERY			0-0.5' GRAVEL	
1	0.0				0.5-1.5' FINE GRAINED SAND	
	0.0					
2	0.0		SSDA-1		1.5-5.5' BROWN CLAY WITH GRAVEL, SOME SILT AND SAND	
	0.0					
3	0.0					
	0.0					
4	0.0					
	0.0	3 FT RECOVERY				
5	0.0					
	0.0					
6	0.0				5.5-6.5' BROWN SILTY SAND WITH GRAVEL	
	0.0					
7	0.0				6.5-9' BROWN SAND WITH SOME GRAVEL	
	0.0					
8	0.0					
	0.0					
9	0.0					
	0.0	4 FT RECOVERY			9-11' BROWN FINE SAND AND SILT	
10	0.0					
	0.0					
11	0.0				SOME GRAVEL	
	0.0				11-12' BROWN SAND WITH GRAVEL AND SOME SILT	
12	0.0					
13						
14					302462	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSCP-1	
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC.	SHEET 1 OF 1

DRILLING Co. EFS DRILLER: JAMES McFARLAND

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/8/98 GEOLOGIST CHERYL COFFEE

TOTAL DEPTH 12.5' DEPTH AT WATER 11.5-12'

BUILDING 13
CONCRETE PAD-SOIL GAS LOCATION SG-22A

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	2.75 FT RECOVERY			0-1' BROWN TOPSOIL WITH ORGANIC MATERIAL	
1	0.0				1-5.5' BROWN TO GRAY BROWN SILTY SAND WITH SOME GRAVEL	
	0.0					
2	2.9					
	13.4					
	12.4					
3	10.8					
	18.0		SSCP-1			
4	0.0	3.75 FT RECOVERY				
	0.6					
5	1.8					
	0.0				5.5-7' ORANGE BROWN SILTY CLAY INTERBEDDED WITH CLAY	
6	8.2					
	9.5					
7	9.5				7-8' BROWN SILTY SAND WITH GRAVEL AND CLAY AT END OF CORE	
	0.0					
8					8-9' CORE SAMPLE LOST	
9	3.5	3 FT RECOVERY			9-11.5' BROWN SILTY CLAY WITH SOME SAND INTERBEDDED WITH CLAY LAYERS	
	5.3					
10	7.4					
	18.9					
11	22.6		SSCP-1			
	17.8				11.5-12' BROWN SAND WITH CLAY	
12	15.4				12-12.5' BROWN FINE SAND	
13						
14					302463	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSCP--2
PROJECT Nº. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/8/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12' DEPTH AT WATER 9.5-10'

BUILDING 13
CONCRETE PAD-SOIL GAS LOCATION SG-22D

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	2.5 FT RECOVERY			0-1' BROWN TOPSOIL WITH ORGANIC MATERIAL	
1	0.0					
	0.0				1-3.5' BROWN SILTY SAND WITH GRAVEL	
	0.7		SSCP-2		CLAY TILE PIECES	
2	0.2					
	0.8					
3	0.5					
	0.3				3.5-5' BROWN SILTY CLAY WITH GRAVEL	
4	0.5					
	0.4					
5	0.2	4 FT RECOVERY			5-6.5' ORANGE BROWN CLAY INTO SILTY CLAY WITH GRAVEL	
	0.2					
6	0.0					
	0.0				6.5-8.5' BROWN SILTY SAND WITH GRAVEL	
7	0.1					
	0.4					
8	0.2					
	0.6				8.5-9' BROWN SILTY CLAY WITH SOME SAND	
9	0.8	4 FT RECOVERY			9-12' BROWN SILTY SAND WITH SOME GRAVEL AND SOME CLAY VERY FINE TOWARDS 12'	
	1.6					
10	0.7					
	0.3					
11	0.6					
	0.2					
12						
13						
14					302464	
15						
16						

CLIENT: KLOCKNER & KLOCKNER	LOG OF BORING No. SSCP-3
PROJECT No. 950302 SITE LOCATION: ROCKAWAY, NJ	THE WHITMAN COMPANIES, INC. — SHEET 1 OF 1

DRILLING Co. EFS DRILLER: TOM WYSOCKI

DRILLING METHOD: GEOPROBE

HOLE DIA. 2 IN. SAMPLER 2" SPLIT SPOON

HAMMER WT. _____ LBS. FALL _____

DATE DRILLED 10/8/98 GEOLOGIST CHERYL COFFE

TOTAL DEPTH 12' DEPTH AT WATER 10-10.5'

BUILDING 13
CONCRETE PAD-SOIL GAS LOCATION SG-22E

DEPTH (FEET)	SAMPLING DATA: PID READING	RECOVERY IN INCHES	SAMPLE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	REMARKS
	0.0	3 FT RECOVERY			0-1' BROWN TOPSOIL WITH ORGANIC MATERIAL	
1	0.0					
	0.0		SSCP-3		1-2' BROWN SAND WITH GRAVEL	
2	0.7					
	0.2				2-4' BROWN SILTY SAND WITH SOME GRAVEL AT 4' BLACK ORGANIC MATERIAL	
3	0.8					
	0.5					
4	0.3					
	0.5				4-5' BROWN SAND WITH GRAVEL	
5	0.4					
	0.2	3 FT RECOVERY			5-6.5' BROWN FINE SILTY SAND	
6	0.2					
	0.0					
7	0.0				6.5-8' BROWN TO ORANGE BROWN SILTY CLAY WITH SAND	
	0.1					
8	0.4					
	0.2				8-9.5' BROWN TO ORANGE BROWN SILT ANS SAND INTERLAYERED WITH SOME GRAVEL	
9	0.6					
	0.8					
10	1.6	4 FT RECOVERY			9.5-12' BROWN FINE SAND INTO COARSER SAND AND GRAVEL METAL PIECES AND PLASTIC PELLETS, SOME SILT	
	0.7					
11	0.3					
	0.6					
12	0.2					
13					302465	
14						
15						
16						

Client : Klockner & Klockner

Project No. : 95-03-02

Site Location : Rockaway, NJ **Date :** 10/8/98

Drilling Co. : EFS

Method : Geoprobe

Geologist/Sampler : Cheryl Coffee/Lee Westcott

Total Depth : 12 ft Water Depth: 11.5 - 12 ft

THE WHITMAN CompanieS, INC.

Log of Boring

SSCP-4

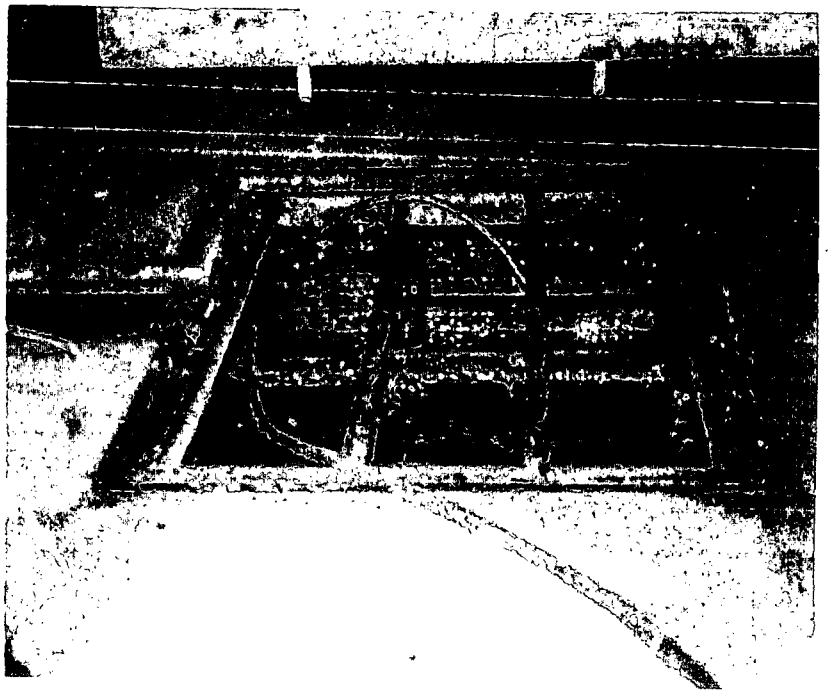
Building 13

Depth ft.	PID	Recovery	SAMPLE ID	Soil Classification		Remarks
0						
	27.4			0 - 0.5 ft	Brown topsoil with organics	
1	30.2			0.5 - 2 ft	Brown sand with silt and some gravel	
	34		SSCP-4			
2	32.1					
	28.1			2 - 4 ft	Brown silty clay with sand and some gravel	
3	7.8					
	7.5					
4	3.3					
	0			4 - 5 ft	Brown silty sand with gravel	
5	0					
	0			5 - 6 ft	Orange brown clay	
6	0					
	1.2			6 - 12 ft	Brown silty sand with gravel	
7	0					
	0.3					
8	0					
	0					
9	0					
	0					
10	0					
	0					
11	2.2					
	4.8					
12	7.4					
13						
14						
15						
16						

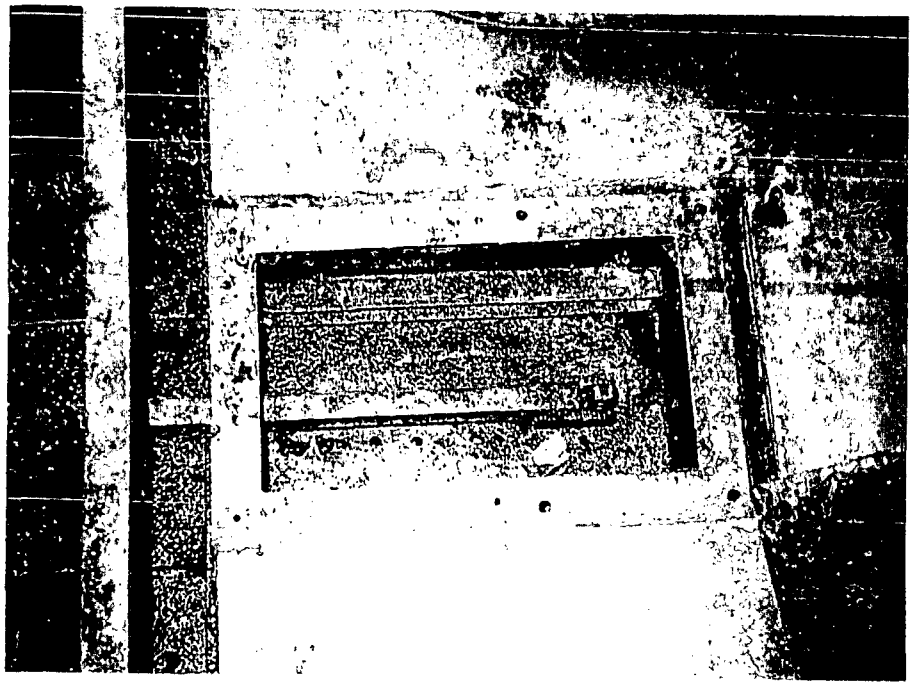
ATTACHMENT 2

SCALE PIT PHOTOGRAPHS

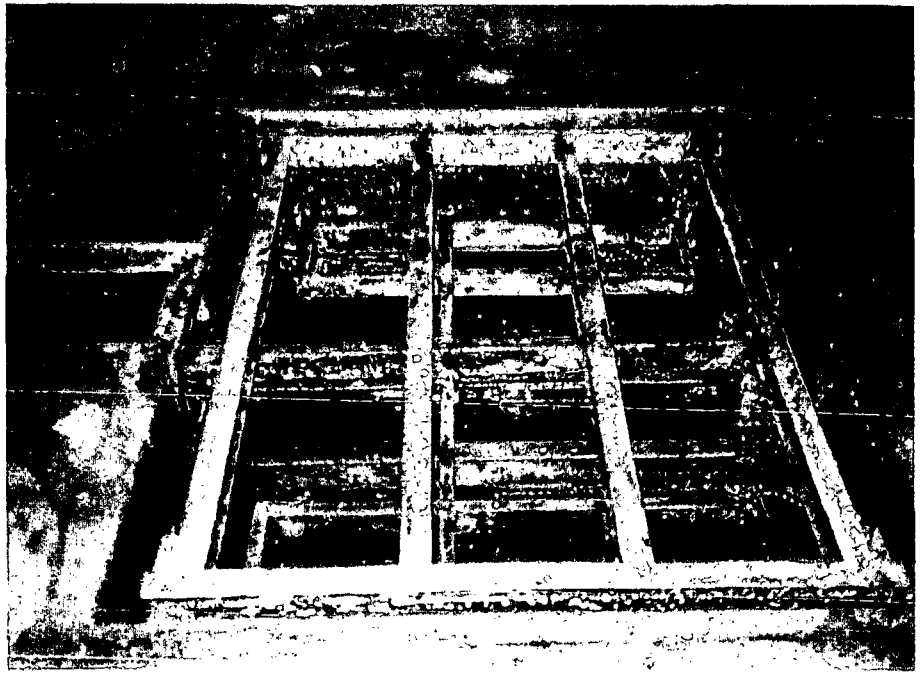
302468



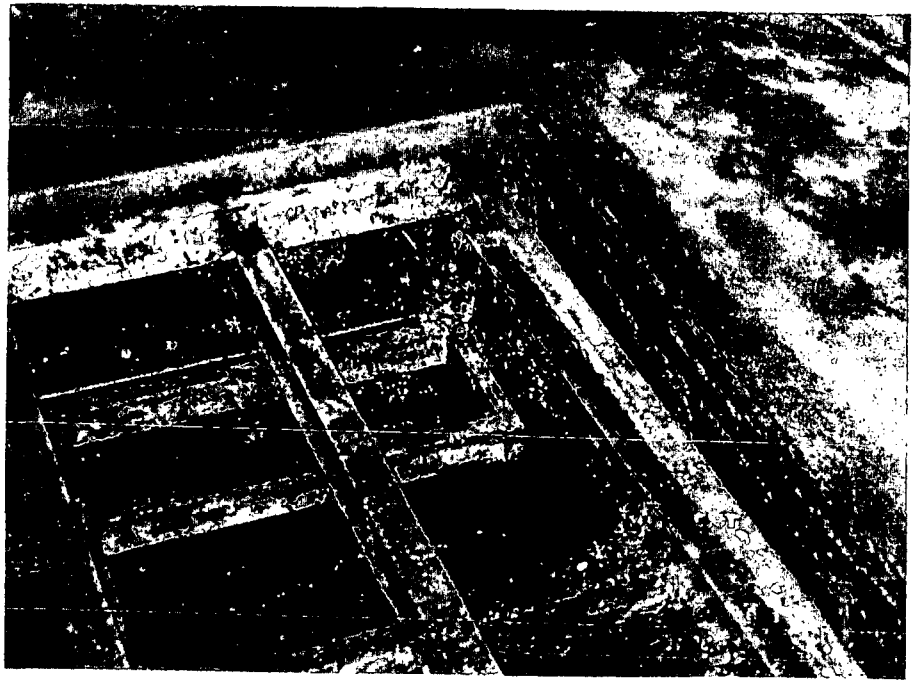
Scale Room Scale Pit During Pump Out



Scale Room Scale Pit Floor



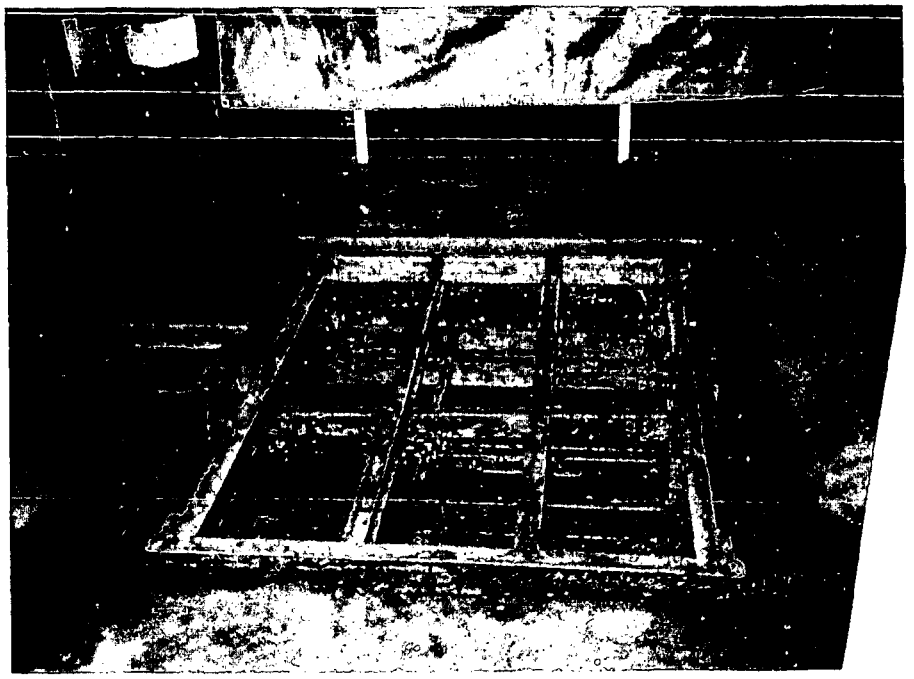
Scale Room Scale Pit



302469

Scale Room Scale Pit Floor

Scale Room Scale Pit Floor



Scale Room Scale Pit

302470

ATTACHMENT 3

SCALE PIT WASTE DISPOSAL DOCUMENTATION

302472

NON-HAZARDOUS WASTE MANIFEST

Please print or type — (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. Not Required	Manifest Document No. 041999B	2. Page 1 of 1.

3. Generator's Name and Mailing Address
Klockner & Klockner
10-25 Pickle Avenue
Rockaway, Borough, NJ

4. Generator's Phone (732) 390-5858

5. Transporter 1 Company Name	6. US EPA ID Number	A. State Transporter's ID
Allstate Power Vac	NJD 003812047	B. Transporter 1 Phone 800-876-9699
7. Transporter 2 Company Name	8. US EPA ID Number	C. State Transporter's ID
		D. Transporter 2 Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	E. State Facility's ID
REpublic Environmental Systems (Cleveland) Inc. 33 Industry Drive Bedford, Ohio 44146	OHD 055522429	F. Facility's Phone 440-786-7800

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non RCRA, Non DOT Regulated Liquid, NOS (development water)	03	DM	00150	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24-hour emergency phone - 800876-9699

302473

NJD 22041

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date Month	Day	Year
KAREN D'AMICO	Karen D'Amico	04	19	99

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials		Date Month	Day	Year
Printed/Typed Name: RAYMOND MITCHELL	Signature: Raymond Mitchell			
18. Transporter 2 Acknowledgement of Receipt of Materials		Date Month	Day	Year
Printed/Typed Name	Signature			

FACILITY

19. Discrepancy Indication Space
9) EVERGREEN ENVIRONMENTAL GROUP INC

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date Month	Day	Year
[illegible]	[illegible]	4	20	99

REPUBLIC ENVIRONMENTAL SYSTEMS (CLEVELAND), INC.

33 INDUSTRY DRIVE / BEDFORD, OH 44146 / 440-786-7800
EPA I.D. #OHD055522429

CERTIFICATE OF WASTE DISPOSAL No. 15933

THIS IS TO CERTIFY THAT WASTE MATERIAL RECEIVED FROM:

Generator KLOCKNER & KLOCKNER

E.P.A. ID NON HAZ GENER

Address 10-25 STICKLE AVE / ROCKAWAY BOROUGH, NJ

AS REFERENCED ON MANIFEST NUMBER: 041999E

HAS BEEN ANALYZED AND ACCEPTED AS SPECIFIED UNDER THE FACILITY'S WASTE ANALYSIS PLAN. ALL MATERIALS REPRESENTED HEREIN SHALL BE STORED, TREATED, MANAGED AND/OR DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL STATE AND FEDERAL REGULATIONS IN THE MANNER DESCRIBED BELOW.

Lab Code/Clin #	D.O.T./E.P.A. Description	Storage/Treatment/Disposal Method
ND22441	NON DOT/NON RCRA HAZ LIQUID (N/A)	M111 M132

Bruce Williams 04/20/99

Republic Environmental Systems
Representative - Title:Operations Manager

302474

ATTACHMENT 4

SOIL GAS SURVEY DATA PACKAGE

302476

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	FB-1 (ug/L)	FB-2 (ug/L)	FB-3 (ug/L)	FB-1A (ug/L)	FB-2A (ug/L)	FB-3A (ug/L)	FB-1B (ug/L)	FB-2B (ug/L)	FB-3B (ug/L)	FB-1C (ug/L)
1,1-Dichloroethene	1.00	ND	ND	1.90	ND	ND	ND	ND	ND	ND	3.04
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	ND	2.30E	1.41	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	1.65E	ND
Benzene	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit.

SAMPLE NARRATIVE:

Quality Control Analyst:

302477

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	FB-2C (ug/L)	FB-3C (ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene	1.00	ND	4.48								
Methylene Chloride	1.00	ND	ND								
trans-1,2-Dichloroethene	1.00	ND	ND								
1,1-Dichloroethane	1.00	ND	ND								
cis-1,2-Dichloroethene	1.00	ND	ND								
1,1,1-Trichloroethane	1.00	ND	ND								
Carbon Tetrachloride	1.00	ND	ND								
Trichloroethene	1.00	ND	4.10E								
1,1,2-Trichloroethane	1.00	ND	ND								
Tetrachloroethene	1.00	ND	1.70								
Benzene	1.00	NA	NA								
Toluene	1.00	NA	NA								
Ethylbenzene	1.00	NA	NA								
o-Xylene	1.00	NA	NA								
m&p-Xylenes	1.00	NA	NA								
Methyl *tert*-Butyl Ether	1.00	NA	NA								
Sample Condition (S,U)/Dilution (PQL)		S	S								

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302478

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 04A (ug/L)	SGA 13 (ug/L)	SGA 14 (ug/L)	SGA 14A (ug/L)	SGA 15 (ug/L)	SGA 21 (ug/L)	SGA 22 (ug/L)	SGA 23 (ug/L)	SGA 24 (ug/L)	SGA 25 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	4.45E	2.20	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	4.20	ND	ND
cis-1,2-Dichloroethene	1.00	ND	7.89	9.19	1.68	1.52	3.00	87.4E	41.2E	6.54	45.3E
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	6.27E	51.7E	57.0E	21.1E	9.56E	9.74E	281E	97.4E	18.6E	9.41E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	1.30	ND	ND	ND	3.30E	3.32E	1.48	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302479

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 3A1 (ug/L)	SGA 3A2 (ug/L)	SGA 33 (ug/L)	SGA 34 (ug/L)	SGA 35 (ug/L)	SGA 36 (ug/L)	SGA 43 (ug/L)	SGA 44 (ug/L)	SGA 45 (ug/L)	SGA 46 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	2.55	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	1.00	1.57	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	1.10	ND	2.33	ND	ND	6.28E	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	15.0	73.6E	14.7	87.8E	1.18	43.3E	255E	13.5	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	13.9E	45.0E	81.3E	33.7	67.1E	20.6E	29.1E	268E	52.1E	3.08E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	3.53E	2.17E	1.18	1.76	3.18E	64.5E	ND	1.21
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Idicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: _____

302480

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 51 (ug/L)	SGA 52 (ug/L)	SGA 53 (ug/L)	SGA 54 (ug/L)	SGA 55 (ug/L)	SGA 63 (ug/L)	SGA 64 (ug/L)	SGA 65 (ug/L)	SGN 11 (ug/L)	SGN 12 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	2.01	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	2.08	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	1.31	10.5	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	33.7E	9.09E	11.7E	44.3E	7.44E	5.79E	3.90E	2.23E	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	30.2E	ND	1.02	5.31E	ND	ND	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: _____

302481

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGN 13 (ug/L)	SGN 20 (ug/L)	SGN 21 (ug/L)	SGN 22 (ug/L)	SGN 23 (ug/L)	SGN 31 (ug/L)	SGN 32 (ug/L)	SGN 33 (ug/L)	SGN 42 (ug/L)	SGN 43 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	4.11E	ND	ND	ND	ND	ND	ND	15.4E	2.73E	17.4E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylenes	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl *tert*-Butyl Ether	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302482

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 04C (ug/L)	SGA 05B (ug/L)	SGA 88C (ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene	1.00	ND	1.51	ND							
Methylene Chloride	1.00	ND	ND	ND							
trans-1,2-Dichloroethene	1.00	ND	ND	ND							
1,1-Dichloroethane	1.00	ND	ND	ND							
cis-1,2-Dichloroethene	1.00	ND	2.47	2.74							
1,1,1-Trichloroethane	1.00	ND	ND	ND							
Carbon Tetrachloride	1.00	ND	ND	ND							
Trichloroethene	1.00	1.17	18.0E	16.7E							
1,1,2-Trichloroethane	1.00	ND	ND	ND							
Tetrachloroethene	1.00	ND	ND	ND							
Benzene	1.00	NA	NA	NA							
Toluene	1.00	NA	NA	NA							
Ethylbenzene	1.00	NA	NA	NA							
o-Xylene	1.00	NA	NA	NA							
m&p-Xylenes	1.00	NA	NA	NA							
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA							
Sample Condition (S,U)/Dilution (PQL)		S	S	S							

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302483

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 88 (ug/L)	SGA 02 (ug/L)	SGA 04B (ug/L)	SGA 04 (ug/L)	SGA 01 (ug/L)	SGA 06 (ug/L)	SGA 16 (ug/L)	SGA 66 (ug/L)	SGA 77C (ug/L)	SGA 03B (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	2.92	ND	ND	ND
Methylene Chloride	1.00	ND	7.17	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	2.37	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	2.49	2.65	53.1E	ND	ND	15.2	6.09	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	9.96E	14.1E	101E	5.81E	13.4E	39.7E	19.9E	5.29E	4.57E	2.79E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	ND	ND	3.14E	1.57	ND	ND	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302484

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 00A (ug/L)	SG 01A (ug/L)	SG 10 (ug/L)	SG 11 (ug/L)	SG 12 (ug/L)	SG 12A (ug/L)	SG 13 (ug/L)	SG 14 (ug/L)	SG 15 (ug/L)	SG 20 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	1.76E	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	ND	ND	ND	1.73	ND	ND	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: _____

302485

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 20A (ug/L)	SG 21 (ug/L)	SG 22A (ug/L)	SG 23 (ug/L)	SG 24 (ug/L)	SG 25 (ug/L)	SG 30 (ug/L)	SG 31 (ug/L)	SG 32A (ug/L)	SG 32B (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	4.23E	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	ND	ND	7.75E	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	4.03E	1.98	ND	ND	ND	ND	1.43	1.49
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302486

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 33 (ug/L)	SG 34 (ug/L)	SG 35 (ug/L)	SG 40 (ug/L)	SG 41 (ug/L)	SG 42 (ug/L)	SG 42A (ug/L)	SG 42B (ug/L)	SG 43 (ug/L)	SG 44 (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	23.7E	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	45.9E	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: [signature]

302487

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 45 (ug/L)	SG 46 (ug/L)	SG 50 (ug/L)	SG 50A (ug/L)	SG 51 (ug/L)	SG 52 (ug/L)	SGFD 1 (ug/L)	SG 22B (ug/L)	SG 99 (ug/L)	SG 10A SG
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	1.64	4.93	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: _____

302488

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 22C (ug/L)	SG 99A (ug/L)	SG 33D (ug/L)	SG 33AS (ug/L)	SG 33BS (ug/L)	SG 22AD (ug/L)	SG 23AS (ug/L)	SG 32CS (ug/L)	SG 22ES (ug/L)	SG 22DS (ug/L)
1,1-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	1.70	ND
Methylene Chloride	1.00	2.62	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	54.0E	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	ND	ND	ND	ND	ND	10.7E	ND	ND	ND	6.70E
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	ND	ND	2.10E	ND	ND	13.7E	ND	ND	ND	2.18E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	ND	ND	19.6E	7.56E	8.81E	26.8E	ND	ND	ND	3.84E
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302489

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 12BS (ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
1,1-Dichloroethene	1.00	ND									
Methylene Chloride	1.00	ND									
trans-1,2-Dichloroethene	1.00	ND									
1,1-Dichloroethane	1.00	ND									
cis-1,2-Dichloroethene	1.00	ND									
1,1,1-Trichloroethane	1.00	ND									
Carbon Tetrachloride	1.00	ND									
Trichloroethene	1.00	ND									
1,1,2-Trichloroethane	1.00	ND									
Tetrachloroethene	1.00	ND									
Benzene	1.00	NA									
Toluene	1.00	NA									
Ethylbenzene	1.00	NA									
o-Xylene	1.00	NA									
m&p-Xylenes	1.00	NA									
Methyl *tert*-Butyl Ether	1.00	NA									
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst:

302490

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 12BD (ug/L)	SG 22DD (ug/L)	SG 32CD (ug/L)	SG 33BD (ug/L)	SG 22ED (ug/L)	SG 33AD (ug/L)	SG 23AD (ug/L)	SGA 02C (ug/L)	SGA 04D (ug/L)	SGA 05C (ug/L)
1,1-Dichloroethene	1.00	ND	1.47	ND	8.31	1.81	1.52	ND	2.78	1.98	2.02
Methylene Chloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.00	ND	ND	ND	ND	3.15	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.00	1.62	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	1.00	1.39	ND	ND	ND	ND	ND	ND	2.55	2.68	3.87E
1,1,2-Trichloroethane	1.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.00	3.53	1.02	4.83E	ND	2.64E	ND	ND	ND	ND	ND
Benzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylenes	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl *tert*-Butyl Ether	1.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sample Condition (S,U)/Dilution (PQL)		S	S	S	S	S	S	S	S	S	S

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve
E: Indicates result over calibration range

[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit

SAMPLE NARRATIVE:

Quality Control Analyst: _____

302491

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 23 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	MD	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	2.20	1.62	30%
1,1-Dichloroethane	1.00	4.20	3.90	7%
cis-1,2-Dichloroethene	1.00	41.2	39.6	4%
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	97.4	96.4	1%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	3.32	3.44	4%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302492

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 35 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302493

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 30 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302494

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 32 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	1.43	1.51	5%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302495

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 36 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	1.18	1.83	43%
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	20.6	21.9	6%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	1.76	1.88	7%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302496

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 3A1 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	13.9	14.6	5%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302497

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Gullford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 51 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302498

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGN 12 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	ND	ND	#VALUE!
Toluene	1.00	ND	ND	#VALUE!
Ethylbenzene	1.00	ND	ND	#VALUE!
o-Xylene	1.00	ND	ND	#VALUE!
m&p-Xylenes	1.00	ND	ND	#VALUE!
Methyl *tert*-Butyl Ether	1.00	ND	ND	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302499

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGN 42 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	2.73	2.97	8%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	ND	ND	#VALUE!
Toluene	1.00	ND	ND	#VALUE!
Ethylbenzene	1.00	ND	ND	#VALUE!
o-Xylene	1.00	ND	ND	#VALUE!
m&p-Xylenes	1.00	ND	ND	#VALUE!
Methyl *tert*-Butyl Ether	1.00	ND	ND	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302500

This report will not be reproduced without the expressed written permission of the client

Phone: (301)497-6400 *10555 Guilford Rd. Jessup, MD 20794* *Fax: (301)497-4449*

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 04 (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	5.81	5.36	8%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302501

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 03B (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	2.79	2.72	3%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	ND	ND	#VALUE!
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302502

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 22DD (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	1.47	1.49	1%
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	1.02	0.950	7%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302503

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SGA 06C (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	5.380	6.260	15%
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	7.62	7.34	4%
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	4.56	4.08	11%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302504

This report will not be reproduced without the expressed written permission of the client

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPANIES
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810/8010-8020 Gas Sample Duplicate Analysis Results in ug/L

Compound	PQL[3] (ug/L)	SG 33AS (ug/L)	Duplicate (ug/L)	% Diff
1,1-Dichloroethene	1.00	ND	ND	#VALUE!
Methylene Chloride	1.00	ND	ND	#VALUE!
trans-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1-Dichloroethane	1.00	ND	ND	#VALUE!
cis-1,2-Dichloroethene	1.00	ND	ND	#VALUE!
1,1,1-Trichloroethane	1.00	ND	ND	#VALUE!
Carbon Tetrachloride	1.00	ND	ND	#VALUE!
Trichloroethene	1.00	ND	ND	#VALUE!
1,1,2-Trichloroethane	1.00	ND	ND	#VALUE!
Tetrachloroethene	1.00	7.56	7.03	7%
Benzene	1.00	NA	NA	#VALUE!
Toluene	1.00	NA	NA	#VALUE!
Ethylbenzene	1.00	NA	NA	#VALUE!
o-Xylene	1.00	NA	NA	#VALUE!
m&p-Xylenes	1.00	NA	NA	#VALUE!
Methyl *tert*-Butyl Ether	1.00	NA	NA	#VALUE!
Sample Condition (S,U)/Dilution (PQL)		S	S	

S: Satisfactory, U: Unsatisfactory
U: see sample narrative
Dilution: numerical dilution factor used to quantitate analyte concentrations within the range of the initial calibration curve

[1] MW: Molecular weight of the analyte
[2] MDL: Method detection limit according to EPA 40CFR Part 136 Appendix B
[3] PQL: Practical quantitation limit using the initial calibration curve low point and dilution factors where applicable

ND indicates that no analyte was detected at or above the practical quantitation limit
NA indicates that the calculation is not applicable

SAMPLE NARRATIVE:

302505

This report will not be reproduced without the expressed written permission of the client

Samples Collected:		Collected by:		Client:	
Samples Received:		Received by:	B O'BROCKI	Client Address:	
Samples Analyzed:		Analyzed by:	B. O'BROCKI		
Samples Reported:		Reported by:			
Project Identification:		Report Revision:	0.0	Client Contact:	
Target Job Code:		Method Deviations:	None	Client Phone:	
Purchase Order:	N/A	Sampling Method:		Client Fax:	

USEPA Method 3810-8010 Initial Calibration 9/25/98

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
AREA COUNTS											
1st Level Standard	4.65	2.76	0.480	2.17	0.400	8.16	18.8	222	8.70	2.85	51.0
2nd Level Standard	8.99	4.31	0.980	4.21	0.820	16.4	37.5	487	18.8	7.00	102
3rd Level Standard	13.0	5.68	1.44	5.98	1.32	24.7	57.7	781	28.0	12.2	164
4th Level Standard	17.8	6.51	2.02	8.15	1.70	33.7	79.2	1089	39.5	18.1	232
5th Level Standard	28.0	9.18	3.23	12.5	3.05	53.5	127.2	1773	63.8	37.7	386
CONCENTRATION											
1st Level Standard	1.34	0.863	1.53	1.55	1.97	0.160	0.153	0.194	0.149	0.267	0.191
2nd Level Standard	2.68	1.73	3.06	3.10	3.94	0.320	0.306	0.388	0.298	0.534	0.382
3rd Level Standard	4.02	2.59	4.59	4.65	5.91	0.480	0.459	0.582	0.447	0.801	0.573
4th Level Standard	6.05	3.87	6.90	7.00	8.85	0.720	0.690	0.870	0.670	1.20	0.860
5th Level Standard	12.1	7.73	13.8	14.0	17.7	1.44	1.38	1.74	1.34	2.40	1.72
CALIBRATION FACTORS											
1st Level Standard	3.47	3.20	0.314	1.40	0.203	51.0	123	1144	58.4	9.93	267
2nd Level Standard	3.35	2.50	0.320	1.36	0.208	51.2	123	1255	63.1	13.1	267
3rd Level Standard	3.23	2.19	0.314	1.29	0.223	51.5	126	1342	62.6	15.2	286
4th Level Standard	2.94	1.68	0.293	1.16	0.192	46.8	115	1252	59.0	15.1	270
5th Level Standard	2.31	1.19	0.234	0.893	0.172	37.2	92.2	1019	47.6	15.7	224
AVG. CAL. FACTOR	3.06	2.39	0.295	1.22	0.200	47.5	116	1202	58.1	13.8	263
STD. DEV. OF CAL. FAC.	0.462	0.633	0.036	0.204	0.019	6.105	13.723	124.201	6.251	2.389	22.942
% RSD	15.1%	26.4%	12.1%	16.7%	9.5%	12.8%	11.9%	10.3%	10.8%	17.3%	8.7%

*** CH2CL2 4 POINT CURVE CONC1-ONC4, CONC5 ABOVE LINEAR RANGE

USEPA Method 3810-8020 Initial Calibration 9/25/98

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
AREA COUNTS					
1st Level Standard	0.15	0.25	0.63	2.02	1.54
2nd Level Standard	2.13	4.11	2.63	3.98	1.71
3rd Level Standard	3.62	8.44	7.19	12.20	5.23
4th Level Standard	3.77	10.70	12.40	23.40	10.70
5th Level Standard	4.37	14.00	18.30	36.70	17.80
CONCENTRATIONS					
1st Level Standard	1.61	1.90	2.10	4.37	2.13
2nd Level Standard	32.3	38.0	42.0	87.4	42.6
3rd Level Standard	64.6	76.0	84.0	174.8	85.2
4th Level Standard	96.9	114.0	126.0	262.2	127.8
5th Level Standard	129	152	168	350	170
CALIBRATION FACTORS					
1st Level Standard	0.0932	0.1316	0.3000	0.4622	0.7230
2nd Level Standard	0.0659	0.1082	0.0626	0.0455	0.0401
3rd Level Standard	0.0560	0.1111	0.0856	0.0698	0.0614
4th Level Standard	0.0389	0.0939	0.0984	0.0892	0.0837
5th Level Standard	0.0338	0.0921	0.1089	0.1050	0.1045
AVG. CAL. FACTOR	0.0576	0.1074	0.1311	0.1544	0.2025
STD. DEV. OF CAL. FAC.	0.0237	0.0159	0.0960	0.1735	0.2919
% RSD	41.2%	14.8%	73.2%	112.4%	144.1%

302506

Samples Collected:		Collected by:		Client:	
Samples Received:		Received by:	B O'BROCKI	Client Address:	
Samples Analyzed:		Analyzed by:	B. O'BROCKI		
Samples Reported:		Reported by:			
Project Identification:		Report Revision:	0.0	Client Contact:	
Target Job Code:		Method Deviations:	None	Client Phone:	
Purchase Order:	N/A	Sampling Method:		Client Fax:	

No DATA Reported from this Curve
BG 10/6/98

USEPA Method 3810-8010 Initial Calibration 9/25/98

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
AREA COUNTS											
1st Level Standard	31.70	6.24	3.480	7.41	1.700	41.11	96.2	1585	42.70	6.38	125.5
2nd Level Standard	116.1	25.45	12.91	30.05	6.50	187.4	448.9	7511	192.9	42.4	774
3rd Level Standard	216.7	51.94	23.32	42.0	14.56	303.6	728.9	12318	356.6	64.8	1257
4th Level Standard											
5th Level Standard											
CONCENTRATION											
1st Level Standard	1.34	0.863	1.53	1.55	1.97	0.160	0.153	0.194	0.149	0.267	0.191
2nd Level Standard	6.05	3.87	6.90	7.00	8.85	0.720	0.690	0.870	0.670	1.20	0.860
3rd Level Standard	12.1	7.73	13.8	14.0	17.7	1.44	1.38	1.74	1.34	2.40	1.72
4th Level Standard											
5th Level Standard											
CALIBRATION FACTORS											
1st Level Standard	23.66	7.23	2.275	4.78	0.863	256.9	629	8170	286.6	23.90	657
2nd Level Standard	19.19	6.58	1.871	4.29	0.960	260.3	651	8633	287.9	35.3	900
3rd Level Standard	17.91	6.72	1.690	3.00	0.823	210.8	528	7079	266.1	27.0	731
4th Level Standard											
5th Level Standard											
AVG. CAL. FACTOR	20.25	6.84	1.95	4.02	0.88	242.68	602.51	7960.92	280.20	28.74	762.78
STD. DEV. OF CAL. FAC.	3.017	0.341	0.299	0.921	0.071	27.641	65.277	797.851	12.214	5.923	124.808
% RSD	14.9%	5.0%	15.4%	22.9%	8.0%	11.4%	10.8%	10.0%	4.4%	20.6%	16.4%

*** CH2CL2 4 POINT CURVE CONC1-ONC4, CONC5 ABOVE LINEAR RANGE

USEPA Method 3810-8020 Initial Calibration 9/25/98

STANDARD ANALYTES	Benzene	Toluene	Ethylbenzene	m&p-Xylene	o-Xylene
40					
AREA COUNTS					
1st Level Standard	0.26	0.22	0.19	0.45	0.23
2nd Level Standard	9.70	9.64	9.57	18.71	9.46
3rd Level Standard	18.19	18.61	18.44	35.75	17.54
4th Level Standard					
5th Level Standard					
CONCENTRATIONS					
1st Level Standard	1.61	1.90	2.10	4.37	2.13
2nd Level Standard	64.4	76.0	84.0	174.8	85.2
3rd Level Standard	129	152	168	350	170
4th Level Standard					
5th Level Standard					
CALIBRATION FACTORS					
1st Level Standard	0.1615	0.1158	0.0905	0.1030	0.1080
2nd Level Standard	0.1506	0.1268	0.1139	0.1070	0.1110
3rd Level Standard	0.1412	0.1224	0.1098	0.1023	0.1029
4th Level Standard					
5th Level Standard					
AVG. CAL. FACTOR	0.1511	0.1217	0.1047	0.1041	0.1073
STD. DEV. OF CAL. FAC.	0.0101	0.0056	0.0125	0.0026	0.0041
% RSD	6.7%	4.6%	11.9%	2.5%	3.8%

302507

CALIBRATION DATA: 8010 SOIL VAPOR HEADSPACE
INSTRUMENT: SHIMADZU GC14A SYSTEM 5
DETECTOR: ECD
LAB: TARGET FIXED LAB
CALIBRATION DATE:9/14/98

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
AREA COUNTS											
1st Level Standard	10.92	1.540	0.5900	1.390	0.3800	7.700	17.05	269.3	9.080	1.830	33.32
2nd Level Standard	36.97	3.960	1.880	4.000	1.610	22.57	50.45	783.4	25.29	5.670	90.87
3rd Level Standard	51.73	7.070	4.620	6.450	3.580	46.92	105.8	1625	53.20	14.14	198.2
CONCENTRATION											
1st Level Standard	1.790	1.150	2.040	2.070	2.620	0.2130	0.2040	0.2580	0.1990	0.3560	0.2550
2nd Level Standard	6.050	3.870	6.900	7.000	8.850	0.7200	0.6900	0.8700	0.6700	1.200	0.8600
3rd Level Standard	12.10	7.730	13.80	14.00	17.70	1.440	1.380	1.740	1.340	2.400	1.720
CALIBRATION FACTORS											
1st Level Standard	6.101	1.339	0.2892	0.6715	0.1450	36.15	83.58	1044	45.63	5.140	130.7
2nd Level Standard	6.111	1.023	0.2725	0.5714	0.1819	31.35	73.12	900.5	37.75	4.725	105.7
3rd Level Standard	4.275	0.9146	0.3348	0.4607	0.2023	32.58	76.65	934.2	39.70	5.892	115.2
AVG. CAL. FACTOR	5.496	1.092	0.2988	0.5679	0.1764	33.36	77.78	959.4	41.03	5.252	117.2
STD. DEV. OF CAL. FAC.	1.057	0.2205	0.03225	0.1054	0.02901	2.494	5.322	74.85	4.104	0.5913	12.62
% RSD	19.2%	20.2%	10.8%	18.6%	16.4%	7.48%	6.84%	7.80%	10.0%	11.3%	10.8%
CORRELATION COEFF	0.967	1.00	0.994	0.993	0.999	0.999	0.999	0.999	0.999	0.994	1.00
(-)20% AVG CAL	4.40	0.874	0.239	0.454	0.141	26.7	62.2	768	32.8	4.20	93.7
(+)20% AVG CAL	6.59	1.31	0.359	0.681	0.212	40.0	93.3	1151	49.2	6.30	141
(-)20% AREA CT	26.6	3.38	1.65	3.18	1.25	19.2	42.9	668	22.0	5.04	80.6
(+)20% AREA CT	39.9	5.07	2.47	4.77	1.87	28.8	64.4	1002	33.0	7.56	121

302508

CALIBRATION DATA: 8020 SOIL VAPOR HEADSPACE
INSTRUMENT: SHIMADZU GC14A SYSTEM 5
DETECTOR: FID
LAB: TARGET FIXED LAB
CALIBRATION DATE:10/2/98

STANDARD ANALYTES	MTBE	Benzene	Toluene	Ethyl-Benzene	m&p-Xylene	o-Xylene
AREA COUNTS						
1st Level Standard		4.000	4.510	4.690	9.510	4.730
2nd Level Standard		114.0	124.0	129.0	259.0	123.0
3rd Level Standard		186.0	234.0	248.0	504.0	242.0
4th Level Standard						
5th Level Standard						
CONCENTRATIONS						
1st Level Standard		1.930	2.280	2.520	5.240	2.560
2nd Level Standard		64.60	76.00	84.00	175.0	85.20
3rd Level Standard		129.0	152.0	168.0	350.0	170.0
4th Level Standard						
5th Level Standard						
CALIBRATION FACTORS						
1st Level Standard		2.073	1.978	1.861	1.815	1.848
2nd Level Standard		1.765	1.632	1.536	1.480	1.444
3rd Level Standard		1.442	1.539	1.476	1.440	1.424
4th Level Standard						
5th Level Standard						
AVG. CAL. FACTOR		1.760	1.716	1.624	1.578	1.572
STD. DEV. OF CAL. FAC.		0.3154	0.2313	0.2072	0.2059	0.2393
% RSD		17.9%	13.5%	12.8%	13.0%	15.2%
CORRELATION COEFF		0.992	0.999	1.00	1.00	1.00
(-)30% AVG CAL. FAC		1.23	1.20	1.14	1.10	1.10
(+)30% AVG CAL. FAC		2.29	2.23	2.11	2.05	2.04
(+)30% AREA COUNT		84.0	98.8	109	228	111
(-)30% AREA COUNT		45.2	53.2	58.8	123	59.6

302509

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPA
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810-8010 Continuing Calibration Check 9/29/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	13.0	5.68	1.44	5.98	1.32	24.7	57.7	781	28.0	12.2	164
Continuing Area count	10.1	4.08	1.10	4.64	0.940	16.5	40.5	546	23.9	13.9	127
Percent Difference	22%	28%	24%	22%	29%	33%	30%	30%	15%	14%	23%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 9/29/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8010 Continuing Calibration Check 9/30/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	13.0	5.68	1.44	5.98	1.32	24.7	57.7	781	28.0	12.2	164
Continuing Area count	13	5.04	1.69	5.47	1.36	25.6	59.8	901	28.4	16.1	161
										***	
Percent Difference	0%	11%	17%	9%	3%	4%	4%	15%	1%	32%	2%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

*** NO SAMPLES SHOW POSITIVE RESULTS FOR 112TCA. ALL DATA REPORTED

USEPA Method 3810-8020 Continuing Calibration Check 9/30/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

302510

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPA
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810-8010 Continuing Calibration Check 9/30/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	13.0	5.68	1.44	5.98	1.32	24.7	57.7	781	28.0	12.2	164
Continuing Area count	13	5.04	1.69	5.47	1.36	25.6	59.8	901	28.4	16.1	161
										***	
Percent Difference	0%	11%	17%	9%	3%	4%	4%	15%	1%	32%	2%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

*** NO SAMPLES SHOW POSITIVE RESULTS FOR 112TCA. ALL DATA REPORTED

USEPA Method 3810-8020 Continuing Calibration Check 9/30/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8010 Continuing Calibration Check 10/1/98/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Continuing Area count	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 10/1/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

302511

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPA
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810-8010 Continuing Calibration Check 10/2/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	36.9	3.96	1.88	4.00	1.61	22.5	50.5	783	25.3	5.67	90.9
Continuing Area count	32.9	3.55	2.33	3.66	1.70	23.7	52.9	840	26.2	6.80	102
Percent Difference	11%	10%	24%	9%	6%	5%	5%	7%	4%	20%	12%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 10/2/98-opening

	STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
****	Calibration Area Count	1.00	1.00	1.00	1.00	1.00
	Continuing Area Count	1.00	1.00	1.00	1.00	1.00
	Percent Difference	0%	0%	0%	0%	0%
	QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

**** BTEX RECALIBRATED.

USEPA Method 3810-8010 Continuing Calibration Check 10/3/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	36.9	3.96	1.88	4.00	1.61	22.5	50.5	783	25.3	5.67	90.9
Continuing Area count	29.9	4.40	2.28	3.60	1.58	23.5	53.5	853	26.1	6.35	99.4
Percent Difference	19%	11%	21%	10%	2%	4%	6%	9%	3%	12%	9%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 10/3/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	114	124	129	259	123
Continuing Area Count	102	105	105	204	100
Percent Difference	11%	15%	19%	21%	19%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

302512

Samples Collected:	9/28-10/1/98	Collected by:	Jeff Green	Client:	THE WHITMAN COMPA
Samples Received:	9/28-10/1/98	Received by:	B OBROCKI	Client Address:	NA
Samples Analyzed:	9/29-10/3/98	Analyzed by:	B OBROCKI		NA
Samples Reported:	9/29-10/5/98	Reported by:	B OBROCKI		
Project Identification:	ROCKAWAYNJ	Report Revision:	0.0	Client Contact:	M METLITZ
Target Job Code:	TWC082698	Method Deviations:	None	Client Phone:	732-390-5858
Purchase Order:	N/A	Sampling Method:	PROBE/SLIDE	Client Fax:	732-390-9496

USEPA Method 3810-8010 Continuing Calibration Check 10/5/98-opening

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	36.9	3.96	1.88	4.00	1.61	22.5	50.5	783	25.3	5.67	90.9
Continuing Area count	33.1	4.04	2.04	4.14	1.51	25.0	57.3	897	26.7	6.04	103
Percent Difference	10%	2%	9%	3%	6%	11%	13%	15%	6%	7%	13%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 10/5/98-opening

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8010 Continuing Calibration Check 10/6/98-closing

STANDARD ANALYTES	11DCE	MeCl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CT	TCE	112TCA	PCE
Calibration Area Count	36.8	3.96	1.88	4.00	1.61	22.5	50.5	783	25.3	5.67	90.9
Continuing Area count	27.48	4.14	1.99	3.83	1.42	22.4	51.5	832	25.4	5.61	84.7
Percent Difference	25%	5%	6%	4%	12%	0%	2%	6%	0%	1%	7%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

USEPA Method 3810-8020 Continuing Calibration Check 10/6/98-closing

STANDARD ANALYTES	Benzene	Toluene	Ethyl benzen	m&p-Xylen	o-Xylene
Calibration Area Count	1.00	1.00	1.00	1.00	1.00
Continuing Area Count	1.00	1.00	1.00	1.00	1.00
Percent Difference	0%	0%	0%	0%	0%
QC Range	+/- 30%	+/- 30%	+/- 30%	+/- 30%	+/- 30%

302513

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: TWC 082698

CLIENT: THE WHITMAN COMPANIES
ADDRESS:
PHONE: 732-390-5858 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/28/98 PAGE 1 OF 3
P.O.# :
LOCATION: Rockaway NJ. Stiles/Elm St.
COLLECTOR: J. Cavanaugh DATE OF COLLECTION: 9/28/98

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SGN-11	3'	1130AM	GAS	3 mL	X	X	X																Soil Gas 3570	1	
SGN-12	3'				X	X	X																	1	
21	3'				X	X	X																9/28/98	1	
43	3'				X	X	X																	1	
33	3'				X	X	X																	1	
23	3'				X	X	X																	1	
21	3'				X	X	X																	1	
22	3'				X	X	X																	1	
31	3'				X	X	X																	1	
32	3'				X	X	X																	1	
20	3'				X	X	X																	1	
FG-1	3'	1130AM	GAS	3 mL	X																			1	
SCA-23					X																			1	
24					X																			1	
25					X																			1	
33					X																			1	
34					X																			1	
35					X																			1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
			9/29/98 4:00 PM
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302514

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: TWC062698

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5858 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/28/98 PAGE 2 OF 3
P.O.# :
LOCATION: Rockaway NJ. Stickle/Blum St.
COLLECTOR: J. Greene DATE OF COLLECTION: 9/28/98

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SGA-36	3'	1130 AM	GAS	3 x 40 ml Amber	X																		1	
SGA-43					X																		1	
SGA-44					X																		1	
SGA-45					X																		1	
SGA-46					X																		1	
SGA-52					X																		1	
SGA-53					X																		1	
SGA-54					X																		1	
SGA-55					X																		1	
SGA-99					X																		1	
SGA-21					X																		1	
SGN-13	3'	1015 AM			X	X																	1	
SGN-42					X																		1	
SGA-3A1					X																		1	
SGA-3A2					X																		1	
SGA-57					X																		1	
SGA-22					X																		1	
FB-2					X																		1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	9/28/98 9:00 AM
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302515

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: TWC087698

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5858 FAX: 732-396-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/28/94 PAGE 3 OF 3
P.O.# :
LOCATION: Rockaway NJ - Stickle/Elm St
COLLECTOR: J. Greene DATE OF COLLECTION: 9/28/94

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (q & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity		Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SGA-04A	3'	2:30 pm	Gas	2 ~~20~~ mL	X																				1	
13					X																				1	
14					X																				1	
14A					X																				1	
15					X																				1	
66					X																				1	
FB-3					X																				1	
SGA-63	3'	3:15 pm	Gas	2 ~~30~~ mL	X																				1	
64					X																				1	
65					X																				1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	9/28/94 4:00 pm
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302516

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: TW082698

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5858 FAX: 732-390-5496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/29/98 PAGE 1 OF 2
P.O.# :
LOCATION: Rockaway N-5 Stickle/Elm St
COLLECTOR: Nick DATE OF COLLECTION: 9/~~30~~ 29/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (q & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity		Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SG-13	4'	1200	GAS	27mL	X																				1	
14					X																				1	
15					X																				1	
23					X																				1	
24					X																				1	
25					X																				1	
33					X																				1	
34					X																				1	
35					X																				1	
43					X																				1	
44					X																				1	
45					X																				1	
46					X																				1	
FB-1A		1330			X																				1	
SG-10					X																				1	
11					X																				1	
12					X																				1	
20					X																				1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	9/29/98 6:00 pm
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302517

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: TW082698

CLIENT: The WHITMAN Companies
ADDRESS:
PHONE: 732-390-5858 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/29/98 PAGE 2 OF 2
P.O.# :
LOCATION: Rockaway NJ Stickle Farm St.
COLLECTOR: Nick DATE OF COLLECTION: 9/29/98

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (q & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity		Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SG-30	4'	1330	GAS	27mL	X																				1	
60A					X																				1	
01A					X																				1	
FD-2A		1600			X																				1	
SGFD-1					X																				1	
SG-12A					X																				1	
SG-22A					X																				1	
SG-22B					X																				1	
SG-40					X																				1	
SG-50					X																				1	
SG-32A					X																				1	
32B		1715			X																				1	
44					X																				1	
99					X																				1	
FB-3A					X																				1	
SCA-80C					X																				1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	9/29/98 6:00 pm
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302518

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD

JOB CODE: TW082698

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5958 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Cotta

DATE: 9/30/96 PAGE 1 OF 2
P.O.# :
LOCATION: Rockaway NJ Stickle Farms
COLLECTOR: Nick DATE OF COLLECTION: 9/30/96

Sample Number	Depth	Time	Sample Type	Container Type	VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity	Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
FB-1B	4'	1030	DS	27 mL	X																			1	
SG-99A					X																			1	
SG-52					X																			1	
SG-51					X																			1	
50A					X																			1	
42B					X																			1	
42A					X																			1	
42					X																			1	
31					X																			1	
22C					X																			1	
20A					X																			1	
10A					X																			1	
SG-31	4'	1100			X																			1	
~~FB-1B~~					X																			1	
SG-32CS					X																			1	
33D					X																			1	
22AD					X																			1	
33BS					X																			1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
			9/30/96 6:00 pm
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302519

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE: 9/30/

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5852 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 9/30/98 PAGE 2 OF 2
P.O.# :
LOCATION: Rockaway N.J Stickle/Elm St.
COLLECTOR: Nick DATE OF COLLECTION: 9/30/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity		Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SG-33AS	4'	3:00 PM	GAS	27 mL	X																				1	
23AS		-5:00 PM			X																				1	
22DS					X																				1	
22ES					X																				1	
12BS					X																				1	
FB-2B					X																				1	
FB-3B					X																				1	
SG-12BD					X																				1	
SG-22DD					X																				1	
22ED					X																				1	
32CD					X																				1	
33BD					X																				1	
23AD					X																				1	
33AD					X																				1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	9/30/98 6:00 PM
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302520

TARGET LABORATORIES

10555 Guilford Rd. Suite 127, Jessup, Md 20794
Office: 301-497-6400 Fax: 301-497-4440

CHAIN-OF-CUSTODY RECORD
JOB CODE:

CLIENT: The Whitman Companies
ADDRESS:
PHONE: 732-390-5858 FAX: 732-390-9496
CLIENT PROJECT #: PROJECT MANAGER: C. Coffee

DATE: 10/1/98 PAGE 1 OF
P.O.# :
LOCATION: Rockaway NJ Stickle/Elm St.
COLLECTOR: Nick DATE OF COLLECTION: 10/1/98

Sample Number	Depth	Time	Sample Type	Container Type	ANALYSES: VOA 601/8010	VOA 602/8020	VOA 624/8260	Semi Vol 625/8270	TPH 418.1	TPH 8015 (gasoline)	TPH 8015 (diesel)	TPH 8015 (g & d)	PNA 610/8100	PEST/PCBs 8080	TOC	BOD	LEAD 239.2	pH	Ignitability	Metals 6000/7000	Reactivity			Preservative (Y/N)	FIELD NOTES	Total Number of Containers	Laboratory Note Number
SGA-02	3'	1015	GAS	27mL	X																					1	
04B					X																					1	
06					X																					1	
16					X																					1	
77C					X																					1	
01	3'	10:40			X																					1	
SGA-03B	3'	1600			X																					1	
05B					X																					1	
04C					X																					1	
SGA-04 ~~03B~~	BR 10/3/98				X																					1	
FB-1C					X																					1	
2C					X																					1	
3C					X																					1	
SGA-02C					X																					1	
04D					X																					1	
05C					X																					1	
06B					X																					1	
06C					X																					1	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		[signature]	10/1/98 5:30 PM
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME

SAMPLE RECEIPT	
Total Number of Containers	
Chain of Custody Seals Y/N NA	
Seals Intact? Y/N NA	
Received Good Cond./Cold	
Notes:	

LABORATORY NOTES:

302521

ATTACHMENT 5

ANALYTICAL DATA SHEETS

10/6/98 – JOB #H941

302523

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

RECEIVED
NOV 11 1998
The Whitman Companies, Inc.

November 3, 1998

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Dr. Ira Whitman

Re: Job No. H941 - Klockner & Klockner

Dear Dr. Whitman:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 07, 1998:

Lab No.	Client ID	Analysis Required
88548	FB-1	TCL BN+10, TAL Metals, PHC
88549	SSGC-1_1-4	TOC
88550	TB-1	TCL VOA+10
88551	SSAW-8_5.5-6	Purgeable Halocarbons
88552	SSAW-3_1-1.5	Purgeable Halocarbons
88553	SSAW-3_11.5-12	Purgeable Halocarbons
88554	SSWT-1_7-7.5	Purgeable Halocarbons
88555	SSAW-1_2.5-3	Purgeable Halocarbons
88556	SSAW-1_13-13.5	Purgeable Halocarbons
88557	SSNDS-2_1.5-2	TCL VOA+10
88558	SSAN-8_11-11.5	Purgeable Halocarbons
88559	SSNDS-1A_1-1.5	TCL VOA+10
88560	SSFS-1_.5-1	TCL VOA+10
88561	SSWT-2_7-7.5	Purgeable Halocarbons
88562	SSNDS-1A_0-0.5	TCL BN+10, TAL Metals, PHC
88563	SSNDS-2A_0-0.5	TCL BN+10, TAL Metals, PHC
88564	SSDSA-1_0-0.5	TAL Metals

302524

Lab No.	Client ID	Analysis Required
88565	SSFS-1_0-0.5	TCL BN+10, TAL Metals, PHC
88566	SSCB-1_2-2.5	TCL BN+10, TAL Metals
88567	SSWT-1_7-7.5	TAL Metals
88568	SSDSA-1_1.5-2	Purgeable Halocarbons
88569	SSAW-6_2-2.5	Purgeable Halocarbons
88570	SSAW-6_9-9.5	Purgeable Halocarbons

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

Client ID: **FB-1**
Site: Klockner & Klockner

Lab Sample No: **88548**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/09/98
Date Analyzed: 10/15/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q7549.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
bis(2-Chloroethyl)ether	ND	1.1
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
1,2-Dichlorobenzene	ND	11
bis(2-chloroisopropyl)ether	ND	11
N-Nitroso-di-n-propylamine	ND	1.1
Hexachloroethane	ND	1.1
Nitrobenzene	ND	1.1
Isophorone	ND	11
bis(2-Chloroethoxy)methane	ND	11
1,2,4-Trichlorobenzene	ND	1.1
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	2.2
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	11
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	22
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	2.2
3-Nitroaniline	ND	22
Acenaphthene	ND	11
Dibenzofuran	ND	11
2,4-Dinitrotoluene	ND	2.2
Diethylphthalate	ND	11
4-Chlorophenyl-phenylether	ND	11
Fluorene	ND	11
4-Nitroaniline	ND	22
N-Nitrosodiphenylamine	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	1.1
Phenanthrene	ND	11
Anthracene	ND	11

Client ID: **FB-1**
Site: Klockner & Klockner

Lab Sample No: **88548**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/09/98
Date Analyzed: 10/15/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q7549.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Carbazole	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	22
Benzo(a)anthracene	ND	1.1
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b)fluoranthene	ND	1.1
Benzo(k)fluoranthene	ND	1.1
Benzo(a)pyrene	ND	1.1
Indeno(1,2,3-cd)pyrene	ND	1.1
Dibenz(a,h)anthracene	ND	1.1
Benzo(g,h,i)perylene	ND	11

Client ID: **FB-1**
Site: Klockner & Klockner

Lab Sample No: **88548**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/09/98
Date Analyzed: 10/15/98
GC Column: DB-5
Instrument ID: BNAMS5.i
Lab File ID: q7549.d

Matrix: WATER
Level: LOW
Sample Volume: 930 ml
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **TB-1**
Site: Klockner & Klockner

Lab Sample No: **88550**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/18/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b8532.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

Client ID: **TB-1**
Site: Klockner & Klockner

Lab Sample No: **88550**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/18/98
GC Column: DB624
Instrument ID: VOAMS2.i
Lab File ID: b8532.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSNDS-2_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **88557**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4656.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	620
Bromomethane	ND	620
Vinyl Chloride	ND	620
Chloroethane	ND	620
Methylene Chloride	ND	370
Acetone	ND	620
Carbon Disulfide	ND	620
1,1-Dichloroethene	ND	250
1,1-Dichloroethane	ND	620
trans-1,2-Dichloroethene	ND	620
cis-1,2-Dichloroethene	93 J	620
Chloroform	ND	620
1,2-Dichloroethane	ND	250
2-Butanone	ND	620
1,1,1-Trichloroethane	ND	620
Carbon Tetrachloride	ND	250
Bromodichloromethane	ND	120
1,2-Dichloropropane	ND	120
cis-1,3-Dichloropropene	ND	620
Trichloroethene	6200	120
Dibromochloromethane	ND	620
1,1,2-Trichloroethane	ND	370
Benzene	ND	120
trans-1,3-Dichloropropene	ND	620
Bromoform	ND	490
4-Methyl-2-Pentanone	ND	620
2-Hexanone	ND	620
Tetrachloroethene	130	120
1,1,2,2-Tetrachloroethane	ND	120
Toluene	ND	620
Chlorobenzene	ND	620
Ethylbenzene	ND	490
Styrene	ND	620
Xylene (Total)	ND	620

Client ID: **SSNDS-2_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **88557**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4656.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.7

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSNDS-1A_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **88559**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6473.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11.2 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 500.0
% Moisture: 15

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	6500
Bromomethane	ND	6500
Vinyl Chloride	ND	6500
Chloroethane	ND	6500
Methylene Chloride	ND	3900
Acetone	ND	6500
Carbon Disulfide	ND	6500
1,1-Dichloroethene	ND	2600
1,1-Dichloroethane	ND	6500
trans-1,2-Dichloroethene	ND	6500
cis-1,2-Dichloroethene	1300 J	6500
Chloroform	ND	6500
1,2-Dichloroethane	ND	2600
2-Butanone	ND	6500
1,1,1-Trichloroethane	ND	6500
Carbon Tetrachloride	ND	2600
Bromodichloromethane	ND	1300
1,2-Dichloropropane	ND	1300
cis-1,3-Dichloropropene	ND	6500
Trichloroethene	90000	1300
Dibromochloromethane	ND	6500
1,1,2-Trichloroethane	ND	3900
Benzene	ND	1300
trans-1,3-Dichloropropene	ND	6500
Bromoform	ND	5200
4-Methyl-2-Pentanone	ND	6500
2-Hexanone	ND	6500
Tetrachloroethene	ND	1300
1,1,2,2-Tetrachloroethane	ND	1300
Toluene	ND	6500
Chlorobenzene	ND	6500
Ethylbenzene	ND	5200
Styrene	ND	6500
Xylene (Total)	ND	6500

Client ID: **SSNDS-1A_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **88559**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6473.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11.2 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 500.0
% Moisture: 14.6

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSFS-1_.5-1**
Site: Klockner & Klockner

Lab Sample No: **88560**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4675.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.7 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 8

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	1300
Bromomethane	ND	1300
Vinyl Chloride	ND	1300
Chloroethane	ND	1300
Methylene Chloride	ND	760
Acetone	ND	1300
Carbon Disulfide	ND	1300
1,1-Dichloroethene	ND	510
1,1-Dichloroethane	ND	1300
trans-1,2-Dichloroethene	ND	1300
cis-1,2-Dichloroethene	1200 J	1300
Chloroform	ND	1300
1,2-Dichloroethane	ND	510
2-Butanone	ND	1300
1,1,1-Trichloroethane	ND	1300
Carbon Tetrachloride	ND	510
Bromodichloromethane	ND	250
1,2-Dichloropropane	ND	250
cis-1,3-Dichloropropene	ND	1300
Trichloroethene	23000	250
Dibromochloromethane	ND	1300
1,1,2-Trichloroethane	ND	760
Benzene	ND	250
trans-1,3-Dichloropropene	ND	1300
Bromoform	ND	1000
4-Methyl-2-Pentanone	ND	1300
2-Hexanone	ND	1300
Tetrachloroethene	ND	250
1,1,2,2-Tetrachloroethane	ND	250
Toluene	ND	1300
Chlorobenzene	ND	1300
Ethylbenzene	ND	1000
Styrene	ND	1300
Xylene (Total)	ND	1300

Client ID: **SSFS-1_.5-1**
Site: Klockner & Klockner

Lab Sample No: **88560**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4675.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.7 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 8.1

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown Siloxane	15.87	2400	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 2400

Client ID: **SSNDS-1A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88562**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8301.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	37
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
1,2-Dichlorobenzene	ND	370
bis(2-chloroisopropyl)ether	ND	370
N-Nitroso-di-n-propylamine	ND	37
Hexachloroethane	ND	37
Nitrobenzene	ND	37
Isophorone	ND	370
bis(2-Chloroethoxy)methane	ND	370
1,2,4-Trichlorobenzene	ND	37
Naphthalene	ND	370
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	75
2-Methylnaphthalene	ND	370
Hexachlorocyclopentadiene	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	750
Dimethylphthalate	ND	370
Acenaphthylene	23 J	370
2,6-Dinitrotoluene	ND	75
3-Nitroaniline	ND	750
Acenaphthene	ND	370
Dibenzofuran	ND	370
2,4-Dinitrotoluene	ND	75
Diethylphthalate	ND	370
4-Chlorophenyl-phenylether	ND	370
Fluorene	ND	370
4-Nitroaniline	ND	750
N-Nitrosodiphenylamine	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	37
Phenanthrene	130 J	370
Anthracene	18 J	370

Client ID: **SSNDS-1A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88562**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8301.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	11 J	370
Di-n-butylphthalate	ND	370
Fluoranthene	220 J	370
Pyrene	240 J	370
Butylbenzylphthalate	ND	370
3,3'-Dichlorobenzidine	ND	750
Benzo(a)anthracene	97	37
Chrysene	150 J	370
bis(2-Ethylhexyl)phthalate	ND	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	180	37
Benzo(k)fluoranthene	92	37
Benzo(a)pyrene	110	37
Indeno(1,2,3-cd)pyrene	46	37
Dibenz(a,h)anthracene	14 J	37
Benzo(g,h,i)perylene	36 J	370

Client ID: **SSNDS-1A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88562**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8301.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11.1

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO SEMI-VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSNDS-2A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88563**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8302.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	38
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
1,2-Dichlorobenzene	ND	380
bis(2-chloroisopropyl)ether	ND	380
N-Nitroso-di-n-propylamine	ND	38
Hexachloroethane	ND	38
Nitrobenzene	ND	38
Isophorone	ND	380
bis(2-Chloroethoxy)methane	ND	380
1,2,4-Trichlorobenzene	ND	38
Naphthalene	ND	380
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	75
2-Methylnaphthalene	ND	380
Hexachlorocyclopentadiene	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	750
Dimethylphthalate	ND	380
Acenaphthylene	18 J	380
2,6-Dinitrotoluene	ND	75
3-Nitroaniline	ND	750
Acenaphthene	ND	380
Dibenzofuran	ND	380
2,4-Dinitrotoluene	ND	75
Diethylphthalate	ND	380
4-Chlorophenyl-phenylether	ND	380
Fluorene	ND	380
4-Nitroaniline	ND	750
N-Nitrosodiphenylamine	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	38
Phenanthrene	43 J	380
Anthracene	16 J	380

Client ID: **SSNDS-2A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88563**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8302.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	ND	380
Di-n-butylphthalate	ND	380
Fluoranthene	140 J	380
Pyrene	170 J	380
Butylbenzylphthalate	ND	380
3,3'-Dichlorobenzidine	ND	750
Benzo(a)anthracene	100	38
Chrysene	110 J	380
bis(2-Ethylhexyl)phthalate	23 J	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	160	38
Benzo(k)fluoranthene	66	38
Benzo(a)pyrene	94	38
Indeno(1,2,3-cd)pyrene	34 J	38
Dibenz(a,h)anthracene	11 J	38
Benzo(g,h,i)perylene	27 J	380

Client ID: **SSNDS-2A_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88563**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/20/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8302.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11.2

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown	9.64	6800	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 6800

Client ID: **SSFS-1_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88565**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8315.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	37
1,3-Dichlorobenzene	ND	370
1,4-Dichlorobenzene	ND	370
1,2-Dichlorobenzene	ND	370
bis(2-chloroisopropyl)ether	ND	370
N-Nitroso-di-n-propylamine	ND	37
Hexachloroethane	ND	37
Nitrobenzene	ND	37
Isophorone	ND	370
bis(2-Chloroethoxy)methane	ND	370
1,2,4-Trichlorobenzene	ND	37
Naphthalene	ND	370
4-Chloroaniline	ND	370
Hexachlorobutadiene	ND	75
2-Methylnaphthalene	ND	370
Hexachlorocyclopentadiene	ND	370
2-Chloronaphthalene	ND	370
2-Nitroaniline	ND	750
Dimethylphthalate	ND	370
Acenaphthylene	48 J	370
2,6-Dinitrotoluene	ND	75
3-Nitroaniline	ND	750
Acenaphthene	8.1J	370
Dibenzofuran	ND	370
2,4-Dinitrotoluene	ND	75
Diethylphthalate	ND	370
4-Chlorophenyl-phenylether	ND	370
Fluorene	14 J	370
4-Nitroaniline	ND	750
N-Nitrosodiphenylamine	ND	370
4-Bromophenyl-phenylether	ND	370
Hexachlorobenzene	ND	37
Phenanthrene	130 J	370
Anthracene	47 J	370

Client ID: SSFS-1_0-0.5
Site: Klockner & Klockner

Lab Sample No: 88565
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8315.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 11

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	12 J	370
Di-n-butylphthalate	ND	370
Fluoranthene	290 J	370
Pyrene	360 J	370
Butylbenzylphthalate	1000	370
3,3'-Dichlorobenzidine	ND	750
Benzo(a)anthracene	170	37
Chrysene	220 J	370
bis(2-Ethylhexyl)phthalate	260 J	370
Di-n-octylphthalate	ND	370
Benzo(b)fluoranthene	270	37
Benzo(k)fluoranthene	120	37
Benzo(a)pyrene	180	37
Indeno(1,2,3-cd)pyrene	74	37
Dibenz(a,h)anthracene	25 J	37
Benzo(g,h,i)perylene	59 J	370

Client ID: **SSFS-1_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88565**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8315.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 10.8

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Tricresylphosphate isomer	25.32	320	
2. Tricresylphosphate isomer	25.53	620	
3. Unknown	25.58	300	
4. Unknown	25.80	540	
5. C20H12 PAH/Unknown	27.46	630	
6. Unknown	27.67	560	
7. Unknown	28.12	1100	
8. Unknown	29.04	520	
9. Unknown	29.55	2300	
10. Unknown	30.68	1800	
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 8690

Client ID: **SSCB-1_2-2.5**
Site: Klockner & Klockner

Lab Sample No: **88566**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/14/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8316.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 12

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	38
1,3-Dichlorobenzene	ND	380
1,4-Dichlorobenzene	ND	380
1,2-Dichlorobenzene	ND	380
bis(2-chloroisopropyl)ether	ND	380
N-Nitroso-di-n-propylamine	ND	38
Hexachloroethane	ND	38
Nitrobenzene	ND	38
Isophorone	ND	380
bis(2-Chloroethoxy)methane	ND	380
1,2,4-Trichlorobenzene	ND	38
Naphthalene	9.3J	380
4-Chloroaniline	ND	380
Hexachlorobutadiene	ND	76
2-Methylnaphthalene	12 J	380
Hexachlorocyclopentadiene	ND	380
2-Chloronaphthalene	ND	380
2-Nitroaniline	ND	760
Dimethylphthalate	ND	380
Acenaphthylene	24 J	380
2,6-Dinitrotoluene	ND	76
3-Nitroaniline	ND	760
Acenaphthene	ND	380
Dibenzofuran	9.6J	380
2,4-Dinitrotoluene	ND	76
Diethylphthalate	ND	380
4-Chlorophenyl-phenylether	ND	380
Fluorene	ND	380
4-Nitroaniline	ND	760
N-Nitrosodiphenylamine	ND	380
4-Bromophenyl-phenylether	ND	380
Hexachlorobenzene	ND	38
Phenanthrene	86 J	380
Anthracene	15 J	380

Client ID: **SSCB-1_2-2.5**
Site: Klockner & Klockner

Lab Sample No: **88566**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/14/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8316.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 12

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	9.0J	380
Di-n-butylphthalate	ND	380
Fluoranthene	130 J	380
Pyrene	140 J	380
Butylbenzylphthalate	80 J	380
3,3'-Dichlorobenzidine	ND	760
Benzo(a)anthracene	55	38
Chrysene	83 J	380
bis(2-Ethylhexyl)phthalate	85 J	380
Di-n-octylphthalate	ND	380
Benzo(b)fluoranthene	110	38
Benzo(k)fluoranthene	50	38
Benzo(a)pyrene	71	38
Indeno(1,2,3-cd)pyrene	40	38
Dibenz(a,h)anthracene	ND	38
Benzo(g,h,i)perylene	39 J	380

Client ID: **SSCB-1_2-2.5**
Site: Klockner & Klockner

Lab Sample No: **88566**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Extracted: 10/14/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8316.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 12.1

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown	30.63	310	
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 310

Client ID: **SSAW-8_5.5-6**
Site: Klockner & Klockner

Lab Sample No: **88551**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9515.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 10.1

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	139
Chloromethane	ND	139
Vinyl Chloride	ND	139
Bromomethane	ND	139
Chloroethane	ND	139
Trichlorofluoromethane	ND	139
1,1-Dichloroethene	ND	139
Methylene Chloride	ND	139
trans-1,2-Dichloroethene	ND	139
1,1-Dichloroethane	ND	139
cis-1,2-Dichloroethene	ND	139
Chloroform	ND	139
1,1,1-Trichloroethane	ND	139
Carbon Tetrachloride	ND	139
1,2-Dichloroethane	ND	139
Trichloroethene	ND	139
1,2-Dichloropropane	ND	139
Bromodichloromethane	ND	139
2-Chloroethyl Vinyl Ether	ND	139
cis-1,3-Dichloropropene	ND	139
trans-1,3-Dichloropropene	ND	139
1,1,2-Trichloroethane	ND	139
Tetrachloroethene	ND	139
Dibromochloromethane	ND	139
Chlorobenzene	ND	139
Bromoform	ND	139
1,1,2,2-Tetrachloroethane	ND	139
1,3-Dichlorobenzene	ND	139
1,4-Dichlorobenzene	ND	139
1,2-Dichlorobenzene	ND	139

Client ID: **SSAW-3_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **88552**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9516.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 1000.0
% Moisture: 16.6

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	2940
Chloromethane	ND	2940
Vinyl Chloride	ND	2940
Bromomethane	ND	2940
Chloroethane	ND	2940
Trichlorofluoromethane	ND	2940
1,1-Dichloroethene	ND	2940
Methylene Chloride	ND	2940
trans-1,2-Dichloroethene	ND	2940
1,1-Dichloroethane	ND	2940
cis-1,2-Dichloroethene	10800	2940
Chloroform	ND	2940
1,1,1-Trichloroethane	ND	2940
Carbon Tetrachloride	ND	2940
1,2-Dichloroethane	ND	2940
Trichloroethene	32300	2940
1,2-Dichloropropane	ND	2940
Bromodichloromethane	ND	2940
2-Chloroethyl Vinyl Ether	ND	2940
cis-1,3-Dichloropropene	ND	2940
trans-1,3-Dichloropropene	ND	2940
1,1,2-Trichloroethane	ND	2940
Tetrachloroethene	ND	2940
Dibromochloromethane	ND	2940
Chlorobenzene	ND	2940
Bromoform	ND	2940
1,1,2,2-Tetrachloroethane	ND	2940
1,3-Dichlorobenzene	ND	2940
1,4-Dichlorobenzene	ND	2940
1,2-Dichlorobenzene	ND	2940

Client ID: **SSAW-3_11.5-12**
Site: Klockner & Klockner

Lab Sample No: **88553**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9517.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	131
Chloromethane	ND	131
Vinyl Chloride	ND	131
Bromomethane	ND	131
Chloroethane	ND	131
Trichlorofluoromethane	ND	131
1,1-Dichloroethene	ND	131
Methylene Chloride	ND	131
trans-1,2-Dichloroethene	ND	131
1,1-Dichloroethane	ND	131
cis-1,2-Dichloroethene	ND	131
Chloroform	ND	131
1,1,1-Trichloroethane	ND	131
Carbon Tetrachloride	ND	131
1,2-Dichloroethane	ND	131
Trichloroethene	ND	131
1,2-Dichloropropane	ND	131
Bromodichloromethane	ND	131
2-Chloroethyl Vinyl Ether	ND	131
cis-1,3-Dichloropropene	ND	131
trans-1,3-Dichloropropene	ND	131
1,1,2-Trichloroethane	ND	131
Tetrachloroethene	ND	131
Dibromochloromethane	ND	131
Chlorobenzene	ND	131
Bromoform	ND	131
1,1,2,2-Tetrachloroethane	ND	131
1,3-Dichlorobenzene	ND	131
1,4-Dichlorobenzene	ND	131
1,2-Dichlorobenzene	ND	131

Client ID: **SSWT-1_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88554**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9518.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 10.1

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	134
Chloromethane	ND	134
Vinyl Chloride	ND	134
Bromomethane	ND	134
Chloroethane	ND	134
Trichlorofluoromethane	ND	134
1,1-Dichloroethene	ND	134
Methylene Chloride	ND	134
trans-1,2-Dichloroethene	ND	134
1,1-Dichloroethane	ND	134
cis-1,2-Dichloroethene	ND	134
Chloroform	ND	134
1,1,1-Trichloroethane	ND	134
Carbon Tetrachloride	ND	134
1,2-Dichloroethane	ND	134
Trichloroethene	237	134
1,2-Dichloropropane	ND	134
Bromodichloromethane	ND	134
2-Chloroethyl Vinyl Ether	ND	134
cis-1,3-Dichloropropene	ND	134
trans-1,3-Dichloropropene	ND	134
1,1,2-Trichloroethane	ND	134
Tetrachloroethene	ND	134
Dibromochloromethane	ND	134
Chlorobenzene	ND	134
Bromoform	ND	134
1,1,2,2-Tetrachloroethane	ND	134
1,3-Dichlorobenzene	ND	134
1,4-Dichlorobenzene	ND	134
1,2-Dichlorobenzene	ND	134

Client ID: **SSAW-1_2.5-3**
Site: Klockner & Klockner

Lab Sample No: **88555**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9519.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	351	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	2470	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAW-1_13-13.5**
Site: Klockner & Klockner

Lab Sample No: **88556**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9520.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	143	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	1330	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAN-8_11-11.5**
Site: Klockner & Klockner

Lab Sample No: **88558**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9521.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 13.8

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	136
Chloromethane	ND	136
Vinyl Chloride	ND	136
Bromomethane	ND	136
Chloroethane	ND	136
Trichlorofluoromethane	ND	136
1,1-Dichloroethene	ND	136
Methylene Chloride	ND	136
trans-1,2-Dichloroethene	ND	136
1,1-Dichloroethane	ND	136
cis-1,2-Dichloroethene	ND	136
Chloroform	ND	136
1,1,1-Trichloroethane	ND	136
Carbon Tetrachloride	ND	136
1,2-Dichloroethane	ND	136
Trichloroethene	ND	136
1,2-Dichloropropane	ND	136
Bromodichloromethane	ND	136
2-Chloroethyl Vinyl Ether	ND	136
cis-1,3-Dichloropropene	ND	136
trans-1,3-Dichloropropene	ND	136
1,1,2-Trichloroethane	ND	136
Tetrachloroethene	ND	136
Dibromochloromethane	ND	136
Chlorobenzene	ND	136
Bromoform	ND	136
1,1,2,2-Tetrachloroethane	ND	136
1,3-Dichlorobenzene	ND	136
1,4-Dichlorobenzene	ND	136
1,2-Dichlorobenzene	ND	136

Client ID: SSWT-2_7-7.5
Site: Klockner & Klockner

Lab Sample No: 88561
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9522.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 5.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	132
Chloromethane	ND	132
Vinyl Chloride	ND	132
Bromomethane	ND	132
Chloroethane	ND	132
Trichlorofluoromethane	ND	132
1,1-Dichloroethene	ND	132
Methylene Chloride	ND	132
trans-1,2-Dichloroethene	ND	132
1,1-Dichloroethane	ND	132
cis-1,2-Dichloroethene	ND	132
Chloroform	ND	132
1,1,1-Trichloroethane	ND	132
Carbon Tetrachloride	ND	132
1,2-Dichloroethane	ND	132
Trichloroethene	ND	132
1,2-Dichloropropane	ND	132
Bromodichloromethane	ND	132
2-Chloroethyl Vinyl Ether	ND	132
cis-1,3-Dichloropropene	ND	132
trans-1,3-Dichloropropene	ND	132
1,1,2-Trichloroethane	ND	132
Tetrachloroethene	ND	132
Dibromochloromethane	ND	132
Chlorobenzene	ND	132
Bromoform	ND	132
1,1,2,2-Tetrachloroethane	ND	132
1,3-Dichlorobenzene	ND	132
1,4-Dichlorobenzene	ND	132
1,2-Dichlorobenzene	ND	132

Client ID: **SSDSA-1_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **88568**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9523.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.9

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	132
Chloromethane	ND	132
Vinyl Chloride	ND	132
Bromomethane	ND	132
Chloroethane	ND	132
Trichlorofluoromethane	ND	132
1,1-Dichloroethene	ND	132
Methylene Chloride	ND	132
trans-1,2-Dichloroethene	ND	132
1,1-Dichloroethane	ND	132
cis-1,2-Dichloroethene	ND	132
Chloroform	ND	132
1,1,1-Trichloroethane	ND	132
Carbon Tetrachloride	ND	132
1,2-Dichloroethane	ND	132
Trichloroethene	4560	132
1,2-Dichloropropane	ND	132
Bromodichloromethane	ND	132
2-Chloroethyl Vinyl Ether	ND	132
cis-1,3-Dichloropropene	ND	132
trans-1,3-Dichloropropene	ND	132
1,1,2-Trichloroethane	ND	132
Tetrachloroethene	ND	132
Dibromochloromethane	ND	132
Chlorobenzene	ND	132
Bromoform	ND	132
1,1,2,2-Tetrachloroethane	ND	132
1,3-Dichlorobenzene	ND	132
1,4-Dichlorobenzene	ND	132
1,2-Dichlorobenzene	ND	132

Client ID: **SSAW-6_2-2.5**
Site: Klockner & Klockner

Lab Sample No: **88569**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/17/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9524.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 2500.0
% Moisture: 17.3

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	7340
Chloromethane	ND	7340
Vinyl Chloride	ND	7340
Bromomethane	ND	7340
Chloroethane	ND	7340
Trichlorofluoromethane	ND	7340
1,1-Dichloroethene	ND	7340
Methylene Chloride	ND	7340
trans-1,2-Dichloroethene	ND	7340
1,1-Dichloroethane	ND	7340
cis-1,2-Dichloroethene	16400	7340
Chloroform	ND	7340
1,1,1-Trichloroethane	ND	7340
Carbon Tetrachloride	ND	7340
1,2-Dichloroethane	ND	7340
Trichloroethene	65900	7340
1,2-Dichloropropane	ND	7340
Bromodichloromethane	ND	7340
2-Chloroethyl Vinyl Ether	ND	7340
cis-1,3-Dichloropropene	ND	7340
trans-1,3-Dichloropropene	ND	7340
1,1,2-Trichloroethane	ND	7340
Tetrachloroethene	23700	7340
Dibromochloromethane	ND	7340
Chlorobenzene	ND	7340
Bromoform	ND	7340
1,1,2,2-Tetrachloroethane	ND	7340
1,3-Dichlorobenzene	ND	7340
1,4-Dichlorobenzene	ND	7340
1,2-Dichlorobenzene	ND	7340

Client ID: **SSAW-6_9-9.5**
Site: Klockner & Klockner

Lab Sample No: **88570**
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9561.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 17.4

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	147
Chloromethane	ND	147
Vinyl Chloride	ND	147
Bromomethane	ND	147
Chloroethane	ND	147
Trichlorofluoromethane	ND	147
1,1-Dichloroethene	ND	147
Methylene Chloride	ND	147
trans-1,2-Dichloroethene	ND	147
1,1-Dichloroethane	ND	147
cis-1,2-Dichloroethene	ND	147
Chloroform	ND	147
1,1,1-Trichloroethane	ND	147
Carbon Tetrachloride	ND	147
1,2-Dichloroethane	ND	147
Trichloroethene	ND	147
1,2-Dichloropropane	ND	147
Bromodichloromethane	ND	147
2-Chloroethyl Vinyl Ether	ND	147
cis-1,3-Dichloropropene	ND	147
trans-1,3-Dichloropropene	ND	147
1,1,2-Trichloroethane	ND	147
Tetrachloroethene	ND	147
Dibromochloromethane	ND	147
Chlorobenzene	ND	147
Bromoform	ND	147
1,1,2,2-Tetrachloroethane	ND	147
1,3-Dichlorobenzene	ND	147
1,4-Dichlorobenzene	ND	147
1,2-Dichlorobenzene	ND	147

Client ID: **FB-1**
Site: **Klockner & Klockner**

Lab Sample No: 88548
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Aluminum	ND	58.2		P
Antimony	ND	4.6	N	P
Arsenic	ND	3.8		P
Barium	ND	1.4		P
Beryllium	ND	0.20		P
Cadmium	ND	0.40		P
Calcium	281	42.2	B	P
Chromium	1.8	1.0	BN	P
Cobalt	ND	1.2		P
Copper	ND	3.5		P
Iron	ND	41.5		P
Lead	ND	2.5	*	P
Magnesium	ND	40.3		P
Manganese	3.0	1.1	BN	P
Mercury	ND	0.10		CV
Nickel	ND	2.1		P
Potassium	328	300	B	P
Selenium	ND	4.8		P
Silver	ND	1.4		P
Sodium	ND	426		P
Thallium	ND	4.8		P
Vanadium	ND	1.9		P
Zinc	17.4	4.5	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSNDS-1A 0-0.5**
Site: **Klockner & Klockner**

Lab Sample No: 88562
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 11.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	11200	13.1		P
Antimony	ND	1.0	N	P
Arsenic	7.2	0.85		P
Barium	152	0.31		P
Beryllium	0.63	0.045		P
Cadmium	ND	0.090		P
Calcium	5250	9.5		P
Chromium	22.9	0.22	N	P
Cobalt	7.5	0.27	B	P
Copper	69.9	0.79		P
Iron	31300	9.3		P
Lead	343	0.56	*	P
Magnesium	1950	9.1		P
Manganese	397	0.25	N	P
Mercury	0.65	0.019		CV
Nickel	15.3	0.47		P
Potassium	719	67.6	B	P
Selenium	ND	1.1		P
Silver	ND	0.31		P
Sodium	ND	95.8		P
Thallium	ND	1.1		P
Vanadium	35.2	0.43		P
Zinc	273	1.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSNDS-2A 0-0.5**
Site: **Klockner & Klockner**

Lab Sample No: 88563
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 11.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	8370	13.1		P
Antimony	1.0	1.0	BN	P
Arsenic	3.4	0.86		P
Barium	80.6	0.32		P
Beryllium	0.43	0.045	B	P
Cadmium	0.15	0.090	B	P
Calcium	1180	9.5		P
Chromium	14.0	0.23	N	P
Cobalt	7.1	0.27	B	P
Copper	25.5	0.79		P
Iron	18200	9.3		P
Lead	75.7	0.56	*	P
Magnesium	1700	9.1		P
Manganese	216	0.25	N	P
Mercury	0.10	0.019		CV
Nickel	11.1	0.47		P
Potassium	399	67.6	B	P
Selenium	ND	1.1		P
Silver	ND	0.32		P
Sodium	ND	95.9		P
Thallium	ND	1.1		P
Vanadium	24.3	0.43		P
Zinc	195	1.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSDSA-1 0-0.5**
Site: **Klockner & Klockner**

Lab Sample No: 88564
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 7.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	10600	12.6		P
Antimony	1.4	1.00	BN	P
Arsenic	5.0	0.82		P
Barium	222	0.30		P
Beryllium	0.56	0.043		P
Cadmium	0.76	0.087	B	P
Calcium	3580	9.1		P
Chromium	45.6	0.22	N	P
Cobalt	9.8	0.26	B	P
Copper	105	0.76		P
Iron	21600	9.0		P
Lead	344	0.54	*	P
Magnesium	2440	8.7		P
Manganese	419	0.24	N	P
Mercury	0.39	0.018		CV
Nickel	34.8	0.45		P
Potassium	1070	65.0	B	P
Selenium	ND	1.0		P
Silver	0.40	0.30	B	P
Sodium	ND	92.2		P
Thallium	ND	1.0		P
Vanadium	35.2	0.41		P
Zinc	408	0.97		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-1 0-0.5**
Site: **Klockner & Klockner**

Lab Sample No: 88565
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 10.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	7590	13.0		P
Antimony	ND	1.0	N	P
Arsenic	3.7	0.85		P
Barium	252	0.31		P
Beryllium	0.43	0.045	B	P
Cadmium	0.78	0.090	B	P
Calcium	9660	9.5		P
Chromium	32.1	0.22	N	P
Cobalt	8.2	0.27	B	P
Copper	215	0.78		P
Iron	19500	9.3		P
Lead	471	0.56	*	P
Magnesium	2610	9.0		P
Manganese	298	0.25	N	P
Mercury	0.35	0.019		CV
Nickel	18.8	0.47		P
Potassium	979	67.3	B	P
Selenium	ND	1.1		P
Silver	0.72	0.31	B	P
Sodium	ND	95.5		P
Thallium	ND	1.1		P
Vanadium	32.4	0.43		P
Zinc	371	1.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSCB-1 2-2.5**
Site: **Klockner & Klockner**

Lab Sample No: 88566
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 12.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	8660	13.2		P
Antimony	ND	1.0	N	P
Arsenic	2.6	0.86		P
Barium	73.9	0.32		P
Beryllium	0.63	0.046		P
Cadmium	0.33	0.091	B	P
Calcium	3320	9.6		P
Chromium	26.4	0.23	N	P
Cobalt	8.3	0.27	B	P
Copper	36.9	0.80		P
Iron	19200	9.4		P
Lead	104	0.57	*	P
Magnesium	3150	9.2		P
Manganese	259	0.25	N	P
Mercury	0.05	0.019		CV
Nickel	14.9	0.48		P
Potassium	1110	68.3	B	P
Selenium	ND	1.1		P
Silver	ND	0.32		P
Sodium	147	96.9	B	P
Thallium	ND	1.1		P
Vanadium	53.8	0.43		P
Zinc	131	1.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSWT-1 7-7.5**
Site: **Klockner & Klockner**

Lab Sample No: 88567
Lab Job No: H941

Date Sampled: 10/06/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 3.9

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	4910	12.1		P
Antimony	ND	0.96	N	P
Arsenic	3.2	0.79		P
Barium	20.0	0.29	B	P
Beryllium	0.46	0.042		P
Cadmium	ND	0.083		P
Calcium	622	8.8	B	P
Chromium	8.7	0.21	N	P
Cobalt	4.1	0.25	B	P
Copper	13.8	0.73		P
Iron	16500	8.6		P
Lead	10.1	0.52	*	P
Magnesium	1620	8.4		P
Manganese	84.5	0.23	N	P
Mercury	0.08	0.017		CV
Nickel	8.6	0.44		P
Potassium	326	62.5	B	P
Selenium	ND	1.00		P
Silver	ND	0.29		P
Sodium	ND	88.7		P
Thallium	ND	1.00		P
Vanadium	14.7	0.40		P
Zinc	63.6	0.94		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Site: Klockner & Klockner

Lab Job No: H941

Date Sampled: 10/6/98
Date Received: 10/7/98
Matrix: SOIL

Date Analyzed: 10/14/98
QA Batch: 1402

TOTAL ORGANIC CARBON

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
88549	SSGC-1_1-4	8.3	2.0	8720

Quantitation Limit for Total Organic Carbon is 100 mg/kg for an undiluted sample.

Site: Klockner & Klockner

Lab Job No: H941

Date Sampled: 10/6/98
Date Received: 10/7/98
Matrix: WATER

Date Extracted: 10/12/98
Date Analyzed: 10/12/98
QA Batch: 4639

TOTAL PETROLEUM HYDROCARBONS (418.1)

Envirotech Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
88548	FB-1	1.0	ND

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 1.0 mg/l for an undiluted sample.

Site: Klockner & Klockner

Lab Job No: H941

Date Sampled: 10/6/98
Date Received: 10/7/98
Matrix: SOIL

Date Extracted: 10/12/98
Date Analyzed: 10/12/98
QA Batch: 4645

TOTAL PETROLEUM HYDROCARBONS (418.1)

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
88562	SSNDS-1A_0-0.5	11.1	1.0	374
88563	SSNDS-2A_0-0.5	11.2	1.0	225
88565	SSFS-1_0-0.5	10.8	1.0	823

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 25.0 mg/kg for an undiluted sample.

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/6/98
SAMPLER(S): Cheryl L. Coffee /L. WESTCOTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESERVATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
4:00	FIELD BLANK	FB-1	N/A	H_2O	BN, TAL METALS, PHC, CN	ICE/H_2SO_4 HNO_3, NaOH	4	88548
4:00	ALLEYWAY (SS AW-3)	SSGC-1	1-4'	SOIL	GRAIN SIZE, TOC	ICE	2	88549
–	TRIP BLANK	TB-1	N/A	~~MEOH~~ water	VOC 8260 (TCL)	HCL ICE	2	88550
11:20	ALLEYWAY	SSAW-8	5.5-6'	SOIL	PHAL 8021	MEOH/ICE	2	88551
3:30	ALLEYWAY	SSAW-3	1-1.5'	SOIL	PHAL 8021	MEOH/ICE	2	88552
3:30	ALLEYWAY	SSAW-3	11.5-12'	SOIL	PHAL 8021	MEOH/ICE	2	88553
2:40	WASTE OIL TANK	SSWT-1	7-7.5'	SOIL	PHAL 8021	MEOH/ICE	2	88554
1:30	ALLEYWAY	SSAW-1	2.5-3	SOIL	PHAL 8021	MEOH/ICE	2	88555
2:00	ALLEYWAY	SSAW-1	13-13.5	SOIL	PHAL 8021	MEOH/ICE	2	88556
10:30	NORTH DRUM STORAGE	SSNDS-2	1.5-2'	SOIL	VOC'S 8260 (TCL)	MEOH/ICE	2	88557
11:30	ALLEYWAY	SSAW-8	11-11.5	SOIL	PHAL 8021	MEOH/ICE	2	88558
1010	NORTH DRUM STORAGE	SSNDS-1A	1-1.5	SOIL	VOC'S 8260 (TCL)	MEOH/ICE	2	88559

RELINQUISHED BY: [signature] DATE: 10/7/98 TIME: 0830 RECEIVED BY: [signature] DATE: 10.7.98 TIME 0830

RELINQUISHED BY: [signature] DATE: 10/7/98 TIME: 0830 RECEIVED BY: [signature] DATE: 10/7/98 TIME 0930

Full CIP Deliverables

TOTAL NO. CONTAINERS 26

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302570

CHAIN OF CUSTODY

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/6/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
12:15	DRUM STORAGE SHED	SSFS-1	.5-1'	SOIL	VOC'S 8260 (TCL)	ICE/MEOH	2	88560
2:20	WASTE OIL TANK	SSWT-2	7-7.5	SOIL	PHAL 8021	ICE/MEOH	2	88561
10:10	NORTH DRUM STORAGE	SSNDS-1A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88562
10:30	NORTH DRUM STORAGE	SSNDS-2A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88563
11:50	DRUM STORAGE ALLEYWAY	SSDSA-1	0-.5	SOIL	CN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88564
12.15	DRUM STORAGE SHED	SSFS-1	0-.5	SOIL	*BN +15, TAL METALS, PHC	ICE/MEOH	1 ~~2~~	LW 88565
11:40	CATCH BASIN	SSCB-1	2-2.5	SOIL	BN+15, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88566
2:40	WASTE OIL TANK	SSWT-1	7-7.5	SOIL	TAL METALS	ICE	1	88567
—	~~TRIPBLANK~~	~~TB-1~~	—	~~MEOH~~	~~VOC 8021~~	~~ICE/MEOH~~	~~1~~	~~LW~~
12:00	DRUM STORAGE ALLEYWAY	SSDSA-1	1.5-2	SOIL	PHAL 8021	ICE/MEOH	2	88568
5:05 PM	Alleyway	SSAW-6	2-2.5	SOIL	PHAL 8021	ICE/MEOH	2	88569
5:10	Alleyway	SSAW-6	9-9.5	SOIL	PHAL 8021	ICE/MEOH	2	88670

RELINQUISHED BY: Cheryl L Co[illegible] DATE: 10/7/98 TIME 8:30 RECEIVED BY: [illegible] DATE: 10/7/98 TIME 08:30

RELINQUISHED BY: [illegible] DATE: 10/7/98 TIME: 0930 RECEIVED BY: [illegible] DATE: 10/7/98 TIME 0930

TOTAL NO. CONTAINERS 17

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302571

6

302572

ATTACHMENT 6

ANALYTICAL DATA SHEETS

10/6/98 – JOB #H9411

302573

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

- 3 1998
The Whitman Companies, Inc.

October 29, 1998

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Dr. Ira Whitman

Re: SDG No. H9411 - Klockner & Klockner (Inorganics)

Dear Dr. Whitman:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 07, 1998:

Lab No.	Client ID	Analysis Required
88548	FB-1	CLP CN
88564	SSDSA-1_0-0.5	CLP CN
88676	SSDSA-2_0-0.5	CLP CN

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302574

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A-1_0-0.5

Lab Name: ENVIROTECH_RESEARCH_INC._ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.: H9411_

Matrix (soil/water): SOIL_ Lab Sample ID: 88564

Level (low/med): LOW__ Date Received: 10/07/98

% Solids: _92.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	0.54	U		C_

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:
SSDSA-1_0-0.5

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A-2_0-0.5

Lab Name: ENVIROTECH_RESEARCH_INC._ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.: H9411_

Matrix (soil/water): SOIL_ Lab Sample ID: 88676

Level (low/med): LOW__ Date Received: 10/07/98

% Solids: _85.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	0.59	U		C_

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

SSDSA-2_0-0.5

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FB-1

ab Name: ENVIROTECH_RESEARCH_INC._ Contract: _____

ab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.: H9411_

Matrix (soil/water): WATER Lab Sample ID: 88548

evel (low/med): LOW__ Date Received: 10/07/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
5955-70-0	Cyanide__	10.0	U		C_

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/6/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
4:00	FIELD BLANK	FB-1	N/A	H_2O	BN, TAL METALS, PHC, CN	ICE/H_2SO_4 HNO_3, NaOH	4	88548
4:00	ALLEYWAY (SS AW-3)	SSGC-1	1-4'	SOIL	GRAIN SIZE, TOC	ICE	2	88549
—	TRIP BLANK	TB-1	N/A	~~MEOH~~ water	VOC 8260 (TCL)	HCL ICE	2	88550
11:20	ALLEYWAY	SSAW-8	5.5-6'	SOIL	PHAL 8021	MEOH/ICE	2	88551
3:30	ALLEYWAY	SSAW-3	1-1.5'	SOIL	PHAL 8021	MEOH/ICE	2	88552
3:30	ALLEYWAY	SSAW-3	11.5-12'	SOIL	PHAL 8021	MEOH/ICE	2	88553
2:40	WASTE OIL TANK	SSWT-1	7-7.5'	SOIL	PHAL 8021	MEOH/ICE	2	88554
1:30	ALLEYWAY	SSAW-1	2.5-3	SOIL	PHAL 8021	MEOH/ICE	2	88555
2:00	ALLEYWAY	SSAW-1	13-13.5	SOIL	PHAL 8021	MEOH/ICE	2	88556
10:30	NORTH DRUM STORAGE	SSNDS-2	1.5-2'	SOIL	VOC'S 8260 (TCL)	MEOH/ICE	2	88557
11:30	ALLEYWAY	SSAW-8	11-11.5	SOIL	PHAL 8021	MEOH/ICE	2	88558
1010	NORTH DRUM STORAGE	SSNDS-1A	1-1.5	SOIL	VOC'S 8260 (TCL)	MEOH/ICE	2	88559

RELINQUISHED BY: [signature] DATE: 10/7/98 TIME: 0830 RECEIVED BY: [signature] DATE: 10.7.98 TIME 0830

RELINQUISHED BY: [signature] DATE: 10/7/98 TIME: 0830 RECEIVED BY: [signature] DATE: 10/7/98 TIME 0930

Full CLP Deliverables

TOTAL NO. CONTAINERS 26

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS

VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH

PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH

BN: BASE NEUTRALS WITH LIBRARY SEARCH

AE: ACID EXTRACTABLES WITH LIBRARY SEARCH

PPM: PRIORITY POLLUTANT METALS

PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE

FT = FLOOR TILE

TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302578

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/6/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
12:15	DRUM STORAGE SHED	SSFS-1	.5-1'	SOIL	VOC'S 8260 (TCL)	ICE/MEOH	2	88560
2:20	WASTE OIL TANK	SSWT-2	7-7.5	SOIL	PHAL 8021	ICE/MEOH	2	88561
10:10	NORTH DRUM STORAGE	SSNDS-1A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	~~1~~ 7 LW	88562
10:30	NORTH DRUM STORAGE	SSNDS-2A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	~~1~~ 7 LW	88563
11:50	DRUM STORAGE ALLEYWAY	SSDSA-1	0-.5	SOIL	CN, TAL METALS	ICE/MEOH	~~1~~ 2 LW	88564
12.15	DRUM STORAGE SHED	SSFS-1	0-.5	SOIL	*BN+15, TAL METALS, PHC	ICE/MEOH	~~1~~ 2 LW	88565
11:40	CATCH BASIN	SSCB-1	2-2.5	SOIL	BN+15, TAL METALS	ICE/MEOH	~~1~~ 2 LW	88566
2:40 (R)	WASTE OIL TANK	SSWT-1 (R)	7-7.5	SOIL	TAL METALS	ICE	1	88567
—	~~TRIPBLANK~~	~~TB-1~~	—	~~MEOH~~	~~VOC 8021~~	~~ICE/MEOH~~	~~1~~	~~LW~~
12:00	DRUM STORAGE ALLEYWAY	SSDSA-1	~~1~~ 2	SOIL	PHAL 8021	ICE/MEOH	2	88568
5:05 PM	Alleyway	SSAW-6	2-2.5	SOIL	PHAL 8021	ICE/MEOH	2	88569
5:10	Alleyway	SSAW-6	9-9.5	SOIL	PHAL 8021	ICE/MEOH	2	88670

RELINQUISHED BY: Cheryl L Coffee DATE: 10/7/98 TIME 8:30 RECEIVED BY: Wayne [illegible] DATE: 10/7/98 TIME 08:30

RELINQUISHED BY: Wayne [illegible] DATE: 10/7/98 TIME: 0930 RECEIVED BY: [illegible] DATE: 10/7/98 TIME 0930

TOTAL NO. CONTAINERS 17

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS

VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH

PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH

BN: BASE NEUTRALS WITH LIBRARY SEARCH

AE: ACID EXTRACTABLES WITH LIBRARY SEARCH

PPM: PRIORITY POLLUTANT METALS

PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE

FT = FLOOR TILE

TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302579

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/7/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

H950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1303	SCALE ROOM	SSSR-2	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88674
1320	SCALE ROOM	SSSR-3	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88675
1351	DRUM STORAGE AREA	SSDSA-2	0-.5'	SOIL	CN	ICE	1	88676
1354	DRUM STORAGE SHED	SSFS-2	0-.5	SOIL	PHC, TAL METALS, BN TIS	ICE	1	BN CONTINGENT 88677
1438	ALLEY WAY	SSAW-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88678
1445	ALLEY WAY	SSAW-4	9.5-10'	SOIL	PHAL (8021)	ICE/MEOH	2	88679
1450	GEOLOGICAL CHARACTERISTICS	SSGC-4	4-7'	SOIL	TOC, GRAIN SIZE	ICE	2	88680
1515	SCALE ROOM	SSSR-1	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88681
1520	SCALE ROOM	SSSR-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88682
1530	LEACH PIT	SSLP-1	12-12.5	SOIL	TAL METALS	ICE	1	88683
1615	GAS TANK	SSGT-2	7-7.5	SOIL	TCL VOC	ICE/MEOH	2	88684
1625	GAS TANK	SSGT-4	7-7.5	SOIL	TCL VOC, Pb	ICE/MEOH	3	88685

RELINQUISHED BY: Cheryl L Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [signature] DATE: 1745 TIME 10/7/98

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302580

ATTACHMENT 7

ANALYTICAL DATA SHEETS

10/7, 8/98 – JOB #H941GS

302582

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 17, 1998

RECEIVED
1998
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Dr. Ira Whitman

Re: Job No. H941GS - Klockner & Klockner

Dear Dr. Whitman:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 7 and 9, 1998:

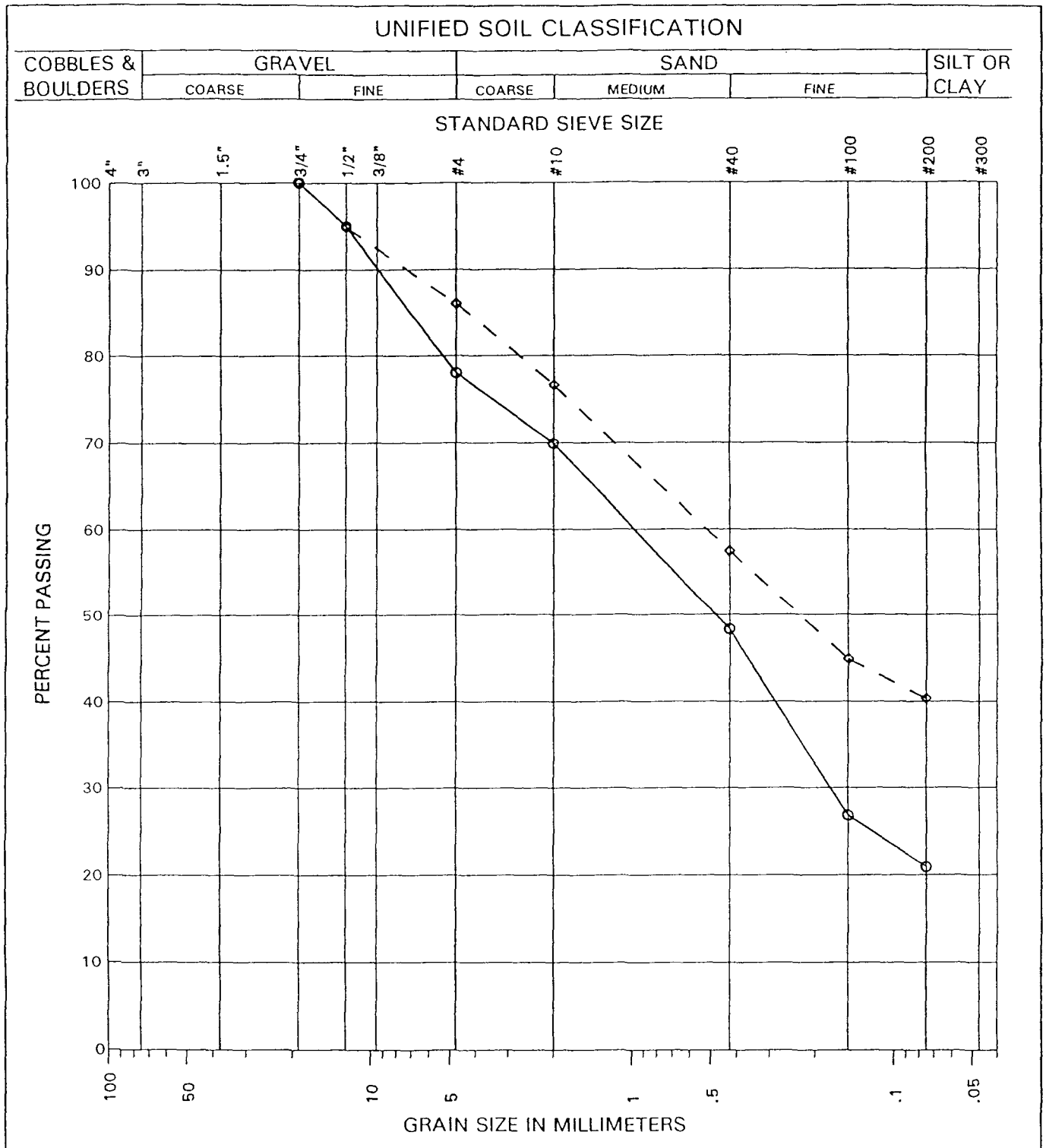
Lab No.	Client ID	Analysis Required
H941-88549	SSGC-1	Grain Size
H950-88670	SSGC-2	Grain Size
H950-88673	SSGC-3	Grain Size
H950-88680	SSGC-4	Grain Size
I052-89302	SSGC-1A	Grain Size

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302583



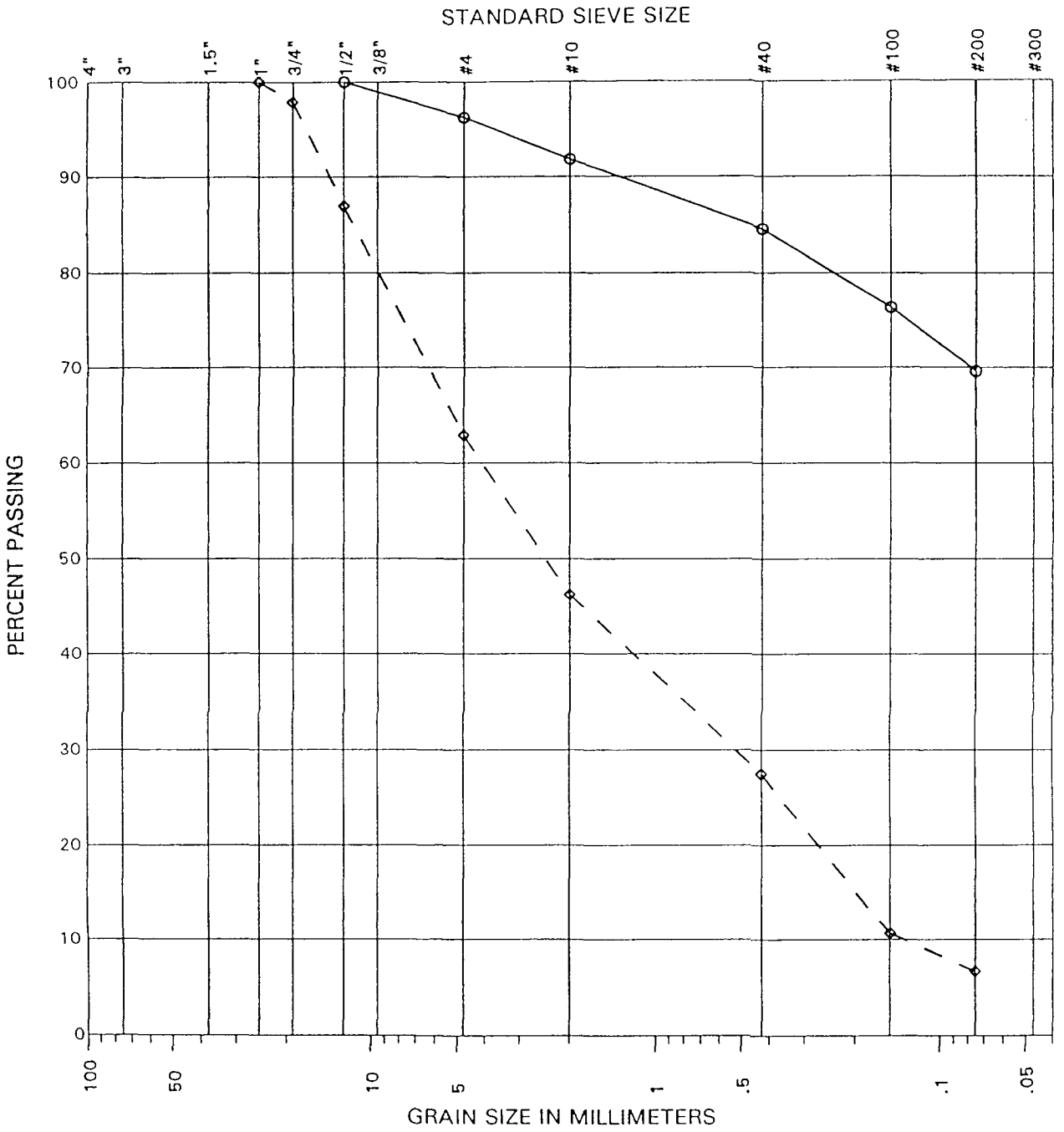
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
H941-88549	ENVIROTECH ;4'-6'			
LINE SYMBOL:	MOISTURE CONTENT (%): 8.4	LIQUID LIMIT (%): ----	PLASTIC LIMIT (%): ----	USCS SYMBOL: SM
USCS CLASSIFICATION: FINE TO MEDIUM SAND,SOME FINE GRAVEL,SOME CLAYEY SILT				
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
H950-88670	EVIROTECH ;1'-3'			
LINE SYMBOL:	MOISTURE CONTENT (%): 15.7	LIQUID LIMIT (%): ----	PLASTIC LIMIT (%): ----	USCS SYMBOL: SM
USCS CLASSIFICATION: FINE TO MEDIUM SAND,AND CLAYEY SILT,LITTLE FINE GRAVEL				

GRADATION CURVES 302584

MELICK - TULLY AND ASSOCIATES, P.C. PLATE 1A

UNIFIED SOIL CLASSIFICATION

COBBLES & BOULDERS	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



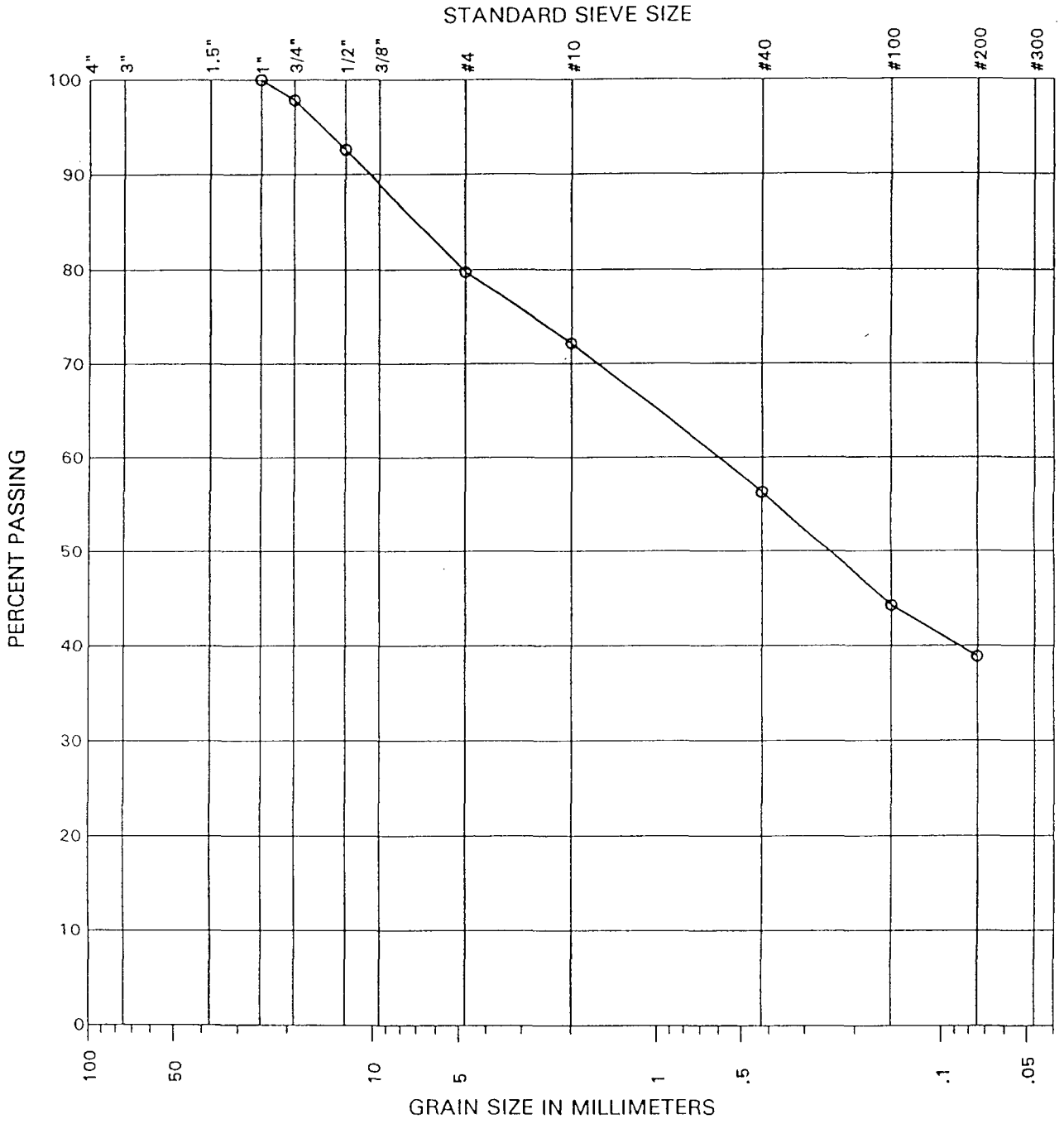
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
H950-88673	ENVIROTECH ;1'-4'			
LINE SYMBOL:	MOISTURE CONTENT (%):	LIQUID LIMIT (%):	PLASTIC LIMIT (%):	USCS SYMBOL:
	19.4	----	----	ML
USCS CLASSIFICATION:				
CLAYEY SILT,SOME FINE TO COARSE SAND,TRACE FINE GRAVEL				
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
H950-88680	ENVIROTECH ;4'-7'			
LINE SYMBOL:	MOISTURE CONTENT (%):	LIQUID LIMIT (%):	PLASTIC LIMIT (%):	USCS SYMBOL:
	2.9	----	----	SP/SM
USCS CLASSIFICATION:				
FINE TO COARSE SAND,AND FINE TO COARSE GRAVEL,TRACE SILT				

GRADATION CURVES

302585

UNIFIED SOIL CLASSIFICATION

COBBLES & BOULDERS	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
1052-89302	ENVIROTECH ;1.5'-4'			
LINE SYMBOL:	MOISTURE CONTENT (%):	LIQUID LIMIT (%):	PLASTIC LIMIT (%):	USCS SYMBOL:
	15.3	----	----	SM
USCS CLASSIFICATION:				
FINE TO MEDIUM SAND,AND CLAYEY SILT,SOME FINE TO COARSE GRAVEL				

GRADATION CURVE

302586

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/6/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESERVATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
4:00	FIELD BLANK	FB-1	N/A	H_2O	BN, TAL METALS, PHC, CN	ICE/H_2SO_4/HNO_3/NaOH	4	88548
4:00	ALLEYWAY (SS AW-3)	SSGC-1	1-4'	SOIL	GRAIN SIZE, TOC	ICE	2	88549
—	TRIP BLANK	TB-1	N/A	~~SOIL~~ WATER	VOC 8260 (TCL)	HCL ICE	2	88550
11:20	ALLEYWAY	SSAW-8	5.5-6'	SOIL	PHAL 8021	MEOH/ICE	2	88551
3:30	ALLEYWAY	SSAW-3	1-1.5'	SOIL	PHAL 8021	MEOH/ICE	2	88552
3:30	ALLEYWAY	SSAW-3	11.5-12'	SOIL	PHAL 8021	MEOH/ICE	2	88553
2:40	WASTE OIL TANK	SSWT-1	7-7.5'	SOIL	PHAL 8021	MEOH/ICE	2	88554
1:30	ALLEYWAY	SSAW-1	2.5-3'	SOIL	PHAL 8021	MEOH/ICE	2	88555
2:00	ALLEYWAY	SSAW-1	13-13.5'	SOIL	PHAL 8021	MEOH/ICE	2	88556
10:30	NORTH DRUM STORAGE	SSNDS-2	1.5-2'	SOIL	VOC's 8260 (TCL)	MEOH/ICE	2	88557
11:30	ALLEYWAY	SSAW-8	11-11.5'	SOIL	PHAL 8021	MEOH/ICE	2	88558
1010	NORTH DRUM STORAGE	SSNDS-1A	1-1.5	SOIL	VOC's 8260 (TCL)	MEOH/ICE	2	88559

RELINQUISHED BY: Cheryl L. Coffee DATE: 10/7/98 TIME: 0830 RECEIVED BY: Wade [illegible] DATE: 10-7-98 TIME 0830

RELINQUISHED BY: Wade [illegible] DATE: 10/7/98 TIME: 0830 RECEIVED BY: [illegible] DATE: 10/7/98 TIME 0930

Full CLP Deliverables

TOTAL NO. CONTAINERS 26

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302587

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/6/98
SAMPLER(S): Cheryl L. Coffee / L. WEST COTT

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
12:15	DRUM STORAGE SHED	SSFS-1	.5-1'	SOIL	VOC'S 8260 (TCL)	ICE/MEOH	2	88560
2:20	WASTE OIL TANK	SSWT-2	7-7.5	SOIL	PHAL 8021	ICE/MEOH	2	88561
10:10	NORTH DRUM STORAGE	SSNDS-1A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88562
10:30	NORTH DRUM STORAGE	SSNDS-2A	0-.5	SOIL	PHC, *BN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88563
11:50	DRUM STORAGE ALLEYWAY	SSDSA-1	0-.5	SOIL	CN, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88564
12.15	DRUM STORAGE SHED	SSFS-1	0-.5	SOIL	*BN+15, TAL METALS, PHC	ICE/MEOH	1 ~~2~~	LW 88565
11:40	CATCH BASIN	SSCB-1	2-2.5	SOIL	BN+15, TAL METALS	ICE/MEOH	1 ~~2~~	LW 88566
2:40	WASTE OIL TANK	SSWT-1	7-7.5	SOIL	TAL METALS	ICE	1	88567
—	~~TRIPBLANK~~	~~TB-1~~	—	~~MEOH~~	~~VOC 8021~~	~~ICE/MEOH~~	~~1~~	~~LW~~
12:00	DRUM STORAGE ALLEYWAY	SSDSA-1	1.5-2	SOIL	PHAL 8021	ICE/MEOH	2	88568
5:05 PM	Alleyway	SSAW-6	2-2.5	SOIL	PHAL 8021	ICE/MEOH	2	88569
5:10	Alleyway	SSAW-6	9-9.5	SOIL	PHAL 8021	ICE/MEOH	2	88670

RELINQUISHED BY: Cheryl L Coffee DATE: 10/7/98 TIME: 8:30 RECEIVED BY: Wayne [illegible] DATE: 10/7/98 TIME: 08:30

RELINQUISHED BY: Wayne [illegible] DATE: 10/7/98 TIME: 0930 RECEIVED BY: [illegible] DATE: 10/7/98 TIME: 0930

TOTAL NO. CONTAINERS 17

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302588

5

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech Research # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Sickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/7/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

H950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
—	TRIP BLANK		N/A	MEOH		ICE	1	88662
1405	FIELD BLANK	FB-2	N/A	H_2O	TCL VOC	ICE/HCl	2	88663
1045	ALLEYWAY	SSAW-7	5-5.5	SOIL	PHAL 8021	ICE/MEOH	2	88664
1046	ALLEYWAY	SSAW-7	12-12.5	SOIL	PHAL 8021	ICE/MEOH	2	88665
1105	SUMP	SSSP-1	4-4.5	SOIL	TCL VOC, PHC, TAL METALS, *ENTIST	ICE/MEOH	3	88666
1152	ALLEY WAY	SSAW-9	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	88667
1155	ALLEY WAY	SSAW-10	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	88668
1210	ALLEY WAY	SSAW-9	11.5-12'	SOIL	PHAL (8021)	ICE/MEOH	2	88669
1200	GEOLOGICAL CHARACTERISTIC	SSGC-2	1-3'	SOIL	TOC, GRAINSIZE	ICE	2	88670
1235	ALLEYWAY	SSAW-2	1.5-2'	SOIL	PHAL (8021)	ICE/MEOH	2	88671
1243	ALLEY WAY	SSAW-2	7.5-8'	SOIL	PHAL (8021)	ICE/MEOH	2	88672
1245	GEOLOGICAL CHARACTERISTICS	SSGC-3	1-4'	SOIL	TOC, GRAIN SIZE	ICE	2	88673

RELINQUISHED BY: Cheryl Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [signature] DATE: 10/7/98 TIME 1745

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302589

PROJECT NAME: Kinsbury & Kinsbury
PROJECT NO: 98-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/7/98
SAMPLER(S): Cheryl L. Coffee / L. WESTOTT

H950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1303	SCALE ROOM	SSSR-2	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88674
1320	SCALE ROOM	SSSR-3	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88675
1351	DRUM STORAGE AREA	SSDSA-2	0-.5'	SOIL	Cn	ICE	1	88676
1354	DRUM STORAGE SHED	SSFS-2	0-.5	SOIL	PHC, TAL METALS, BN+15	ICE	1	BN CONTINGENT 88677
1438	ALLEY WAY	SSAW-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88678
1445	ALLEY WAY	SSAW-4	9.5-10'	SOIL	PHAL (8021)	ICE/MEOH	2	88679
1450	GEOLOGICAL CHARACTERISTICS	SSGC-4	4-7'	SOIL	TOC, GRAIN SIZE	ICE	2	88680
1515	SCALE ROOM	SSSR-1	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88681
1520	SCALE ROOM	SSSR-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88682
1530	LEACH PIT	SSLP-1	12-12.5	SOIL	TAL METALS	ICE	1	88683
1615	GAS TANK	SSGT-2	7-7.5	SOIL	TCL VOC	ICE/MEOH	2	88684
1625	GAS TANK	SSGT-1	7-7.5	SOIL	TCL VOC, Pb	ICE/MEOH	3	88685

RELINQUISHED BY: Cheryl L Coffee DATE: 10/7/98 TIME: 17:45 RECEIVED BY: [signature] DATE: 17:45 TIME 10/7/98

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302590

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/7/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

4950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1630	GAS TANK	SSGT-3	7-7.5	SOIL	TCL VOC	KE/MEOH	2	886 86

RELINQUISHED BY: Cheryl Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [illegible] DATE: 1745 TIME 10/7/98

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

TOTAL NO. CONTAINERS_____

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS

VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH

PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH

BN: BASE NEUTRALS WITH LIBRARY SEARCH

AE: ACID EXTRACTABLES WITH LIBRARY SEARCH

PPM: PRIORITY POLLUTANT METALS

PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE

FT = FLOOR TILE

TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302591

38

6

ANN YZE

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/8/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

PAGE 1 OF 1

I052

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
—	TRIP BLANK	TB-3	N/A	MEOH	PHAL (8021)	ICE	1	89299
1210	OIL STORAGE SHED	SSOSS-1	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	89300
1215	CONCRETE PAD	SSCP-1	3.5-4'	SOIL	PHAL (8021)	ICE/MEOH	2	1 WEEK TAT89301
0950	(Concrete Pad SSCP-4) GEOLOGICAL CHARACTERISTICS	SSGC-1A	1.5-4'	SOIL	TOC, GRAIN SIZE	ICE	2	89302
1218	CONCRETE PAD	SSCP-1	11-11.5'	SOIL	PHAL (8021)	ICE/MEOH	2	1 WEEK TAT89303
1500	FLOOR DRAIN	SSFD-1	1.5-2'	SOIL	PHAL (8021)	ICE/MEOH	2	89304
12:23	Concrete Pad	SSCP-4	1-1.5'	Soil	* PHAL Contingent	Ice/MEOH	2	89305
12:13	Concrete Pad	SSCP-2	1.5-2'	Soil	* PHAL Contingent	Ice/MEOH	2	89306
13:20	Concrete Pad	SSCP-3	1.5-2'	Soil	* PHAL Contingent	Ice/MEOH	2	89307
	~~TB-3~~ gp			~~MEOH~~ gp		~~MEOH~~ gp	~~1~~ gp	

RELINQUISHED BY: [signature] DATE: 10/9/98 TIME: 1600 RECEIVED BY: [signature] DATE: 10-9-98 TIME 1600

RELINQUISHED BY: [signature] DATE: 10-9-98 TIME: 1810 RECEIVED BY: [signature] DATE: 10/9/98 TIME 1810

TOTAL NO. CONTAINERS 17

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC PETROLEUM HYDROCARBONS
VOC VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN BASE NEUTRALS WITH LIBRARY SEARCH
AE ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM PRIORITY POLLUTANT METALS
PP+40 PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302592

ENVIROTECH RESEARCH INC.
777 New Durham Road
Edison, New Jersey 08817
Phone: (908) 549-3900 Fax: (908) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

PAGE ___ OF ___

Name (for report and invoice) Rob McGrady	Samplers Name (Printed)
Company Envirotech Research, Inc.	P.O. # NJ: ☐ NY: ☐ Other:
Address 777 New Durham Road	Analysis Turnaround Time: Standard ☒
City Edison, State NJ, Zip 08817	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐
Phone 732-549-3900, Fax 732-549-3679	

ANALYSIS REQUESTED (ENTER "X" BELOW TO

LAB USE ONLY
Project No.
Job No.
Sample Numbers

	Sample Identification (Fridge)	Date	Time	Matrix	No. of. Cont.	Grain Size
SSGC-1	H941-88549 (30)	10/6/98		Soil	1	X
SSGC-2	H950-88670 (9)	10/7/98		"	1	X
SSGC-3	H950-88673	"		"	1	X
SSGC-4	H950-88680	"		"	1	X
SSGC-1A	I052-89302 (6)	8-Oct		"	1	X

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions: Please fax results to Diane Shamy when available, Thanks.

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	Envirotech Research, Inc.	10/14/98 1530	1) Clifford Bay	Melick-Tully
2)			2)	

Subcontracted to: Melick-Tully

302593

Last week 5 samples

8

302594

ATTACHMENT 8

ANALYTICAL DATA SHEETS

10/7/98 – JOB #H950

302595

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 5, 1998

RECEIVED
NOV 18 1998
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Dr. Ira Whitman

Re: Job No. H950 - Klockner & Klockner

Dear Dr. Whitman:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 07, 1998:

Lab No.	Client ID	Analysis Required
88662	Trip_Blank	TCL VOA+10
88663	FB-2	TCL VOA+10
88664	SSAW-7_5-5.5	Purgeable Halocarbons
88665	SSAW-7_12-12.5	Purgeable Halocarbons
88666	SSSP-1_4-4.5	TCL VOA+10, TAL Metals, PHC
88667	SSAW-9_1-1.5	Purgeable Halocarbons
88668	SSAW-10_1-1.5	Purgeable Halocarbons
88669	SSAW-9_11.5-12	Purgeable Halocarbons
88670	SSGC-2_1-3	TOC
88671	SSAW-2_1.5-2	Purgeable Halocarbons
88672	SSAW-2_7.5-8	Purgeable Halocarbons
88673	SSGC-3_1-4	TOC
88674	SSSR-2_0-0.5	Purgeable Halocarbons
88675	SSSR-3_0-0.5	Purgeable Halocarbons
88677	SSFS-2_0-0.5	TCL BN+10, TAL Metals, PHC
88678	SSAW-4_4-4.5	Purgeable Halocarbons
88679	SSAW-4_9.5-10	Purgeable Halocarbons
88680	SSGC-4_4-7	TOC
88681	SSSR-1_4-4.5	Purgeable Halocarbons

302596

Lab No.	Client ID	Analysis Required
88682	SSSR-4_4-4.5	Purgeable Halocarbons
88683	SSLP-1_12-12.5	TAL Metals
88684	SSGT-2_7-7.5	TCL VOA+10, Pb
88685	SSGT-1_7-7.5	TCL VOA+10, Pb
88686	SSGT-3_7-7.5	TCL VOA+10

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **88662**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4657.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg
Chloromethane	ND	620
Bromomethane	ND	620
Vinyl Chloride	ND	620
Chloroethane	ND	620
Methylene Chloride	ND	380
Acetone	ND	620
Carbon Disulfide	ND	620
1,1-Dichloroethene	ND	250
1,1-Dichloroethane	ND	620
trans-1,2-Dichloroethene	ND	620
cis-1,2-Dichloroethene	ND	620
Chloroform	ND	620
1,2-Dichloroethane	ND	250
2-Butanone	ND	620
1,1,1-Trichloroethane	ND	620
Carbon Tetrachloride	ND	250
Bromodichloromethane	ND	120
1,2-Dichloropropane	ND	120
cis-1,3-Dichloropropene	ND	620
Trichloroethene	ND	120
Dibromochloromethane	ND	620
1,1,2-Trichloroethane	ND	380
Benzene	ND	120
trans-1,3-Dichloropropene	ND	620
Bromoform	ND	500
4-Methyl-2-Pentanone	ND	620
2-Hexanone	ND	620
Tetrachloroethene	ND	120
1,1,2,2-Tetrachloroethane	ND	120
Toluene	ND	620
Chlorobenzene	ND	620
Ethylbenzene	ND	500
Styrene	ND	620
Xylene (Total)	ND	620

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **88662**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4657.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **FB-2**
Site: Klockner & Klockner

Lab Sample No: **88663**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2236.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 8260

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	3.0
Acetone	ND	5.0
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	2.0
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	2.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	3.0
Benzene	ND	1.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	4.0
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	4.0
Styrene	ND	5.0
Xylene (Total)	ND	5.0

Client ID: **FB-2**
Site: Klockner & Klockner

Lab Sample No: **88663**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAMS3.i
Lab File ID: c2236.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSSP-1_4-4.5**
Site: Klockner & Klockner

Lab Sample No: **88666**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6484.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.8 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 250.0
% Moisture: 10

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	3200
Bromomethane	ND	3200
Vinyl Chloride	ND	3200
Chloroethane	ND	3200
Methylene Chloride	ND	1900
Acetone	ND	3200
Carbon Disulfide	ND	3200
1,1-Dichloroethene	ND	1300
1,1-Dichloroethane	ND	3200
trans-1,2-Dichloroethene	ND	3200
cis-1,2-Dichloroethene	790 J	3200
Chloroform	ND	3200
1,2-Dichloroethane	ND	1300
2-Butanone	ND	3200
1,1,1-Trichloroethane	ND	3200
Carbon Tetrachloride	ND	1300
Bromodichloromethane	ND	640
1,2-Dichloropropane	ND	640
cis-1,3-Dichloropropene	ND	3200
Trichloroethene	37000	640
Dibromochloromethane	ND	3200
1,1,2-Trichloroethane	ND	1900
Benzene	ND	640
trans-1,3-Dichloropropene	ND	3200
Bromoform	ND	2600
4-Methyl-2-Pentanone	ND	3200
2-Hexanone	ND	3200
Tetrachloroethene	2100	640
1,1,2,2-Tetrachloroethane	ND	640
Toluene	ND	3200
Chlorobenzene	ND	3200
Ethylbenzene	ND	2600
Styrene	ND	3200
Xylene (Total)	ND	3200

Client ID: **SSSP-1_4-4.5**
Site: Klockner & Klockner

Lab Sample No: **88666**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAMS1.i
Lab File ID: a6484.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.8 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 250.0
% Moisture: 10.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSFS-2_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88677**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8328.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
% Moisture: 4

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
bis(2-Chloroethyl)ether	ND	87
1,3-Dichlorobenzene	ND	870
1,4-Dichlorobenzene	ND	870
1,2-Dichlorobenzene	ND	870
bis(2-chloroisopropyl)ether	ND	870
N-Nitroso-di-n-propylamine	ND	87
Hexachloroethane	ND	87
Nitrobenzene	ND	87
Isophorone	ND	870
bis(2-Chloroethoxy)methane	ND	870
1,2,4-Trichlorobenzene	ND	87
Naphthalene	ND	870
4-Chloroaniline	ND	870
Hexachlorobutadiene	ND	170
2-Methylnaphthalene	ND	870
Hexachlorocyclopentadiene	ND	870
2-Chloronaphthalene	ND	870
2-Nitroaniline	ND	1700
Dimethylphthalate	ND	870
Acenaphthylene	ND	870
2,6-Dinitrotoluene	ND	170
3-Nitroaniline	ND	1700
Acenaphthene	ND	870
Dibenzofuran	ND	870
2,4-Dinitrotoluene	ND	170
Diethylphthalate	ND	870
4-Chlorophenyl-phenylether	ND	870
Fluorene	ND	870
4-Nitroaniline	ND	1700
N-Nitrosodiphenylamine	ND	870
4-Bromophenyl-phenylether	ND	870
Hexachlorobenzene	ND	87
Phenanthrene	78 J	870
Anthracene	ND	870

Client ID: **SSFS-2_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88677**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8328.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
% Moisture: 4

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Carbazole	ND	870
Di-n-butylphthalate	ND	870
Fluoranthene	120 J	870
Pyrene	130 J	870
Butylbenzylphthalate	ND	870
3,3'-Dichlorobenzidine	ND	1700
Benzo(a)anthracene	55 J	87
Chrysene	120 J	870
bis(2-Ethylhexyl)phthalate	13000	870
Di-n-octylphthalate	ND	870
Benzo(b)fluoranthene	100	87
Benzo(k)fluoranthene	39 J	87
Benzo(a)pyrene	81 J	87
Indeno(1,2,3-cd)pyrene	36 J	87
Dibenz(a,h)anthracene	ND	87
Benzo(g,h,i)perylene	46 J	870

Client ID: **SSFS-2_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88677**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Extracted: 10/15/98
Date Analyzed: 10/21/98
GC Column: DB-5
Instrument ID: BNAMS2.i
Lab File ID: s8328.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
% Moisture: 4.5

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown Alkane	27.03	1200	
2. Unknown Alkane	29.20	3900	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 5100

Client ID: **SSGT-2_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88684**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4658.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.7 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	620
Bromomethane	ND	620
Vinyl Chloride	ND	620
Chloroethane	ND	620
Methylene Chloride	ND	380
Acetone	ND	620
Carbon Disulfide	ND	620
1,1-Dichloroethene	ND	250
1,1-Dichloroethane	ND	620
trans-1,2-Dichloroethene	ND	620
cis-1,2-Dichloroethene	ND	620
Chloroform	ND	620
1,2-Dichloroethane	ND	250
2-Butanone	ND	620
1,1,1-Trichloroethane	ND	620
Carbon Tetrachloride	ND	250
Bromodichloromethane	ND	120
1,2-Dichloropropane	ND	120
cis-1,3-Dichloropropene	ND	620
Trichloroethene	ND	120
Dibromochloromethane	ND	620
1,1,2-Trichloroethane	ND	380
Benzene	ND	120
trans-1,3-Dichloropropene	ND	620
Bromoform	ND	500
4-Methyl-2-Pentanone	ND	620
2-Hexanone	ND	620
Tetrachloroethene	ND	120
1,1,2,2-Tetrachloroethane	ND	120
Toluene	ND	620
Chlorobenzene	ND	620
Ethylbenzene	ND	500
Styrene	ND	620
Xylene (Total)	ND	620

Client ID: **SSGT-2_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88684**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4658.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.7 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.6

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

302608

Client ID: **SSGT-1_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88685**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4659.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	680
Bromomethane	ND	680
Vinyl Chloride	ND	680
Chloroethane	ND	680
Methylene Chloride	ND	410
Acetone	ND	680
Carbon Disulfide	ND	680
1,1-Dichloroethene	ND	270
1,1-Dichloroethane	ND	680
trans-1,2-Dichloroethene	ND	680
cis-1,2-Dichloroethene	ND	680
Chloroform	ND	680
1,2-Dichloroethane	ND	270
2-Butanone	ND	680
1,1,1-Trichloroethane	ND	680
Carbon Tetrachloride	ND	270
Bromodichloromethane	ND	140
1,2-Dichloropropane	ND	140
cis-1,3-Dichloropropene	ND	680
Trichloroethene	ND	140
Dibromochloromethane	ND	680
1,1,2-Trichloroethane	ND	410
Benzene	ND	140
trans-1,3-Dichloropropene	ND	680
Bromoform	ND	540
4-Methyl-2-Pentanone	ND	680
2-Hexanone	ND	680
Tetrachloroethene	ND	140
1,1,2,2-Tetrachloroethane	ND	140
Toluene	ND	680
Chlorobenzene	ND	680
Ethylbenzene	ND	540
Styrene	ND	680
Xylene (Total)	ND	680

Client ID: **SSGT-1_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88685**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4659.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.0 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.8

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

302610

Client ID: **SSGT-3_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88686**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4660.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.2 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 9

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	670
Bromomethane	ND	670
Vinyl Chloride	ND	670
Chloroethane	ND	670
Methylene Chloride	ND	400
Acetone	ND	670
Carbon Disulfide	ND	670
1,1-Dichloroethene	ND	270
1,1-Dichloroethane	ND	670
trans-1,2-Dichloroethene	ND	670
cis-1,2-Dichloroethene	ND	670
Chloroform	ND	670
1,2-Dichloroethane	ND	270
2-Butanone	ND	670
1,1,1-Trichloroethane	ND	670
Carbon Tetrachloride	ND	270
Bromodichloromethane	ND	130
1,2-Dichloropropane	ND	130
cis-1,3-Dichloropropene	ND	670
Trichloroethene	ND	130
Dibromochloromethane	ND	670
1,1,2-Trichloroethane	ND	400
Benzene	ND	130
trans-1,3-Dichloropropene	ND	670
Bromoform	ND	540
4-Methyl-2-Pentanone	ND	670
2-Hexanone	ND	670
Tetrachloroethene	ND	130
1,1,2,2-Tetrachloroethane	ND	130
Toluene	ND	670
Chlorobenzene	ND	670
Ethylbenzene	ND	540
Styrene	ND	670
Xylene (Total)	ND	670

Client ID: **SSGT-3_7-7.5**
Site: Klockner & Klockner

Lab Sample No: **88686**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/15/98
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e4660.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10.2 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.9

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **SSAW-7_5-5.5**
Site: Klockner & Klockner

Lab Sample No: **88664**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9565.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 13.9

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	283	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSAW-7_12-12.5**
Site: Klockner & Klockner

Lab Sample No: **88665**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9566.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 5.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	128
Chloromethane	ND	128
Vinyl Chloride	ND	128
Bromomethane	ND	128
Chloroethane	ND	128
Trichlorofluoromethane	ND	128
1,1-Dichloroethene	ND	128
Methylene Chloride	ND	128
trans-1,2-Dichloroethene	ND	128
1,1-Dichloroethane	ND	128
cis-1,2-Dichloroethene	ND	128
Chloroform	ND	128
1,1,1-Trichloroethane	ND	128
Carbon Tetrachloride	ND	128
1,2-Dichloroethane	ND	128
Trichloroethene	648	128
1,2-Dichloropropane	ND	128
Bromodichloromethane	ND	128
2-Chloroethyl Vinyl Ether	ND	128
cis-1,3-Dichloropropene	ND	128
trans-1,3-Dichloropropene	ND	128
1,1,2-Trichloroethane	ND	128
Tetrachloroethene	ND	128
Dibromochloromethane	ND	128
Chlorobenzene	ND	128
Bromoform	ND	128
1,1,2,2-Tetrachloroethane	ND	128
1,3-Dichlorobenzene	ND	128
1,4-Dichlorobenzene	ND	128
1,2-Dichlorobenzene	ND	128

Client ID: **SSAW-9_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **88667**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/21/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9602.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 500.0
% Moisture: 17.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	1460
Chloromethane	ND	1460
Vinyl Chloride	ND	1460
Bromomethane	ND	1460
Chloroethane	ND	1460
Trichlorofluoromethane	ND	1460
1,1-Dichloroethene	ND	1460
Methylene Chloride	ND	1460
trans-1,2-Dichloroethene	ND	1460
1,1-Dichloroethane	ND	1460
cis-1,2-Dichloroethene	ND	1460
Chloroform	ND	1460
1,1,1-Trichloroethane	ND	1460
Carbon Tetrachloride	ND	1460
1,2-Dichloroethane	ND	1460
Trichloroethene	23300	1460
1,2-Dichloropropane	ND	1460
Bromodichloromethane	ND	1460
2-Chloroethyl Vinyl Ether	ND	1460
cis-1,3-Dichloropropene	ND	1460
trans-1,3-Dichloropropene	ND	1460
1,1,2-Trichloroethane	ND	1460
Tetrachloroethene	ND	1460
Dibromochloromethane	ND	1460
Chlorobenzene	ND	1460
Bromoform	ND	1460
1,1,2,2-Tetrachloroethane	ND	1460
1,3-Dichlorobenzene	ND	1460
1,4-Dichlorobenzene	ND	1460
1,2-Dichlorobenzene	ND	1460

Client ID: **SSAW-10_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **88668**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9568.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 500.0
% Moisture: 17.2

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	1510
Chloromethane	ND	1510
Vinyl Chloride	ND	1510
Bromomethane	ND	1510
Chloroethane	ND	1510
Trichlorofluoromethane	ND	1510
1,1-Dichloroethene	ND	1510
Methylene Chloride	ND	1510
trans-1,2-Dichloroethene	ND	1510
1,1-Dichloroethane	ND	1510
cis-1,2-Dichloroethene	ND	1510
Chloroform	ND	1510
1,1,1-Trichloroethane	ND	1510
Carbon Tetrachloride	ND	1510
1,2-Dichloroethane	ND	1510
Trichloroethene	21200	1510
1,2-Dichloropropane	ND	1510
Bromodichloromethane	ND	1510
2-Chloroethyl Vinyl Ether	ND	1510
cis-1,3-Dichloropropene	ND	1510
trans-1,3-Dichloropropene	ND	1510
1,1,2-Trichloroethane	ND	1510
Tetrachloroethene	ND	1510
Dibromochloromethane	ND	1510
Chlorobenzene	ND	1510
Bromoform	ND	1510
1,1,2,2-Tetrachloroethane	ND	1510
1,3-Dichlorobenzene	ND	1510
1,4-Dichlorobenzene	ND	1510
1,2-Dichlorobenzene	ND	1510

Client ID: **SSAW-9_11.5-12**
Site: Klockner & Klockner

Lab Sample No: **88669**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9569.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.8

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSAW-2_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **88671**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9570.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 1000.0
% Moisture: 21.6

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	3070
Chloromethane	ND	3070
Vinyl Chloride	ND	3070
Bromomethane	ND	3070
Chloroethane	ND	3070
Trichlorofluoromethane	ND	3070
1,1-Dichloroethene	ND	3070
Methylene Chloride	ND	3070
trans-1,2-Dichloroethene	ND	3070
1,1-Dichloroethane	ND	3070
cis-1,2-Dichloroethene	ND	3070
Chloroform	ND	3070
1,1,1-Trichloroethane	ND	3070
Carbon Tetrachloride	ND	3070
1,2-Dichloroethane	ND	3070
Trichloroethene	23100	3070
1,2-Dichloropropane	ND	3070
Bromodichloromethane	ND	3070
2-Chloroethyl Vinyl Ether	ND	3070
cis-1,3-Dichloropropene	ND	3070
trans-1,3-Dichloropropene	ND	3070
1,1,2-Trichloroethane	ND	3070
Tetrachloroethene	ND	3070
Dibromochloromethane	ND	3070
Chlorobenzene	ND	3070
Bromoform	ND	3070
1,1,2,2-Tetrachloroethane	ND	3070
1,3-Dichlorobenzene	ND	3070
1,4-Dichlorobenzene	ND	3070
1,2-Dichlorobenzene	ND	3070

Client ID: **SSAW-2_7.5-8**
Site: Klockner & Klockner

Lab Sample No: **88672**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9564.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.6

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	118
Chloromethane	ND	118
Vinyl Chloride	ND	118
Bromomethane	ND	118
Chloroethane	ND	118
Trichlorofluoromethane	ND	118
1,1-Dichloroethene	ND	118
Methylene Chloride	ND	118
trans-1,2-Dichloroethene	ND	118
1,1-Dichloroethane	ND	118
cis-1,2-Dichloroethene	ND	118
Chloroform	ND	118
1,1,1-Trichloroethane	ND	118
Carbon Tetrachloride	ND	118
1,2-Dichloroethane	ND	118
Trichloroethene	144	118
1,2-Dichloropropane	ND	118
Bromodichloromethane	ND	118
2-Chloroethyl Vinyl Ether	ND	118
cis-1,3-Dichloropropene	ND	118
trans-1,3-Dichloropropene	ND	118
1,1,2-Trichloroethane	ND	118
Tetrachloroethene	ND	118
Dibromochloromethane	ND	118
Chlorobenzene	ND	118
Bromoform	ND	118
1,1,2,2-Tetrachloroethane	ND	118
1,3-Dichlorobenzene	ND	118
1,4-Dichlorobenzene	ND	118
1,2-Dichlorobenzene	ND	118

Client ID: **SSSR-2_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88674**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9593.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 1000.0
% Moisture: 7.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	2620
Chloromethane	ND	2620
Vinyl Chloride	ND	2620
Bromomethane	ND	2620
Chloroethane	ND	2620
Trichlorofluoromethane	ND	2620
1,1-Dichloroethene	ND	2620
Methylene Chloride	ND	2620
trans-1,2-Dichloroethene	ND	2620
1,1-Dichloroethane	ND	2620
cis-1,2-Dichloroethene	ND	2620
Chloroform	ND	2620
1,1,1-Trichloroethane	ND	2620
Carbon Tetrachloride	ND	2620
1,2-Dichloroethane	ND	2620
Trichloroethene	43900	2620
1,2-Dichloropropane	ND	2620
Bromodichloromethane	ND	2620
2-Chloroethyl Vinyl Ether	ND	2620
cis-1,3-Dichloropropene	ND	2620
trans-1,3-Dichloropropene	ND	2620
1,1,2-Trichloroethane	ND	2620
Tetrachloroethene	ND	2620
Dibromochloromethane	ND	2620
Chlorobenzene	ND	2620
Bromoform	ND	2620
1,1,2,2-Tetrachloroethane	ND	2620
1,3-Dichlorobenzene	ND	2620
1,4-Dichlorobenzene	ND	2620
1,2-Dichlorobenzene	ND	2620

Client ID: **SSSR-3_0-0.5**
Site: Klockner & Klockner

Lab Sample No: **88675**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/19/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9572.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 1000.0
% Moisture: 7.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	2620
Chloromethane	ND	2620
Vinyl Chloride	ND	2620
Bromomethane	ND	2620
Chloroethane	ND	2620
Trichlorofluoromethane	ND	2620
1,1-Dichloroethene	ND	2620
Methylene Chloride	ND	2620
trans-1,2-Dichloroethene	ND	2620
1,1-Dichloroethane	ND	2620
cis-1,2-Dichloroethene	ND	2620
Chloroform	ND	2620
1,1,1-Trichloroethane	ND	2620
Carbon Tetrachloride	ND	2620
1,2-Dichloroethane	ND	2620
Trichloroethene	19700	2620
1,2-Dichloropropane	ND	2620
Bromodichloromethane	ND	2620
2-Chloroethyl Vinyl Ether	ND	2620
cis-1,3-Dichloropropene	ND	2620
trans-1,3-Dichloropropene	ND	2620
1,1,2-Trichloroethane	ND	2620
Tetrachloroethene	ND	2620
Dibromochloromethane	ND	2620
Chlorobenzene	ND	2620
Bromoform	ND	2620
1,1,2,2-Tetrachloroethane	ND	2620
1,3-Dichlorobenzene	ND	2620
1,4-Dichlorobenzene	ND	2620
1,2-Dichlorobenzene	ND	2620

Client ID: **SSAW-4_4-4.5**
Site: Klockner & Klockner

Lab Sample No: **88678**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9594.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 1000.0
% Moisture: 21.8

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	3070
Chloromethane	ND	3070
Vinyl Chloride	ND	3070
Bromomethane	ND	3070
Chloroethane	ND	3070
Trichlorofluoromethane	ND	3070
1,1-Dichloroethene	ND	3070
Methylene Chloride	ND	3070
trans-1,2-Dichloroethene	ND	3070
1,1-Dichloroethane	ND	3070
cis-1,2-Dichloroethene	ND	3070
Chloroform	ND	3070
1,1,1-Trichloroethane	ND	3070
Carbon Tetrachloride	ND	3070
1,2-Dichloroethane	ND	3070
Trichloroethene	23200	3070
1,2-Dichloropropane	ND	3070
Bromodichloromethane	ND	3070
2-Chloroethyl Vinyl Ether	ND	3070
cis-1,3-Dichloropropene	ND	3070
trans-1,3-Dichloropropene	ND	3070
1,1,2-Trichloroethane	ND	3070
Tetrachloroethene	ND	3070
Dibromochloromethane	ND	3070
Chlorobenzene	ND	3070
Bromoform	ND	3070
1,1,2,2-Tetrachloroethane	ND	3070
1,3-Dichlorobenzene	ND	3070
1,4-Dichlorobenzene	ND	3070
1,2-Dichlorobenzene	ND	3070

Client ID: **SSAW-4_9.5-10**
Site: Klockner & Klockner

Lab Sample No: **88679**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9595.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 4.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	260
Chloromethane	ND	260
Vinyl Chloride	ND	260
Bromomethane	ND	260
Chloroethane	ND	260
Trichlorofluoromethane	ND	260
1,1-Dichloroethene	ND	260
Methylene Chloride	ND	260
trans-1,2-Dichloroethene	ND	260
1,1-Dichloroethane	ND	260
cis-1,2-Dichloroethene	ND	260
Chloroform	ND	260
1,1,1-Trichloroethane	ND	260
Carbon Tetrachloride	ND	260
1,2-Dichloroethane	ND	260
Trichloroethene	ND	260
1,2-Dichloropropane	ND	260
Bromodichloromethane	ND	260
2-Chloroethyl Vinyl Ether	ND	260
cis-1,3-Dichloropropene	ND	260
trans-1,3-Dichloropropene	ND	260
1,1,2-Trichloroethane	ND	260
Tetrachloroethene	ND	260
Dibromochloromethane	ND	260
Chlorobenzene	ND	260
Bromoform	ND	260
1,1,2,2-Tetrachloroethane	ND	260
1,3-Dichlorobenzene	ND	260
1,4-Dichlorobenzene	ND	260
1,2-Dichlorobenzene	ND	260

Client ID: **SSSR-1_4-4.5**
Site: Klockner & Klockner

Lab Sample No: **88681**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9579.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 11.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	138
Chloromethane	ND	138
Vinyl Chloride	ND	138
Bromomethane	ND	138
Chloroethane	ND	138
Trichlorofluoromethane	ND	138
1,1-Dichloroethene	ND	138
Methylene Chloride	ND	138
trans-1,2-Dichloroethene	ND	138
1,1-Dichloroethane	ND	138
cis-1,2-Dichloroethene	ND	138
Chloroform	ND	138
1,1,1-Trichloroethane	ND	138
Carbon Tetrachloride	ND	138
1,2-Dichloroethane	ND	138
Trichloroethene	159	138
1,2-Dichloropropane	ND	138
Bromodichloromethane	ND	138
2-Chloroethyl Vinyl Ether	ND	138
cis-1,3-Dichloropropene	ND	138
trans-1,3-Dichloropropene	ND	138
1,1,2-Trichloroethane	ND	138
Tetrachloroethene	ND	138
Dibromochloromethane	ND	138
Chlorobenzene	ND	138
Bromoform	ND	138
1,1,2,2-Tetrachloroethane	ND	138
1,3-Dichlorobenzene	ND	138
1,4-Dichlorobenzene	ND	138
1,2-Dichlorobenzene	ND	138

Client ID: **SSSR-4_4-4.5**
Site: Klockner & Klockner

Lab Sample No: **88682**
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9586.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 12.1

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	138
Chloromethane	ND	138
Vinyl Chloride	ND	138
Bromomethane	ND	138
Chloroethane	ND	138
Trichlorofluoromethane	ND	138
1,1-Dichloroethene	ND	138
Methylene Chloride	ND	138
trans-1,2-Dichloroethene	ND	138
1,1-Dichloroethane	ND	138
cis-1,2-Dichloroethene	ND	138
Chloroform	ND	138
1,1,1-Trichloroethane	ND	138
Carbon Tetrachloride	ND	138
1,2-Dichloroethane	ND	138
Trichloroethene	712	138
1,2-Dichloropropane	ND	138
Bromodichloromethane	ND	138
2-Chloroethyl Vinyl Ether	ND	138
cis-1,3-Dichloropropene	ND	138
trans-1,3-Dichloropropene	ND	138
1,1,2-Trichloroethane	ND	138
Tetrachloroethene	ND	138
Dibromochloromethane	ND	138
Chlorobenzene	ND	138
Bromoform	ND	138
1,1,2,2-Tetrachloroethane	ND	138
1,3-Dichlorobenzene	ND	138
1,4-Dichlorobenzene	ND	138
1,2-Dichlorobenzene	ND	138

Client ID: **SSSP-1 4-4.5**
Site: **Klockner & Klockner**

Lab Sample No: 88666
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 10.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	8480	12.9		P
Antimony	ND	1.0	N	P
Arsenic	21.1	0.84		P
Barium	202	0.31		P
Beryllium	0.52	0.044		P
Cadmium	0.80	0.089	B	P
Calcium	11400	9.4		P
Chromium	14.6	0.22	*	P
Cobalt	4.9	0.27	B	P
Copper	50.4	0.78		P
Iron	14400	9.2		P
Lead	315	0.56		P
Magnesium	2200	9.0		P
Manganese	251	0.24	*	P
Mercury	1.9	0.037		CV
Nickel	10.1	0.47		P
Potassium	818	66.7	B	P
Selenium	ND	1.1		P
Silver	ND	0.31		P
Sodium	257	94.7	B	P
Thallium	ND	1.1		P
Vanadium	21.4	0.42		P
Zinc	294	1.0	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-2 0-0.5**
Site: **Klockner & Klockner**

Lab Sample No: 88677
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 4.5

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	5550	12.2		P
Antimony	ND	0.96	N	P
Arsenic	2.7	0.80		P
Barium	71.4	0.29		P
Beryllium	0.39	0.042	B	P
Cadmium	1.0	0.084	B	P
Calcium	4230	8.8		P
Chromium	40.3	0.21	*	P
Cobalt	15.6	0.25		P
Copper	63.6	0.73		P
Iron	25000	8.7		P
Lead	70.2	0.52		P
Magnesium	3420	8.4		P
Manganese	217	0.23	*	P
Mercury	0.05	0.017		CV
Nickel	27.1	0.44		P
Potassium	1660	62.9		P
Selenium	ND	1.0		P
Silver	ND	0.29		P
Sodium	ND	89.2		P
Thallium	ND	1.0		P
Vanadium	53.0	0.40		P
Zinc	334	0.94	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSLP-1 12-12.5**
Site: **Klockner & Klockner**

Lab Sample No: 88683
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 4.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	3040	12.1		P
Antimony	ND	0.96	N	P
Arsenic	4.5	0.79		P
Barium	15.7	0.29	B	P
Beryllium	0.52	0.042		P
Cadmium	ND	0.083		P
Calcium	102000	44.0		P
Chromium	6.1	0.21	*	P
Cobalt	5.3	0.25	B	P
Copper	12.0	0.73		P
Iron	14200	8.7		P
Lead	6.6	0.52		P
Magnesium	58000	42.0		P
Manganese	276	0.23	*	P
Mercury	ND	0.017		CV
Nickel	9.7	0.44		P
Potassium	876	62.6	B	P
Selenium	ND	1.0		P
Silver	ND	0.29		P
Sodium	138	88.8	B	P
Thallium	ND	1.0		P
Vanadium	9.9	0.40	B	P
Zinc	38.2	0.94	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSGT-2 7-7.5**
Site: **Klockner & Klockner**

Lab Sample No: 88684
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 6.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	2.6	0.54		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSGT-1 7-7.5**
Site: **Klockner & Klockner**

Lab Sample No: 88685
Lab Job No: H950

Date Sampled: 10/07/98
Date Received: 10/07/98

Matrix: SOLID
Level: LOW
% Moisture: 7.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	4.7	0.54		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Site: Klockner & Klockner

Lab Job No: H950

Date Sampled: 10/7/98
Date Received: 10/7/98
Matrix: SOIL

Date Analyzed: 10/14/98
QA Batch: 1402

TOTAL ORGANIC CARBON

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
88670	SSGC-2_1-3	17.4	4.0	14900
88673	SSGC-3_1-4	18.5	4.0	6660
88680	SSGC-4_4-7	3.7	2.0	390

Quantitation Limit for Total Organic Carbon is 100 mg/kg for an undiluted sample.

Site: Klockner & Klockner

Lab Job No: H950

Date Sampled: 10/7/98
Date Received: 10/7/98
Matrix: SOIL

Date Extracted: 10/12/98
Date Analyzed: 10/12/98
QA Batch: 4638

TOTAL PETROLEUM HYDROCARBONS (418.1)

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
88666	SSSP-1_4-4.5	10.0	1.0	89.0
88677	SSFS-2_0-0.5	4.5	5.0	1490

Quantitation Limit for Total Petroleum Hydrocarbons (418.1) is 25.0 mg/kg for an undiluted sample.

CHAIN OF CUSTODY

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech Research # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/7/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

H950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
—	TRIP BLANK		N/A	MEOH		ICE	1	88662
1405	FIELD BLANK	FB-2	N/A	H_2O	TCL VOC	ICE/HCl	2	88663
1045	ALLEYWAY	SSAW-7	5-5.5	SOIL	PHAL 8021	ICE/MEOH	2	88664
1046	ALLEYWAY	SSAW-7	12-12.5	SOIL	PHAL 8021	ICE/MEOH	2	88665
1105	SUMP	SSSP-1	4-4.5	SOIL	TCL VOC, PHC, TAL METALS, *BNTIS	ICE/MEOH	3	88666
1152	ALLEY WAY	SSAW-9	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	88667
1155	ALLEY WAY	SSAW-10	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	88668
1210	ALLEY WAY	SSAW-9	11.5-12'	SOIL	PHAL (8021)	ICE/MEOH	2	88669
1200	GEOLOGICAL CHARACTERISTIC	SSGC-2	1-3'	SOIL	TOC, GRAINSIZE	ICE	2	88670
1235	ALLEYWAY	SSAW-2	1.5-2'	SOIL	PHAL (8021)	ICE/MEOH	2	88671
1243	ALLEY WAY	SSAW-2	7.5-8'	SOIL	PHAL (8021)	ICE/MEOH	2	88672
1245	GEOLOGICAL CHARACTERISTICS	SSGC-3	1-4'	SOIL	TOC, GRAIN SIZE	ICE	2	88673

RELINQUISHED BY: Cheryl Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [signature] DATE: 10/7/98 TIME 1745

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302633

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/7/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

H950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1303	SCALE ROOM	SSSR-2	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88674
1320	SCALE ROOM	SSSR-3	0-.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88675
1351	DRUM STORAGE AREA	SSDSA-2	0-.5'	SOIL	CN	ICE	1	88676
1354	DRUM STORAGE SHED	SSFS-2	0-.5	SOIL	PAC, TAL METALS #, BN TIS	ICE	1	BN CONTINGENT 88677
1430	ALLEY WAY	SSAW-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88678
1445	ALLEY WAY	SSAW-4	9.5-10'	SOIL	PHAL (8021)	ICE/MEOH	2	88679
1450	GEOLOGICAL CHARACTERISTICS	SSGC-4	4-7'	SOIL	TOC, GRAIN SIZE	ICE	2	88680
1515	SCALE ROOM	SSSR-1	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88681
1520	SCALE ROOM	SSSR-4	4-4.5'	SOIL	PHAL (8021)	ICE/MEOH	2	88682
1530	LEACH PIT	SSLP-1	12-12.5	SOIL	TAL METALS	ICE	1	88683
1615	GAS TANK	SSGT-2	7-7.5	SOIL	TCL VOC	ICE/MEOH	2	88684
1625	GAS TANK	SSGT-4	7-7.5	SOIL	TCL VOC, Pb	ICE/MEOH	3	88685

RELINQUISHED BY: Cheryl L Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [signature] DATE: 1745 TIME 10/7/98

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302634

PROJECT NAME: Kleckner & Kleckner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/7/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

4950

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1630	GAS TANK	SSGT-3	7-7.5	SOIL	TCL VOC	KE/MEOH	2	886 86

RELINQUISHED BY: Cheryl Coffee DATE: 10/7/98 TIME: 1745 RECEIVED BY: [signature] DATE: 1745 TIME 10/7/98

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

TOTAL NO. CONTAINERS_____

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302635

9

302636

ATTACHMENT 9

ANALYTICAL DATA SHEETS

10/8/98 – JOB #I051

302637

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 5, 1998

RECEIVED 1998 The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. I051 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 09, 1998:

Lab No.	Client ID	Analysis Required
89298	UST-1	Purgeable Halocarbons

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302638

Client ID: **UST-1**
Site: Klockner & Klockner

Lab Sample No: **89298**
Lab Job No: I051

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9631.d

Matrix: SOIL
Level: HIGH
Sample Weight: 1 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 2500.0
% Moisture: 0.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	23600
Chloromethane	ND	23600
Vinyl Chloride	ND	23600
Bromomethane	ND	23600
Chloroethane	ND	23600
Trichlorofluoromethane	ND	23600
1,1-Dichloroethene	ND	23600
Methylene Chloride	ND	23600
trans-1,2-Dichloroethene	ND	23600
1,1-Dichloroethane	ND	23600
cis-1,2-Dichloroethene	ND	23600
Chloroform	ND	23600
1,1,1-Trichloroethane	ND	23600
Carbon Tetrachloride	ND	23600
1,2-Dichloroethane	ND	23600
Trichloroethene	ND	23600
1,2-Dichloropropane	ND	23600
Bromodichloromethane	ND	23600
2-Chloroethyl Vinyl Ether	ND	23600
cis-1,3-Dichloropropene	ND	23600
trans-1,3-Dichloropropene	ND	23600
1,1,2-Trichloroethane	ND	23600
Tetrachloroethene	ND	23600
Dibromochloromethane	ND	23600
Chlorobenzene	ND	23600
Bromoform	ND	23600
1,1,2,2-Tetrachloroethane	ND	23600
1,3-Dichlorobenzene	ND	23600
1,4-Dichlorobenzene	ND	23600
1,2-Dichlorobenzene	ND	23600

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/8/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

PAGE 1 OF 1

I051

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
1320	UST (BLDG 13)	UST-1	N/A	PETRO	PHAL	ICE/HCL	3	89298

RELINQUISHED BY: Cheryl L. Coffee DATE: 10/9/98 TIME: 1600 RECEIVED BY: [illegible] DATE: 10-9-98 TIME 1600

RELINQUISHED BY: [illegible] DATE: 10-9-98 TIME: 1810 RECEIVED BY: [illegible] DATE: 10/9/98 TIME 1810

TOTAL NO. CONTAINERS 1

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC PETROLEUM HYDROCARBONS
VOC VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN BASE NEUTRALS WITH LIBRARY SEARCH
AE ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM PRIORITY POLLUTANT METALS
PP+40 PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302640

10

302641

ATTACHMENT 10

ANALYTICAL DATA SHEETS

10/8/98 – JOB #I052

302642

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 2, 1998

RECEIVED
NOV 17 1998
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. I052 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 09, 1998:

Lab No.	Client ID	Analysis Required
89299	TB-3	Purgeable Halocarbons
89300	SSOSS-1_1-1.5	Purgeable Halocarbons
89301	SSCP-1_3.5_4	Purgeable Halocarbons
89302	SSGC-1A_1.5-4	TOC
89303	SSCP-1_11-11.5	Purgeable Halocarbons
89304	SSFD-1_1.5-2	Purgeable Halocarbons
89305	SSCP-4_1-1.5	Purgeable Halocarbons

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302643

Client ID: **TB-3**
Site: Klockner & Klockner

Lab Sample No: **89299**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9587.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	125
Chloromethane	ND	125
Vinyl Chloride	ND	125
Bromomethane	ND	125
Chloroethane	ND	125
Trichlorofluoromethane	ND	125
1,1-Dichloroethene	ND	125
Methylene Chloride	ND	125
trans-1,2-Dichloroethene	ND	125
1,1-Dichloroethane	ND	125
cis-1,2-Dichloroethene	ND	125
Chloroform	ND	125
1,1,1-Trichloroethane	ND	125
Carbon Tetrachloride	ND	125
1,2-Dichloroethane	ND	125
Trichloroethene	ND	125
1,2-Dichloropropane	ND	125
Bromodichloromethane	ND	125
2-Chloroethyl Vinyl Ether	ND	125
cis-1,3-Dichloropropene	ND	125
trans-1,3-Dichloropropene	ND	125
1,1,2-Trichloroethane	ND	125
Tetrachloroethene	ND	125
Dibromochloromethane	ND	125
Chlorobenzene	ND	125
Bromoform	ND	125
1,1,2,2-Tetrachloroethane	ND	125
1,3-Dichlorobenzene	ND	125
1,4-Dichlorobenzene	ND	125
1,2-Dichlorobenzene	ND	125

Client ID: **SSOSS-1_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **89300**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/21/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9609.d

Matrix: SOIL
Level: HIGH
Sample Weight: 9 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 8.7

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	294
Chloromethane	ND	294
Vinyl Chloride	ND	294
Bromomethane	ND	294
Chloroethane	ND	294
Trichlorofluoromethane	ND	294
1,1-Dichloroethene	ND	294
Methylene Chloride	ND	294
trans-1,2-Dichloroethene	ND	294
1,1-Dichloroethane	ND	294
cis-1,2-Dichloroethene	ND	294
Chloroform	ND	294
1,1,1-Trichloroethane	7250	294
Carbon Tetrachloride	ND	294
1,2-Dichloroethane	ND	294
Trichloroethene	ND	294
1,2-Dichloropropane	ND	294
Bromodichloromethane	ND	294
2-Chloroethyl Vinyl Ether	ND	294
cis-1,3-Dichloropropene	ND	294
trans-1,3-Dichloropropene	ND	294
1,1,2-Trichloroethane	ND	294
Tetrachloroethene	ND	294
Dibromochloromethane	ND	294
Chlorobenzene	ND	294
Bromoform	ND	294
1,1,2,2-Tetrachloroethane	ND	294
1,3-Dichlorobenzene	ND	294
1,4-Dichlorobenzene	ND	294
1,2-Dichlorobenzene	ND	294

Client ID: **SSCP-1_3.5_4**
Site: Klockner & Klockner

Lab Sample No: **89301**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9508.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.3

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	133
Chloromethane	ND	133
Vinyl Chloride	ND	133
Bromomethane	ND	133
Chloroethane	ND	133
Trichlorofluoromethane	ND	133
1,1-Dichloroethene	ND	133
Methylene Chloride	ND	133
trans-1,2-Dichloroethene	ND	133
1,1-Dichloroethane	ND	133
cis-1,2-Dichloroethene	ND	133
Chloroform	ND	133
1,1,1-Trichloroethane	ND	133
Carbon Tetrachloride	ND	133
1,2-Dichloroethane	ND	133
Trichloroethene	ND	133
1,2-Dichloropropane	ND	133
Bromodichloromethane	ND	133
2-Chloroethyl Vinyl Ether	ND	133
cis-1,3-Dichloropropene	ND	133
trans-1,3-Dichloropropene	ND	133
1,1,2-Trichloroethane	ND	133
Tetrachloroethene	ND	133
Dibromochloromethane	ND	133
Chlorobenzene	ND	133
Bromoform	ND	133
1,1,2,2-Tetrachloroethane	ND	133
1,3-Dichlorobenzene	ND	133
1,4-Dichlorobenzene	ND	133
1,2-Dichlorobenzene	ND	133

Client ID: **SSCP-1_11-11.5**
Site: Klockner & Klockner

Lab Sample No: **89303**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/16/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9509.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.1

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	142
Chloromethane	ND	142
Vinyl Chloride	ND	142
Bromomethane	ND	142
Chloroethane	ND	142
Trichlorofluoromethane	ND	142
1,1-Dichloroethene	ND	142
Methylene Chloride	ND	142
trans-1,2-Dichloroethene	ND	142
1,1-Dichloroethane	ND	142
cis-1,2-Dichloroethene	ND	142
Chloroform	ND	142
1,1,1-Trichloroethane	ND	142
Carbon Tetrachloride	ND	142
1,2-Dichloroethane	ND	142
Trichloroethene	ND	142
1,2-Dichloropropane	ND	142
Bromodichloromethane	ND	142
2-Chloroethyl Vinyl Ether	ND	142
cis-1,3-Dichloropropene	ND	142
trans-1,3-Dichloropropene	ND	142
1,1,2-Trichloroethane	ND	142
Tetrachloroethene	ND	142
Dibromochloromethane	ND	142
Chlorobenzene	ND	142
Bromoform	ND	142
1,1,2,2-Tetrachloroethane	ND	142
1,3-Dichlorobenzene	ND	142
1,4-Dichlorobenzene	ND	142
1,2-Dichlorobenzene	ND	142

Client ID: **SSFD-1_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **89304**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9589.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.2

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	137
Chloromethane	ND	137
Vinyl Chloride	ND	137
Bromomethane	ND	137
Chloroethane	ND	137
Trichlorofluoromethane	ND	137
1,1-Dichloroethene	ND	137
Methylene Chloride	ND	137
trans-1,2-Dichloroethene	ND	137
1,1-Dichloroethane	ND	137
cis-1,2-Dichloroethene	ND	137
Chloroform	ND	137
1,1,1-Trichloroethane	ND	137
Carbon Tetrachloride	ND	137
1,2-Dichloroethane	ND	137
Trichloroethene	ND	137
1,2-Dichloropropane	ND	137
Bromodichloromethane	ND	137
2-Chloroethyl Vinyl Ether	ND	137
cis-1,3-Dichloropropene	ND	137
trans-1,3-Dichloropropene	ND	137
1,1,2-Trichloroethane	ND	137
Tetrachloroethene	ND	137
Dibromochloromethane	ND	137
Chlorobenzene	ND	137
Bromoform	ND	137
1,1,2,2-Tetrachloroethane	ND	137
1,3-Dichlorobenzene	ND	137
1,4-Dichlorobenzene	ND	137
1,2-Dichlorobenzene	ND	137

Client ID: **SSCP-4_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **89305**
Lab Job No: I052

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/20/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9590.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.7

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Site: Klockner & Klockner

Lab Job No: I052

Date Sampled: 10/8/98
Date Received: 10/9/98
Matrix: SOIL

Date Analyzed: 10/14/98
QA Batch: 1402

TOTAL ORGANIC CARBON

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
89302	SSGC-1A_1.5-4	13.7	4.0	16200

Quantitation Limit for Total Organic Carbon is 100 mg/kg for an undiluted sample.

VA cup

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02 Envirotech # 809003

LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/8/98

SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

I052

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
—	TRIP BLANK	TB-3	N/A	MEOH	PHAL (8021)	ICE	1	89299
1210	OIL STORAGE SHED	SSOSS-1	1-1.5	SOIL	PHAL (8021)	ICE/MEOH	2	89300
1215	CONCRETE PAD	SSCP-1	3.5-4'	SOIL	PHAL (8021)	ICE/MEOH	2	1 WEEK TAT 89301
0950	(Concrete Pad SSCP-4) GEOLOGICAL CHARACTERISTICS	SSGC-1A	1.5-4'	SOIL	TOC, GRAIN SIZE	ICE	2	89302
1218	CONCRETE PAD	SSCP-1	11-11.5'	SOIL	PHAL (8021)	ICE/MEOH	2	1 WEEK TAT 89303
1500	FLOOR DRAIN	SSFD-1	1.5-2'	SOIL	PHAL (8021)	ICE/MEOH	2	89304
12:23	Concrete Pad	SSCP-4	1-1.5'	Soil	* PHAL Contingent	Ice/MEOH	2	89305
12:13	Concrete Pad	SSCP-2	1.5-2'	Soil	* PHAL Contingent	Ice/MEOH	2	89306
13:20	Concrete Pad	SSCP-3	1.5-2'	Soil	* PHAL Contingent	Ice/MEOH	2	89307
	~~TB-3~~			~~MEOH~~		~~MEOH~~	~~X~~	

RELINQUISHED BY: [signature] DATE: 10/9/98 TIME: 1600 RECEIVED BY: [signature] DATE: 10-9-98 TIME 1600

RELINQUISHED BY: [signature] DATE: 10-9-98 TIME: 1810 RECEIVED BY: [signature] DATE: 10/9/98 TIME 1810

TOTAL NO. CONTAINERS 17

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC PETROLEUM HYDROCARBONS
VOC VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN BASE NEUTRALS WITH LIBRARY SEARCH
AE ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM PRIORITY POLLUTANT METALS
PP+40 PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302651

ATTACHMENT 11

ANALYTICAL DATA SHEETS

10/8/98 – JOB #I053

302653

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 5, 1998

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. I053 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 09, 1998:

Lab No.	Client ID	Analysis Required
89308	SSAW-5_1.5-2	Purgeable Halocarbons
89309	SSAW-5_11-11.5	Purgeable Halocarbons
89310	SSDP-1_2.5-3	Purgeable Halocarbons, TAL Metals

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

RECEIVED
NOV 1 1998
The Whitman Companies, Inc.

302654

Client ID: **SSAW-5_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **89308**
Lab Job No: I053

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9628.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 18.8

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	302
Chloromethane	ND	302
Vinyl Chloride	ND	302
Bromomethane	ND	302
Chloroethane	ND	302
Trichlorofluoromethane	ND	302
1,1-Dichloroethene	ND	302
Methylene Chloride	ND	302
trans-1,2-Dichloroethene	ND	302
1,1-Dichloroethane	ND	302
cis-1,2-Dichloroethene	406	302
Chloroform	ND	302
1,1,1-Trichloroethane	ND	302
Carbon Tetrachloride	ND	302
1,2-Dichloroethane	ND	302
Trichloroethene	10600	302
1,2-Dichloropropane	ND	302
Bromodichloromethane	ND	302
2-Chloroethyl Vinyl Ether	ND	302
cis-1,3-Dichloropropene	ND	302
trans-1,3-Dichloropropene	ND	302
1,1,2-Trichloroethane	ND	302
Tetrachloroethene	5850	302
Dibromochloromethane	ND	302
Chlorobenzene	ND	302
Bromoform	ND	302
1,1,2,2-Tetrachloroethane	ND	302
1,3-Dichlorobenzene	ND	302
1,4-Dichlorobenzene	ND	302
1,2-Dichlorobenzene	ND	302

Client ID: **SSAW-5_11-11.5**
Site: Klockner & Klockner

Lab Sample No: **89309**
Lab Job No: I053

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/21/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9611.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 5.8

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	123
Chloromethane	ND	123
Vinyl Chloride	ND	123
Bromomethane	ND	123
Chloroethane	ND	123
Trichlorofluoromethane	ND	123
1,1-Dichloroethene	ND	123
Methylene Chloride	ND	123
trans-1,2-Dichloroethene	ND	123
1,1-Dichloroethane	ND	123
cis-1,2-Dichloroethene	ND	123
Chloroform	ND	123
1,1,1-Trichloroethane	ND	123
Carbon Tetrachloride	ND	123
1,2-Dichloroethane	ND	123
Trichloroethene	ND	123
1,2-Dichloropropane	ND	123
Bromodichloromethane	ND	123
2-Chloroethyl Vinyl Ether	ND	123
cis-1,3-Dichloropropene	ND	123
trans-1,3-Dichloropropene	ND	123
1,1,2-Trichloroethane	ND	123
Tetrachloroethene	ND	123
Dibromochloromethane	ND	123
Chlorobenzene	ND	123
Bromoform	ND	123
1,1,2,2-Tetrachloroethane	ND	123
1,3-Dichlorobenzene	ND	123
1,4-Dichlorobenzene	ND	123
1,2-Dichlorobenzene	ND	123

Client ID: **SSDP-1_2.5-3**
Site: Klockner & Klockner

Lab Sample No: **89310**
Lab Job No: I053

Date Sampled: 10/08/98
Date Received: 10/09/98
Date Analyzed: 10/21/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9612.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 10.2

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	139
Chloromethane	ND	139
Vinyl Chloride	ND	139
Bromomethane	ND	139
Chloroethane	ND	139
Trichlorofluoromethane	ND	139
1,1-Dichloroethene	ND	139
Methylene Chloride	ND	139
trans-1,2-Dichloroethene	ND	139
1,1-Dichloroethane	ND	139
cis-1,2-Dichloroethene	ND	139
Chloroform	ND	139
1,1,1-Trichloroethane	ND	139
Carbon Tetrachloride	ND	139
1,2-Dichloroethane	ND	139
Trichloroethene	656	139
1,2-Dichloropropane	ND	139
Bromodichloromethane	ND	139
2-Chloroethyl Vinyl Ether	ND	139
cis-1,3-Dichloropropene	ND	139
trans-1,3-Dichloropropene	ND	139
1,1,2-Trichloroethane	ND	139
Tetrachloroethene	1100	139
Dibromochloromethane	ND	139
Chlorobenzene	ND	139
Bromoform	ND	139
1,1,2,2-Tetrachloroethane	ND	139
1,3-Dichlorobenzene	ND	139
1,4-Dichlorobenzene	ND	139
1,2-Dichlorobenzene	ND	139

Client ID: **SSDP-1 2.5-3**
Site: **Klockner & Klockner**

Lab Sample No: 89310
Lab Job No: I053

Date Sampled: 10/08/98
Date Received: 10/09/98

Matrix: SOLID
Level: LOW
% Moisture: 10.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Aluminum	9080	13.0		P
Antimony	ND	1.0	N	P
Arsenic	10.1	0.85		P
Barium	54.5	0.31		P
Beryllium	0.52	0.045		P
Cadmium	0.36	0.089	B	P
Calcium	5370	9.4		P
Chromium	12.0	0.22	*	P
Cobalt	7.8	0.27	B	P
Copper	28.1	0.78		P
Iron	29600	9.2		P
Lead	173	0.56		P
Magnesium	2480	9.0		P
Manganese	446	0.24	*	P
Mercury	0.14	0.019		CV
Nickel	15.0	0.47		P
Potassium	912	66.9	B	P
Selenium	ND	1.1		P
Silver	ND	0.31		P
Sodium	ND	94.9		P
Thallium	ND	1.1		P
Vanadium	25.5	0.42		P
Zinc	97.6	1.0	*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

PROJECT NAME: Kloekner & Kloekner
PROJECT NO: 95-03-02 Envirotech # 809003
LABORATORY: Envirotech Research, Inc.

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ
SAMPLE DATE: 10/8/98
SAMPLER(S): Cheryl L. Coffee / L. WESTCOTT

I053

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
✓ 1228	ALLEYWAY	SSAW-5	1.5-2	SOIL	PHAL	ICE/MEOH	2	89308
✓ 1232	ALLEYWAY	SSAW-5	11-11.5	SOIL	PHAL	ICE/MEOH	2	89309
1220	DEGREASER PIT	SSDP-1	2.5-3	SOIL	PHAL, TAL Metals	ICE/MEOH	2&3	89310

RELINQUISHED BY: [signature] DATE: 10/9/98 TIME: 1600 RECEIVED BY: [signature] DATE: 10-9-98 TIME 1600

RELINQUISHED BY: [signature] DATE: 10-9-98 TIME: 1810 RECEIVED BY: [signature] DATE: 10/9/98 TIME 1810

TOTAL NO. CONTAINERS 6

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC PETROLEUM HYDROCARBONS
VOC VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN BASE NEUTRALS WITH LIBRARY SEARCH
AE ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM PRIORITY POLLUTANT METALS
PP+40 PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE

TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302659

12

302660

ATTACHMENT 12

ANALYTICAL DATA SHEETS

10/16/98 – JOB #I279

302661

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 06, 1998

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

RECEIVED
NOV 17 1998
The Whitman Companies, Inc.

Attention: Mr. Michael Metlitz

Re: Job No. I279 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 16, 1998:

Lab No.	Client ID	Analysis Required
90821	SSFA-1_1.5-2	Purgeable Halocarbons
90822	SSFA-6A_1.5-2	Purgeable Halocarbons
90823	SSFA-1_10.5-11	Purgeable Halocarbons
90824	SSFA-2_0.5-1	Purgeable Halocarbons
90825	SSFA-3_0.5-1	Purgeable Halocarbons
90826	SSFA-4_0.5-1	Purgeable Halocarbons
90827	SSFA-5_3-3.5	Purgeable Halocarbons
90828	SSPP-1_6.5-7	Purgeable Halocarbons
90829	SSFD-2_3-4	Purgeable Halocarbons
90830	SSDW-1_1.5-2	Purgeable Halocarbons
90831	SSSD-1_5-5.5	Purgeable Halocarbons
90832	SSDA-1_1.5-2	Purgeable Halocarbons
90833	Trip_Blank-4	Purgeable Halocarbons
90834	Field_Blank-3	Purgeable Halocarbons
90835	SSGC-4_2-4	TOC

302662

ENVIROTECH RESEARCH, INC.

Lab No.	Client ID	Analysis Required
90836	SSGC-3_4.5-5	TOC
90837	SSGC-2_3-4	TOC

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302663

Client ID: **SSFA-1_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **90821**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9629.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 9.9

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	128
Chloromethane	ND	128
Vinyl Chloride	ND	128
Bromomethane	ND	128
Chloroethane	ND	128
Trichlorofluoromethane	ND	128
1,1-Dichloroethene	ND	128
Methylene Chloride	ND	128
trans-1,2-Dichloroethene	ND	128
1,1-Dichloroethane	ND	128
cis-1,2-Dichloroethene	ND	128
Chloroform	ND	128
1,1,1-Trichloroethane	ND	128
Carbon Tetrachloride	ND	128
1,2-Dichloroethane	ND	128
Trichloroethene	ND	128
1,2-Dichloropropane	ND	128
Bromodichloromethane	ND	128
2-Chloroethyl Vinyl Ether	ND	128
cis-1,3-Dichloropropene	ND	128
trans-1,3-Dichloropropene	ND	128
1,1,2-Trichloroethane	ND	128
Tetrachloroethene	1510	128
Dibromochloromethane	ND	128
Chlorobenzene	ND	128
Bromoform	ND	128
1,1,2,2-Tetrachloroethane	ND	128
1,3-Dichlorobenzene	ND	128
1,4-Dichlorobenzene	ND	128
1,2-Dichlorobenzene	ND	128

Client ID: **SSFA-6A_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **90822**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9634.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.6

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	134
Chloromethane	ND	134
Vinyl Chloride	ND	134
Bromomethane	ND	134
Chloroethane	ND	134
Trichlorofluoromethane	ND	134
1,1-Dichloroethene	ND	134
Methylene Chloride	ND	134
trans-1,2-Dichloroethene	ND	134
1,1-Dichloroethane	ND	134
cis-1,2-Dichloroethene	ND	134
Chloroform	ND	134
1,1,1-Trichloroethane	ND	134
Carbon Tetrachloride	ND	134
1,2-Dichloroethane	ND	134
Trichloroethene	ND	134
1,2-Dichloropropane	ND	134
Bromodichloromethane	ND	134
2-Chloroethyl Vinyl Ether	ND	134
cis-1,3-Dichloropropene	ND	134
trans-1,3-Dichloropropene	ND	134
1,1,2-Trichloroethane	ND	134
Tetrachloroethene	3720	134
Dibromochloromethane	ND	134
Chlorobenzene	ND	134
Bromoform	ND	134
1,1,2,2-Tetrachloroethane	ND	134
1,3-Dichlorobenzene	ND	134
1,4-Dichlorobenzene	ND	134
1,2-Dichlorobenzene	ND	134

Client ID: **SSFA-1_10.5-11**
Site: Klockner & Klockner

Lab Sample No: **90823**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9635.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 5.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	123
Chloromethane	ND	123
Vinyl Chloride	ND	123
Bromomethane	ND	123
Chloroethane	ND	123
Trichlorofluoromethane	ND	123
1,1-Dichloroethene	ND	123
Methylene Chloride	ND	123
trans-1,2-Dichloroethene	ND	123
1,1-Dichloroethane	ND	123
cis-1,2-Dichloroethene	ND	123
Chloroform	ND	123
1,1,1-Trichloroethane	ND	123
Carbon Tetrachloride	ND	123
1,2-Dichloroethane	ND	123
Trichloroethene	ND	123
1,2-Dichloropropane	ND	123
Bromodichloromethane	ND	123
2-Chloroethyl Vinyl Ether	ND	123
cis-1,3-Dichloropropene	ND	123
trans-1,3-Dichloropropene	ND	123
1,1,2-Trichloroethane	ND	123
Tetrachloroethene	ND	123
Dibromochloromethane	ND	123
Chlorobenzene	ND	123
Bromoform	ND	123
1,1,2,2-Tetrachloroethane	ND	123
1,3-Dichlorobenzene	ND	123
1,4-Dichlorobenzene	ND	123
1,2-Dichlorobenzene	ND	123

Client ID: **SSFA-2_0.5-1**
Site: Klockner & Klockner

Lab Sample No: **90824**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/22/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9636.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.3

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	124
Chloromethane	ND	124
Vinyl Chloride	ND	124
Bromomethane	ND	124
Chloroethane	ND	124
Trichlorofluoromethane	ND	124
1,1-Dichloroethene	ND	124
Methylene Chloride	ND	124
trans-1,2-Dichloroethene	ND	124
1,1-Dichloroethane	ND	124
cis-1,2-Dichloroethene	ND	124
Chloroform	ND	124
1,1,1-Trichloroethane	ND	124
Carbon Tetrachloride	ND	124
1,2-Dichloroethane	ND	124
Trichloroethene	ND	124
1,2-Dichloropropane	ND	124
Bromodichloromethane	ND	124
2-Chloroethyl Vinyl Ether	ND	124
cis-1,3-Dichloropropene	ND	124
trans-1,3-Dichloropropene	ND	124
1,1,2-Trichloroethane	ND	124
Tetrachloroethene	161	124
Dibromochloromethane	ND	124
Chlorobenzene	ND	124
Bromoform	ND	124
1,1,2,2-Tetrachloroethane	ND	124
1,3-Dichlorobenzene	ND	124
1,4-Dichlorobenzene	ND	124
1,2-Dichlorobenzene	ND	124

Client ID: **SSFA-3_0.5-1**
Site: Klockner & Klockner

Lab Sample No: **90825**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9646.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.1

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	137
Chloromethane	ND	137
Vinyl Chloride	ND	137
Bromomethane	ND	137
Chloroethane	ND	137
Trichlorofluoromethane	ND	137
1,1-Dichloroethene	ND	137
Methylene Chloride	ND	137
trans-1,2-Dichloroethene	ND	137
1,1-Dichloroethane	ND	137
cis-1,2-Dichloroethene	ND	137
Chloroform	ND	137
1,1,1-Trichloroethane	ND	137
Carbon Tetrachloride	ND	137
1,2-Dichloroethane	ND	137
Trichloroethene	ND	137
1,2-Dichloropropane	ND	137
Bromodichloromethane	ND	137
2-Chloroethyl Vinyl Ether	ND	137
cis-1,3-Dichloropropene	ND	137
trans-1,3-Dichloropropene	ND	137
1,1,2-Trichloroethane	ND	137
Tetrachloroethene	1100	137
Dibromochloromethane	ND	137
Chlorobenzene	ND	137
Bromoform	ND	137
1,1,2,2-Tetrachloroethane	ND	137
1,3-Dichlorobenzene	ND	137
1,4-Dichlorobenzene	ND	137
1,2-Dichlorobenzene	ND	137

Client ID: **SSFA-4_0.5-1**
Site: Klockner & Klockner

Lab Sample No: **90826**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9647.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.2

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	129
Chloromethane	ND	129
Vinyl Chloride	ND	129
Bromomethane	ND	129
Chloroethane	ND	129
Trichlorofluoromethane	ND	129
1,1-Dichloroethene	ND	129
Methylene Chloride	ND	129
trans-1,2-Dichloroethene	ND	129
1,1-Dichloroethane	ND	129
cis-1,2-Dichloroethene	ND	129
Chloroform	ND	129
1,1,1-Trichloroethane	ND	129
Carbon Tetrachloride	ND	129
1,2-Dichloroethane	ND	129
Trichloroethene	ND	129
1,2-Dichloropropane	ND	129
Bromodichloromethane	ND	129
2-Chloroethyl Vinyl Ether	ND	129
cis-1,3-Dichloropropene	ND	129
trans-1,3-Dichloropropene	ND	129
1,1,2-Trichloroethane	ND	129
Tetrachloroethene	4280	129
Dibromochloromethane	ND	129
Chlorobenzene	ND	129
Bromoform	ND	129
1,1,2,2-Tetrachloroethane	ND	129
1,3-Dichlorobenzene	ND	129
1,4-Dichlorobenzene	ND	129
1,2-Dichlorobenzene	ND	129

Client ID: **SSFA-5_3-3.5**
Site: Klockner & Klockner

Lab Sample No: **90827**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9648.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 13.9

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	127
Chloromethane	ND	127
Vinyl Chloride	ND	127
Bromomethane	ND	127
Chloroethane	ND	127
Trichlorofluoromethane	ND	127
1,1-Dichloroethene	ND	127
Methylene Chloride	ND	127
trans-1,2-Dichloroethene	ND	127
1,1-Dichloroethane	ND	127
cis-1,2-Dichloroethene	ND	127
Chloroform	ND	127
1,1,1-Trichloroethane	ND	127
Carbon Tetrachloride	ND	127
1,2-Dichloroethane	ND	127
Trichloroethene	ND	127
1,2-Dichloropropane	ND	127
Bromodichloromethane	ND	127
2-Chloroethyl Vinyl Ether	ND	127
cis-1,3-Dichloropropene	ND	127
trans-1,3-Dichloropropene	ND	127
1,1,2-Trichloroethane	ND	127
Tetrachloroethene	ND	127
Dibromochloromethane	ND	127
Chlorobenzene	ND	127
Bromoform	ND	127
1,1,2,2-Tetrachloroethane	ND	127
1,3-Dichlorobenzene	ND	127
1,4-Dichlorobenzene	ND	127
1,2-Dichlorobenzene	ND	127

Client ID: **SSPP-1_6.5-7**
Site: Klockner & Klockner

Lab Sample No: **90828**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9649.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 11.2

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	123
Chloromethane	ND	123
Vinyl Chloride	ND	123
Bromomethane	ND	123
Chloroethane	ND	123
Trichlorofluoromethane	ND	123
1,1-Dichloroethene	ND	123
Methylene Chloride	ND	123
trans-1,2-Dichloroethene	ND	123
1,1-Dichloroethane	ND	123
cis-1,2-Dichloroethene	ND	123
Chloroform	ND	123
1,1,1-Trichloroethane	ND	123
Carbon Tetrachloride	ND	123
1,2-Dichloroethane	ND	123
Trichloroethene	ND	123
1,2-Dichloropropane	ND	123
Bromodichloromethane	ND	123
2-Chloroethyl Vinyl Ether	ND	123
cis-1,3-Dichloropropene	ND	123
trans-1,3-Dichloropropene	ND	123
1,1,2-Trichloroethane	ND	123
Tetrachloroethene	ND	123
Dibromochloromethane	ND	123
Chlorobenzene	ND	123
Bromoform	ND	123
1,1,2,2-Tetrachloroethane	ND	123
1,3-Dichlorobenzene	ND	123
1,4-Dichlorobenzene	ND	123
1,2-Dichlorobenzene	ND	123

Client ID: **SSFD-2_3-4**
Site: Klockner & Klockner

Lab Sample No: **90829**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9650.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 14.6

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	139
Chloromethane	ND	139
Vinyl Chloride	ND	139
Bromomethane	ND	139
Chloroethane	ND	139
Trichlorofluoromethane	ND	139
1,1-Dichloroethene	ND	139
Methylene Chloride	ND	139
trans-1,2-Dichloroethene	ND	139
1,1-Dichloroethane	ND	139
cis-1,2-Dichloroethene	ND	139
Chloroform	ND	139
1,1,1-Trichloroethane	ND	139
Carbon Tetrachloride	ND	139
1,2-Dichloroethane	ND	139
Trichloroethene	ND	139
1,2-Dichloropropane	ND	139
Bromodichloromethane	ND	139
2-Chloroethyl Vinyl Ether	ND	139
cis-1,3-Dichloropropene	ND	139
trans-1,3-Dichloropropene	ND	139
1,1,2-Trichloroethane	ND	139
Tetrachloroethene	266	139
Dibromochloromethane	ND	139
Chlorobenzene	ND	139
Bromoform	ND	139
1,1,2,2-Tetrachloroethane	ND	139
1,3-Dichlorobenzene	ND	139
1,4-Dichlorobenzene	ND	139
1,2-Dichlorobenzene	ND	139

Client ID: **SSDW-1_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **90830**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9651.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 12.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	128
Chloromethane	ND	128
Vinyl Chloride	ND	128
Bromomethane	ND	128
Chloroethane	ND	128
Trichlorofluoromethane	ND	128
1,1-Dichloroethene	ND	128
Methylene Chloride	ND	128
trans-1,2-Dichloroethene	ND	128
1,1-Dichloroethane	ND	128
cis-1,2-Dichloroethene	ND	128
Chloroform	ND	128
1,1,1-Trichloroethane	ND	128
Carbon Tetrachloride	ND	128
1,2-Dichloroethane	ND	128
Trichloroethene	ND	128
1,2-Dichloropropane	ND	128
Bromodichloromethane	ND	128
2-Chloroethyl Vinyl Ether	ND	128
cis-1,3-Dichloropropene	ND	128
trans-1,3-Dichloropropene	ND	128
1,1,2-Trichloroethane	ND	128
Tetrachloroethene	1040	128
Dibromochloromethane	ND	128
Chlorobenzene	ND	128
Bromoform	ND	128
1,1,2,2-Tetrachloroethane	ND	128
1,3-Dichlorobenzene	ND	128
1,4-Dichlorobenzene	ND	128
1,2-Dichlorobenzene	ND	128

Client ID: **SSSD-1_5-5.5**
Site: Klockner & Klockner

Lab Sample No: **90831**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9652.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.7

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	125
Chloromethane	ND	125
Vinyl Chloride	ND	125
Bromomethane	ND	125
Chloroethane	ND	125
Trichlorofluoromethane	ND	125
1,1-Dichloroethene	ND	125
Methylene Chloride	ND	125
trans-1,2-Dichloroethene	ND	125
1,1-Dichloroethane	ND	125
cis-1,2-Dichloroethene	ND	125
Chloroform	ND	125
1,1,1-Trichloroethane	ND	125
Carbon Tetrachloride	ND	125
1,2-Dichloroethane	ND	125
Trichloroethene	ND	125
1,2-Dichloropropane	ND	125
Bromodichloromethane	ND	125
2-Chloroethyl Vinyl Ether	ND	125
cis-1,3-Dichloropropene	ND	125
trans-1,3-Dichloropropene	ND	125
1,1,2-Trichloroethane	ND	125
Tetrachloroethene	ND	125
Dibromochloromethane	ND	125
Chlorobenzene	ND	125
Bromoform	ND	125
1,1,2,2-Tetrachloroethane	ND	125
1,3-Dichlorobenzene	ND	125
1,4-Dichlorobenzene	ND	125
1,2-Dichlorobenzene	ND	125

Client ID: **SSDA-1_1.5-2**
Site: Klockner & Klockner

Lab Sample No: **90832**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/23/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 15.5

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	132
Chloromethane	ND	132
Vinyl Chloride	ND	132
Bromomethane	ND	132
Chloroethane	ND	132
Trichlorofluoromethane	ND	132
1,1-Dichloroethene	ND	132
Methylene Chloride	ND	132
trans-1,2-Dichloroethene	ND	132
1,1-Dichloroethane	ND	132
cis-1,2-Dichloroethene	ND	132
Chloroform	ND	132
1,1,1-Trichloroethane	ND	132
Carbon Tetrachloride	ND	132
1,2-Dichloroethane	ND	132
Trichloroethene	ND	132
1,2-Dichloropropane	ND	132
Bromodichloromethane	ND	132
2-Chloroethyl Vinyl Ether	ND	132
cis-1,3-Dichloropropene	ND	132
trans-1,3-Dichloropropene	ND	132
1,1,2-Trichloroethane	ND	132
Tetrachloroethene	154	132
Dibromochloromethane	ND	132
Chlorobenzene	ND	132
Bromoform	ND	132
1,1,2,2-Tetrachloroethane	ND	132
1,3-Dichlorobenzene	ND	132
1,4-Dichlorobenzene	ND	132
1,2-Dichlorobenzene	ND	132

Client ID: **Trip_Blank-4**
Site: Klockner & Klockner

Lab Sample No: **90833**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9661.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	125
Chloromethane	ND	125
Vinyl Chloride	ND	125
Bromomethane	ND	125
Chloroethane	ND	125
Trichlorofluoromethane	ND	125
1,1-Dichloroethene	ND	125
Methylene Chloride	ND	125
trans-1,2-Dichloroethene	ND	125
1,1-Dichloroethane	ND	125
cis-1,2-Dichloroethene	ND	125
Chloroform	ND	125
1,1,1-Trichloroethane	ND	125
Carbon Tetrachloride	ND	125
1,2-Dichloroethane	ND	125
Trichloroethene	ND	125
1,2-Dichloropropane	ND	125
Bromodichloromethane	ND	125
2-Chloroethyl Vinyl Ether	ND	125
cis-1,3-Dichloropropene	ND	125
trans-1,3-Dichloropropene	ND	125
1,1,2-Trichloroethane	ND	125
Tetrachloroethene	ND	125
Dibromochloromethane	ND	125
Chlorobenzene	ND	125
Bromoform	ND	125
1,1,2,2-Tetrachloroethane	ND	125
1,3-Dichlorobenzene	ND	125
1,4-Dichlorobenzene	ND	125
1,2-Dichlorobenzene	ND	125

Client ID: **Field_Blank-3**
Site: Klockner & Klockner

Lab Sample No: **90834**
Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAGC1.i
Lab File ID: geld9662.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/ELCD
METHOD 8021B

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Dichlorodifluoromethane	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Site: Klockner & Klockner

Lab Job No: I279

Date Sampled: 10/16/98
Date Received: 10/16/98
Matrix: SOIL

Date Analyzed: 10/20/98
QA Batch: 1404

TOTAL ORGANIC CARBON

Envirotech Sample #	Client ID	% Moisture	Dilution Factor	Analytical Result mg/kg (Dry Wt.)
90835	SSGC-4A_2-4	9.5	1.0	10400
90836	SSGC-3A_4.5-5.5	7.1	1.0	429
90837	SSGC-2A_3-4	14.6	2.5	1960

Quantitation Limit for Total Organic Carbon is 100 mg/kg for an undiluted sample.

CHAIN OF CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02

LABORATORY: Envirotech Project #809002

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/16/98

SAMPLER(S): Cheryl L. Coffee

I279

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED		PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
11:47	~~SS~~ fence Area SG33	SSFA-1	1.5-2'	soil	PHAL	90821	ICE MEOH	2	
11:50	fence Area SG33	SSFA-6A	1.5-2'	soil	PHAL	90822	ICE MEOH	2	
11:45	fence Area SG33	SSFA-1	10.5-11'	soil	PHAL	90823	ICE MEOH	2	
1:10	Fence area SG33	SSFA-2	0.5-1'	soil	PHAL	90824	ICE MEOH	2	contingent
1:35	Fence area SG 33A	SSFA-3	0.5-1'	soil	PHAL	90825	ICE MEOH	2	contingent
12:10	Fence Area SG32A	SSFA-4	0.5-1'	soil	PHAL	90826	ICE MEOH	2	contingent
10:00	Fence Area SG23A	SSFA-5	3-3.5	soil	PHAL	90827	ICE MEOH	2	contingent
2:55	pipe through wall	SSPP-1	6.5-7	soil	PHAL	90828	ICE MEOH	2	
11:00	floor drain hydropress	SSFD-2	3-4	soil	PHAL	90829	ICE MEOH	2	
1:45	Near drywell	SSDW-1	1.5-2	soil	PHAL	90830	ICE MEOH	2	
3:10	catch Basin	SSSD-1	5-5.5	soil	PHAL	90831	ICE MEOH	2	
2:35	Dumpster Pad	SSDA-1	1.5-2	soil	PHAL	90832	ICE MEOH	2	

RELINQUISHED BY: Cheryl L. Coffee DATE: 10/16/98 TIME: 1755 RECEIVED BY: H. Scott DATE: 10/16/98 TIME 1755

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302679

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02

LABORATORY: Envirotech Project #809002

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/16/98

SAMPLER(S): Cheryl L. Coffee

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
–	~~FB-4~~ Trip Blank	TB-4	–	~~H_2O~~ MEOH	PHAL	Ice MEOH	1	90833
3:30	field Blank	FB-3	·	H_2O	PHAL	ice HCL	2	90834
1:45	Geologic Character	SSGC-4A	2-4'	soil	Grain Size & TOC	ice	2	90835
11:55	Geologic Character	SSGC-3A	4.5-5	soil	Grain Size & TOC	ice	2	90836
10:00	Geologic Character	SSGC-2A	3-4	soil	Grain Size & TOC	ice	2	90837

RELINQUISHED BY: Cheryl L Coffee DATE: 10/16/98 TIME: 1755 RECEIVED BY: [signature] DATE: 10/16/98 TIME 1755

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302680

ATTACHMENT 13

ANALYTICAL DATA SHEETS

10/16/98 – JOB #I280

302682

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

November 2, 1998

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. I280 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 16, 1998:

Lab No.	Client ID	Analysis Required
90838	DSSR-1	TCL VOA+10, PCBs, TAL Metals, Ignitability, Reactivity, Corrosivity
90839	DSRW-1	TCL VOA+10, PCBs, TAL Metals, Ignitability, Reactivity, Corrosivity
90840	Trip_Blank	TCL VOA+10

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

RECEIVED
NOV 1 4 1998
The Whitman Companies, Inc.

302683

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

ORGANIC DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

INORGANIC DATA REPORTING QUALIFIERS (SW-846 METHODS ONLY)

ND - The compound was not detected at the indicated concentration.

B - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.

E - The reported value is estimated because of the presence of interference. See explanatory note in the Nonconformance Summary if the problem applies to all of the samples or on the individual Inorganic Analysis Data Sheet if the problem is isolated.

M - Duplicate injection precision not met on the Furnace Atomic Absorption analysis.

N - The spiked sample recovery is not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

* - Duplicate Analysis is not within control limits.

W - Post digestion spike for Furnace Atomic Absorption analysis is out of control.

\+ - Correlation coefficient for MSA is less than 0.995.

M Column - Method Qualifiers

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).

A - Flame Atomic Absorption Spectroscopy (FAA).

F - Graphite Furnace Atomic Absorption Spectroscopy (GFAA).

CV - Cold Vapor Atomic Absorption Spectroscopy.

Client ID: **DSSR-1**
Site: Klockner & Klockner

Lab Sample No: **90838**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/27/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5872.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	4.6
Bromomethane	ND	1.4
Vinyl Chloride	ND	2.0
Chloroethane	ND	5.2
Methylene Chloride	ND	5.2
Acetone	46	25
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	2.8
1,1-Dichloroethane	ND	1.6
trans-1,2-Dichloroethene	ND	1.5
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.1
2-Butanone	ND	25
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	0.8
Bromodichloromethane	ND	0.9
1,2-Dichloropropane	ND	2.3
cis-1,3-Dichloropropene	ND	1.6
Trichloroethene	ND	2.0
Dibromochloromethane	ND	1.2
1,1,2-Trichloroethane	ND	2.2
Benzene	ND	1.2
trans-1,3-Dichloropropene	ND	1.6
Bromoform	ND	1.5
4-Methyl-2-Pentanone	ND	25
2-Hexanone	ND	25
Tetrachloroethene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	1.6
Toluene	ND	0.9
Chlorobenzene	ND	0.7
Ethylbenzene	ND	1.2
Styrene	ND	5.0
Xylene (Total)	ND	5.0

Client ID: **DSSR-1**
Site: Klockner & Klockner

Lab Sample No: **90838**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/27/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5872.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 5.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 624

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

302689

Client ID: **DSRW-1**
Site: Klockner & Klockner

Lab Sample No: **90839**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5769.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	9.3
Bromomethane	ND	2.7
Vinyl Chloride	ND	3.9
Chloroethane	ND	10
Methylene Chloride	ND	10
Acetone	ND	50
Carbon Disulfide	ND	10
1,1-Dichloroethene	ND	5.5
1,1-Dichloroethane	ND	3.1
trans-1,2-Dichloroethene	ND	3.0
cis-1,2-Dichloroethene	ND	10
Chloroform	ND	2.0
1,2-Dichloroethane	ND	2.2
2-Butanone	ND	50
1,1,1-Trichloroethane	ND	2.0
Carbon Tetrachloride	ND	1.6
Bromodichloromethane	ND	1.9
1,2-Dichloropropane	ND	4.6
cis-1,3-Dichloropropene	ND	3.3
Trichloroethene	ND	4.1
Dibromochloromethane	ND	2.3
1,1,2-Trichloroethane	ND	4.3
Benzene	ND	2.4
trans-1,3-Dichloropropene	ND	3.1
Bromoform	ND	3.0
4-Methyl-2-Pentanone	ND	50
2-Hexanone	ND	50
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	3.3
Toluene	ND	1.8
Chlorobenzene	ND	1.4
Ethylbenzene	ND	2.4
Styrene	ND	10
Xylene (Total)	ND	10

Client ID: **DSRW-1**
Site: Klockner & Klockner

Lab Sample No: **90839**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5769.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 10.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 624

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **90840**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5770.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Chloromethane	ND	0.9
Bromomethane	ND	0.3
Vinyl Chloride	ND	0.4
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Acetone	ND	5.0
Carbon Disulfide	ND	1.0
1,1-Dichloroethene	ND	0.6
1,1-Dichloroethane	ND	0.3
trans-1,2-Dichloroethene	ND	0.3
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	0.2
1,2-Dichloroethane	ND	0.2
2-Butanone	ND	5.0
1,1,1-Trichloroethane	ND	0.2
Carbon Tetrachloride	ND	0.2
Bromodichloromethane	ND	0.2
1,2-Dichloropropane	ND	0.5
cis-1,3-Dichloropropene	ND	0.3
Trichloroethene	ND	0.4
Dibromochloromethane	ND	0.2
1,1,2-Trichloroethane	ND	0.4
Benzene	ND	0.2
trans-1,3-Dichloropropene	ND	0.3
Bromoform	ND	0.3
4-Methyl-2-Pentanone	ND	5.0
2-Hexanone	ND	5.0
Tetrachloroethene	ND	0.1
1,1,2,2-Tetrachloroethane	ND	0.3
Toluene	ND	0.2
Chlorobenzene	ND	0.1
Ethylbenzene	ND	0.2
Styrene	ND	1.0
Xylene (Total)	ND	1.0

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **90840**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Analyzed: 10/24/98
GC Column: DB624
Instrument ID: VOAMS7.i
Lab File ID: v5770.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 624

COMPOUND NAME	RT	EST. CONC. ug/l	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Client ID: **DSSR-1**
Site: Klockner & Klockner

Lab Sample ID: **90838**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Extracted: 10/21/98
Date Analyzed: 10/27/98
GC Column: DB-608
Instrument ID: PESTGC6.i

Matrix: WATER
Sample Volume: 990 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: nr004375.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.30
Aroclor-1221	ND	0.30
Aroclor-1232	ND	0.40
Aroclor-1242	ND	0.20
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.20
Aroclor-1262	ND	0.20
Aroclor-1268	ND	0.20

Client ID: **DSRW-1**
Site: Klockner & Klockner

Lab Sample ID: **90839**
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Date Extracted: 10/21/98
Date Analyzed: 10/27/98
GC Column: DB-608
Instrument ID: PESTGC6.i

Matrix: WATER
Sample Volume: 920 ml
Extract Final Volume: 5.0 ml
Dilution Factor: 1.0
Lab File ID: nr004398.d

ORGANOCHLORINE PCBs - GC/ECD
METHOD 608

Parameter	Analytical Results Units: ug/l	Method Detection Limit Units: ug/l
Aroclor-1016	ND	0.30
Aroclor-1221	ND	0.30
Aroclor-1232	ND	0.40
Aroclor-1242	ND	0.20
Aroclor-1248	ND	0.30
Aroclor-1254	ND	0.40
Aroclor-1260	ND	0.20
Aroclor-1262	ND	0.20
Aroclor-1268	ND	0.20

Client ID: **DSSR-1**
Site: **Klockner & Klockner**

Lab Sample No: 90838
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	M
Aluminum	10200	58.2	P
Antimony	ND	4.6	P
Arsenic	6.0	3.8	P
Barium	606	1.4	P
Beryllium	4.5	0.20	P
Cadmium	17.5	0.40	P
Calcium	94100	42.2	P
Chromium	365	1.0	P
Cobalt	25.3	1.2	P
Copper	231	3.5	P
Iron	153000	41.5	P
Lead	304	2.5	P
Magnesium	41500	40.3	P
Manganese	794	1.1	P
Mercury	14.8	0.50	CV
Nickel	123	2.1	P
Potassium	106000	601	P
Selenium	ND	4.8	P
Silver	ND	1.4	P
Sodium	246000	263	P
Thallium	ND	4.8	P
Vanadium	21.2	1.9	P
Zinc	5730	9.0	P

M Column - Method Code (See Section 2 of Report)

Client ID: **DSRW-1**
Site: **Klockner & Klockner**

Lab Sample No: 90839
Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	M
Aluminum	30100	58.2	P
Antimony	ND	4.6	P
Arsenic	10.6	3.8	P
Barium	209	1.4	P
Beryllium	1.4	0.20	P
Cadmium	1.0	0.40	P
Calcium	159000	42.2	P
Chromium	155	1.0	P
Cobalt	11.5	1.2	P
Copper	263	3.5	P
Iron	37500	41.5	P
Lead	92.5	2.5	P
Magnesium	11700	40.3	P
Manganese	696	1.1	P
Mercury	0.15	0.10	CV
Nickel	85.2	2.1	P
Potassium	11400	300	P
Selenium	ND	4.8	P
Silver	ND	1.4	P
Sodium	319000	263	P
Thallium	ND	4.8	P
Vanadium	64.2	1.9	P
Zinc	684	4.5	P

M Column - Method Code (See Section 2 of Report)

Site: Klockner & Klockner

Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Matrix: WATER

Date Analyzed: 10/19/98
QA Batch: 1681

CORROSIVITY (pH)

Envirotech Sample #	Client ID	Analytical Result Units: std unit
90838	DSSR-1	7.63
90839	DSRW-1	10.31

Site: Klockner & Klockner

Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Matrix: WATER

Date Analyzed: 10/19/98
QA Batch: 1376

IGNITABILITY

Envirotech Sample #	Client ID	Flashpoint Units: deg F
90838	DSSR-1	>160
90839	DSRW-1	>160

Site: Klockner & Klockner

Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Matrix: WATER

Date Extracted: 10/19/98
Date Analyzed: 10/19/98
QA Batch: 1364

REACTIVE CYANIDE

Envirotech Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
90838	DSSR-1	2.0	ND
90839	DSRW-1	2.0	ND

Quantitation Limit for Reactive Cyanide is 25.0 mg/l

Site: Klockner & Klockner

Lab Job No: I280

Date Sampled: 10/16/98
Date Received: 10/16/98
Matrix: WATER

Date Extracted: 10/19/98
Date Analyzed: 10/19/98
QA Batch: 1364

REACTIVE SULFIDE

Envirotech Sample #	Client ID	Dilution Factor	Analytical Result Units: mg/l
90838	DSSR-1	2.0	ND
90839	DSRW-1	2.0	ND

Quantitation Limit for Reactive Sulfide is 20.0 mg/l

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02

LABORATORY: Envirotech Project #809002

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/16/98

SAMPLER(S): Cheryl L. Coffee

PAGE 1 OF 1

I280

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
4:00	Scale Room	DSSR-1	—	H_2O	VOC, PCB, Metals, Ign, Corros, React	Ice, HCl HNO_3	6	90838
3:50	Rinse Water	DSRW-1	—	H_2O	VOC, PCB, Metals, Ign, Corros React	Ice, HCl HNO_3	6	90839
ED HAIN →	TRIP BLANK			W			2	90840

RELINQUISHED BY: Cheryl L Coffee DATE: 10/16/98 TIME: 18:12 RECEIVED BY: [signature] DATE: 10/16/98 TIME 18:12

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302702

ATTACHMENT 14

ANALYTICAL DATA SHEETS

10/16/98 – JOB #I279GS

302704

ENVIROTECH RESEARCH, INC.

777 New Durham Road
Edison, New Jersey 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.enviro-lab.com

December 2, 1998

RECEIVED
DEC 6 1998
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. I279GS - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 16, 1998:

Lab No.	Client ID	Analysis Required
90835	SSGC-4_2-4	Grain Size
90836	SSGC-3_4.5-5	Grain Size
90837	SSGC-2_3-4	Grain Size

If you have any questions please contact your Project Manager, Robert McGrady, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302705

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

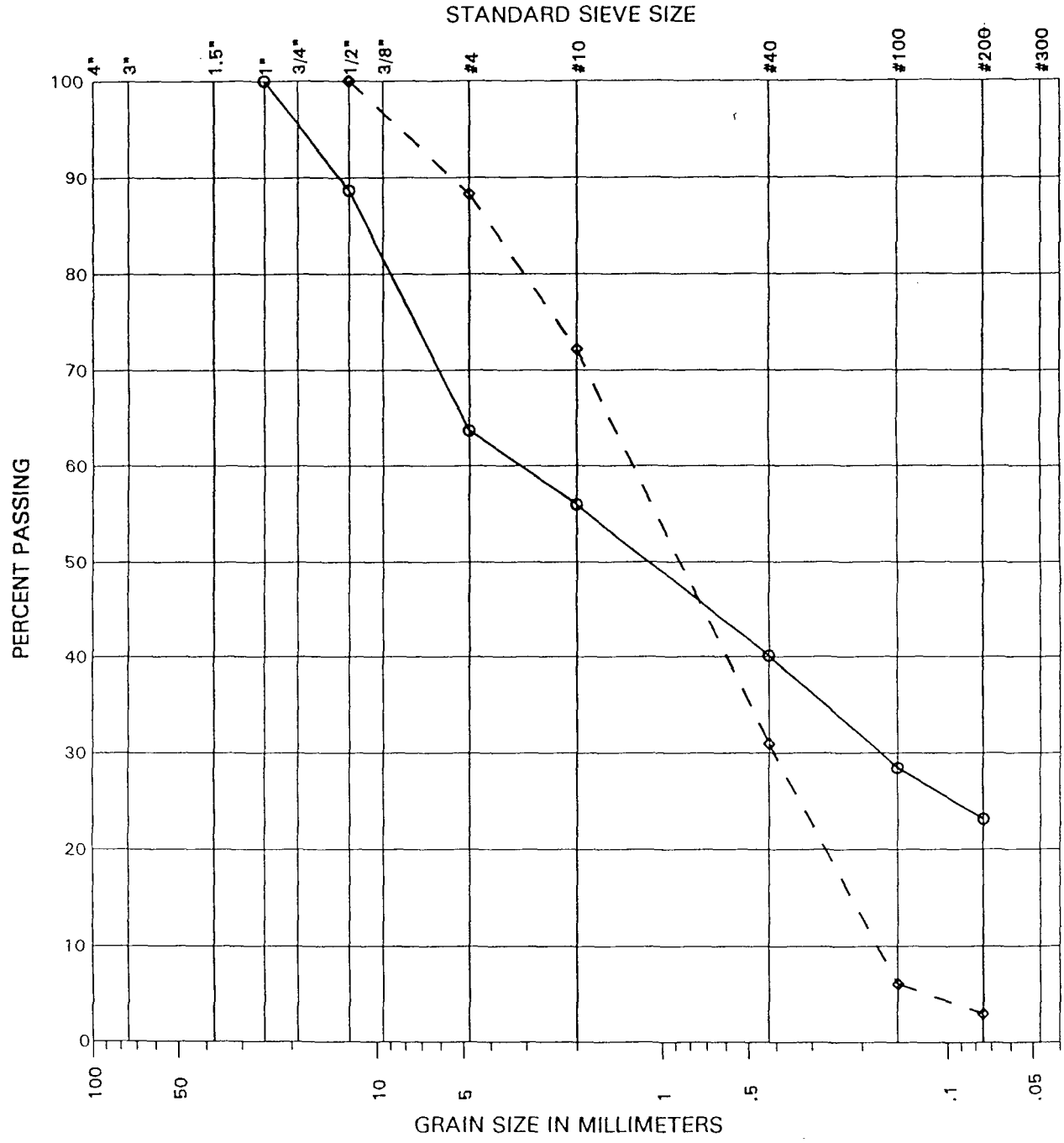
P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

JOB NUMBER 5100-108

UNIFIED SOIL CLASSIFICATION

COBBLES & BOULDERS	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



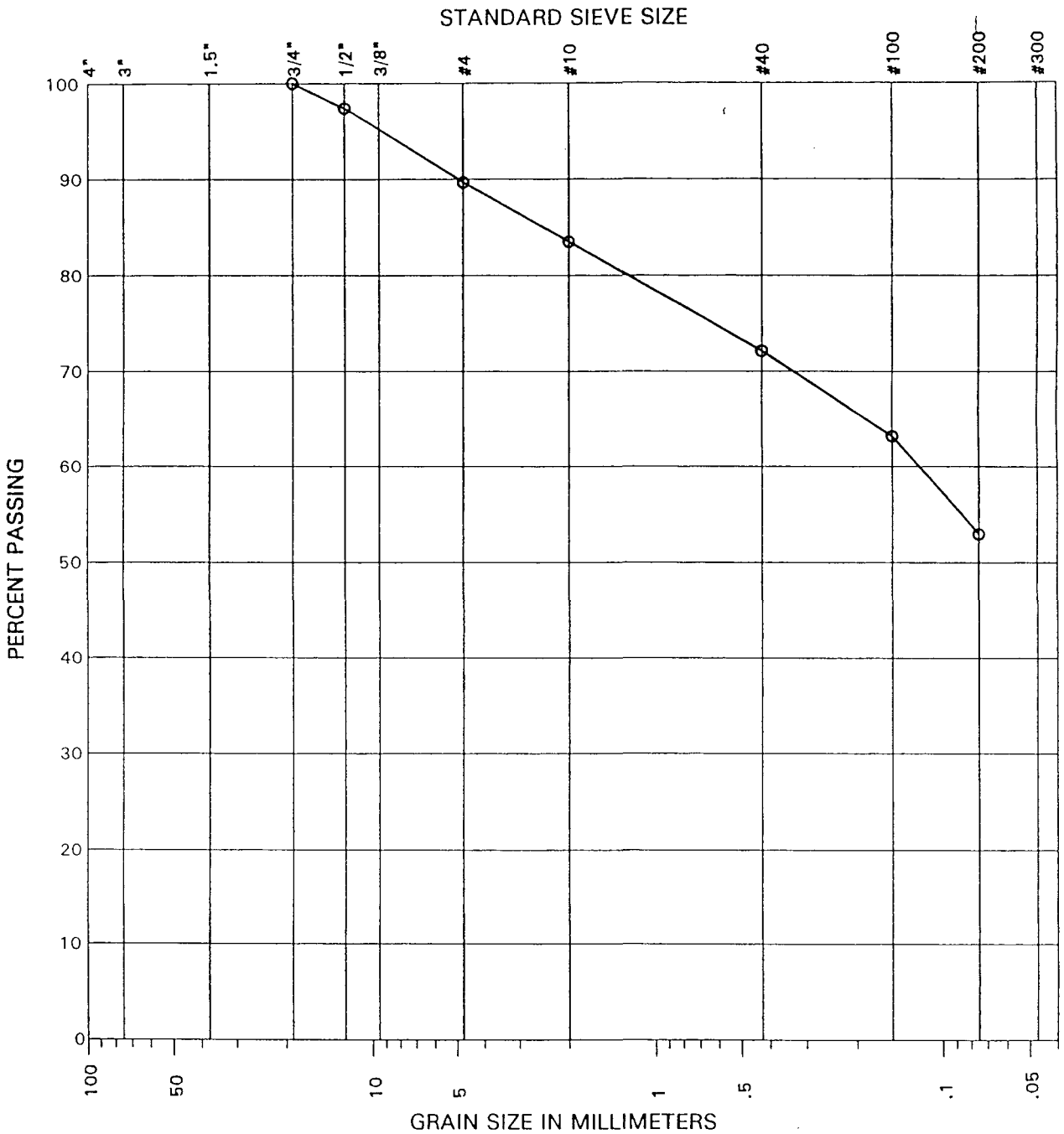
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
1279-90835	2'-4'			
LINE SYMBOL:	MOISTURE CONTENT (%): 11.0	LIQUID LIMIT (%): ----	PLASTIC LIMIT (%): ----	USCS SYMBOL: SM
USCS CLASSIFICATION: FINE TO COARSE SAND,AND GRAVEL,SOME SILT				
EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
1279-90836	4.5'-5'			
LINE SYMBOL:	MOISTURE CONTENT (%): 6.1	LIQUID LIMIT (%): ----	PLASTIC LIMIT (%): ----	USCS SYMBOL: SP
USCS CLASSIFICATION: FINE TO COARSE SAND,LITTLE FINE GRAVEL,TRACE SILT				

GRADATION CURVES 302710

JOB NUMBER 5100-108

UNIFIED SOIL CLASSIFICATION

COBBLES & BOULDERS	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



EXPLORATION/IDENTIFICATION:	DEPTH/SOURCE:			
I279-90837				
LINE SYMBOL:	MOISTURE CONTENT (%):	LIQUID LIMIT (%):	PLASTIC LIMIT (%):	USCS SYMBOL:
	15.7	----	----	ML
USCS CLASSIFICATION:				
SILT,AND FINE TO COARSE SAND,LITTLE FINE GRAVEL				

GRADATION CURVE

302711

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02

LABORATORY: Envirotech Project #809002

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/16/98

SAMPLER(S): Cheryl L. Coffee

I279

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED		PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
11:47	~~SS~~ fence Area SG33	SSFA-1	1.5-2'	soil	PHAL	90821	ICE MEOH	2	
11:50	fence Area SG33	SSFA-6A	1.5-2'	soil	PHAL	90822	ICE MEOH	2	
11:45	fence Area SG33	SSFA-1	10.5-11'	soil	PHAL	90823	ICE MEOH	2	
1:10	Fence area SG33B	SSFA-2	0.5-1'	soil	PHAL	90824	ICE MEOH	2	contingent
1:35	Fence area SG33A	SSFA-3	0.5-1'	soil	PHAL	90825	ICE MEOH	2	contingent
12:10	Fence Area SG32A	SSFA-4	0.5-1'	soil	PHAL	90826	ICE MEOH	2	contingent
10:00	Fence Area SG23A	SSFA-5	3-3.5	soil	PHAL	90827	ICE MEOH	2	contingent
2:55	pipe through wall	SSPP-1	6.5-7	soil	PHAL	90828	ICE MEOH	2	
11:00	floor drain hydropress	SSFD-2	3-4	soil	PHAL	90829	ICE MEOH	2	
1:45	Near drywell	SSDW-1	1.5-2	soil	PHAL	90830	ICE MEOH	2	
3:10	catch Basin	SSSD-1	5-5.5	soil	PHAL	90831	ICE MEOH	2	
2:35	Dumpster Pad	SSDA-1	1.5-2	soil	PHAL	90832	ICE MEOH	2	

RELINQUISHED BY: [signature] DATE: 10/16/98 TIME: 1755 RECEIVED BY: [signature] DATE: 10/16/98 TIME 1755

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

TOTAL NO. CONTAINERS_____

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302712

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner & Klockner

PROJECT NO: 95-03-02

LABORATORY: Envirotech Project #809002

SITE ADDRESS: Stickle Avenue & Elm Street, Rockaway Borough, NJ

SAMPLE DATE: 10/16/98

SAMPLER(S): Cheryl L. Coffee

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
–	~~FB-4~~ Trip Blank	TB-4	–	~~H_2O~~ MeOH	PHAL	Ice MEOH	1	90833
3:30	Field Blank	FB-3	·	H_2O	PHAL	ice HCL	2	90834
1:45	Geologic Character	SSGC-4A	2-4'	soil	Grain Size & TOC	ice	2	90835
11:55	Geologic Character	SSGC-3A	4.55	soil	Grain Size & TOC	ice	2	90836
10:00	Geologic Character	SSGC-2A	3-4	soil	Grain Size & TOC	ice	2	90837

RELINQUISHED BY: Cheryl L Coffee DATE: 10/16/98 TIME: 1755 RECEIVED BY: [signature] DATE: 10/16/98 TIME 1755

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

CT = CEILING TILE
FT = FLOOR TILE
TSI = THERMAL SYSTEM INSULATION

TOTAL NO. CONTAINERS_____

THE WHITMAN COMPANIES INC
44 WEST FERRIS STREET
EAST BRUNSWICK, NJ 08816

302713

ATTACHMENT 15

ANALYTICAL DATA SHEETS

2/8/00 – JOB #X303

302715

STL Envirotech
a division of Severn Trent Laboratories, Inc.

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

302716

February 28, 2000

RECEIVED
MAR - 7
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. X303 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 09, 2000:

Lab No.	Client ID	Analysis Required
182785	SSAW-9	Method 8021-Purgeable Halocarbons
182786	SSAW-11	Method 8021-Purgeable Halocarbons
182787	SSFS-1C	Pb
182788	SSFS-1D	Method 8021-Purgeable Halocarbons
182789	SSFS-4A	Pb
182791	SSFS-5A	Pb
182793	SSFS-6A	Pb
182795	SSNDS-1C	Method 8021-Purgeable Halocarbons
182796	SSNDS-1D	Method 8021-Purgeable Halocarbons
182797	SSNDS-2C	Method 8021-Purgeable Halocarbons
182798	SSNDS-3A	Method 8021-Purgeable Halocarbons
182799	SSNDS-3B	Method 8021-Purgeable Halocarbons
182800	SSNDS-4A	Method 8021-Purgeable Halocarbons
182801	SSNDS-4B	Method 8021-Purgeable Halocarbons
182802	SSNDS-5	Method 8021-Purgeable Halocarbons
182803	SSNDS-D	Method 8021-Purgeable Halocarbons
182804	SSNDS-6	Method 8021-Purgeable Halocarbons
182805	SSNDS-7A	Method 8021-Purgeable Halocarbons
182806	SSNDS-7B	Method 8021-Purgeable Halocarbons
182807	SSNDS-8	Method 8021-Purgeable Halocarbons
182808	FB0200	Method 601-Purgeable Halocarbons, Pb

Envirotech
a division of Severn Trent Laboratories, Inc

Lab No.	Client ID	Analysis Required
182809	TB0200	Method 8021-Purgeable Halocarbons
182810	SSFDS-D	Pb

If you have any questions please contact your Project Manager, Brian Reddy, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302717

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

ORGANIC DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

INORGANIC DATA REPORTING QUALIFIERS (SW-846 METHODS ONLY)

ND - The compound was not detected at the indicated concentration.

B - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.

E - The reported value is estimated because of the presence of interference. See explanatory note in the Nonconformance Summary if the problem applies to all of the samples or on the individual Inorganic Analysis Data Sheet if the problem is isolated.

M - Duplicate injection precision not met on the Furnace Atomic Absorption analysis.

N - The spiked sample recovery is not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

* - Duplicate Analysis is not within control limits.

W - Post digestion spike for Furnace Atomic Absorption analysis is out of control.

\+ - Correlation coefficient for MSA is less than 0.995.

M Column - Method Qualifiers

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).

A - Flame Atomic Absorption Spectroscopy (FAA).

F - Graphite Furnace Atomic Absorption Spectroscopy (GFAA).

CV - Cold Vapor Atomic Absorption Spectroscopy.

Client ID: **FB0200**
Site: Klockner & Klockner

Lab Sample No: **182808**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/10/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7529.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/ELCD
METHOD 601

Parameter	Analytical Result Units: ug/l	Method Detection Limit Units: ug/l
Dichlorodifluoromethane	ND	0.33
Chloromethane	ND	0.59
Vinyl Chloride	ND	0.54
Bromomethane	ND	0.61
Chloroethane	ND	0.48
Trichlorofluoromethane	ND	0.43
1,1-Dichloroethene	ND	0.35
Methylene Chloride	ND	0.57
trans-1,2-Dichloroethene	ND	0.28
1,1-Dichloroethane	ND	0.36
cis-1,2-Dichloroethene	ND	0.38
Chloroform	ND	0.43
1,1,1-Trichloroethane	ND	0.27
Carbon Tetrachloride	ND	0.30
1,2-Dichloroethane	ND	0.54
Trichloroethene	ND	0.38
1,2-Dichloropropane	ND	0.56
Bromodichloromethane	ND	0.62
2-Chloroethyl Vinyl Ether	ND	0.49
cis-1,3-Dichloropropene	ND	0.56
trans-1,3-Dichloropropene	ND	0.56
1,1,2-Trichloroethane	ND	0.52
Tetrachloroethene	ND	0.21
Dibromochloromethane	ND	0.47
Chlorobenzene	ND	0.43
Bromoform	ND	0.95
1,1,2,2-Tetrachloroethane	ND	0.53
1,3-Dichlorobenzene	ND	0.60
1,4-Dichlorobenzene	ND	0.59
1,2-Dichlorobenzene	ND	0.62

Client ID: **SSAW-9**
Site: Klockner & Klockner

Lab Sample No: **182785**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7569.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	440	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSAW-11**
Site: Klockner & Klockner

Lab Sample No: **182786**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7570.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 24.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	300
Chloromethane	ND	300
Vinyl Chloride	ND	300
Bromomethane	ND	300
Chloroethane	ND	300
Trichlorofluoromethane	ND	300
1,1-Dichloroethene	ND	300
Methylene Chloride	ND	300
trans-1,2-Dichloroethene	ND	300
1,1-Dichloroethane	ND	300
cis-1,2-Dichloroethene	ND	300
Chloroform	ND	300
1,1,1-Trichloroethane	ND	300
Carbon Tetrachloride	ND	300
1,2-Dichloroethane	ND	300
Trichloroethene	9900	300
1,2-Dichloropropane	ND	300
Bromodichloromethane	ND	300
2-Chloroethyl Vinyl Ether	ND	300
cis-1,3-Dichloropropene	ND	300
trans-1,3-Dichloropropene	ND	300
1,1,2-Trichloroethane	ND	300
Tetrachloroethene	370	300
Dibromochloromethane	ND	300
Chlorobenzene	ND	300
Bromoform	ND	300
1,1,2,2-Tetrachloroethane	ND	300
1,3-Dichlorobenzene	ND	300
1,4-Dichlorobenzene	ND	300
1,2-Dichlorobenzene	ND	300

Client ID: **SSFS-1D**
Site: Klockner & Klockner

Lab Sample No: **182788**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7571.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 2.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	110
Chloromethane	ND	110
Vinyl Chloride	ND	110
Bromomethane	ND	110
Chloroethane	ND	110
Trichlorofluoromethane	ND	110
1,1-Dichloroethene	ND	110
Methylene Chloride	ND	110
trans-1,2-Dichloroethene	ND	110
1,1-Dichloroethane	ND	110
cis-1,2-Dichloroethene	ND	110
Chloroform	ND	110
1,1,1-Trichloroethane	ND	110
Carbon Tetrachloride	ND	110
1,2-Dichloroethane	ND	110
Trichloroethene	ND	110
1,2-Dichloropropane	ND	110
Bromodichloromethane	ND	110
2-Chloroethyl Vinyl Ether	ND	110
cis-1,3-Dichloropropene	ND	110
trans-1,3-Dichloropropene	ND	110
1,1,2-Trichloroethane	ND	110
Tetrachloroethene	ND	110
Dibromochloromethane	ND	110
Chlorobenzene	ND	110
Bromoform	ND	110
1,1,2,2-Tetrachloroethane	ND	110
1,3-Dichlorobenzene	ND	110
1,4-Dichlorobenzene	ND	110
1,2-Dichlorobenzene	ND	110

Client ID: **SSNDS-1C**
Site: Klockner & Klockner

Lab Sample No: **182795**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7572.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSNDS-1D**
Site: Klockner & Klockner

Lab Sample No: **182796**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7573.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSNDS-2C**
Site: Klockner & Klockner

Lab Sample No: **182797**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7574.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 15.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	ND	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSNDS-3A**
Site: Klockner & Klockner

Lab Sample No: **182798**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7575.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.8

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	270	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	470	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSNDS-3B**
Site: Klockner & Klockner

Lab Sample No: **182799**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7576.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 14.9

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	2700	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSNDS-4A**
Site: Klockner & Klockner

Lab Sample No: **182800**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7577.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 12.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	2300	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSNDS-4B**
Site: Klockner & Klockner

Lab Sample No: **182801**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/15/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7578.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 15.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	180	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSNDS-5**
Site: Klockner & Klockner

Lab Sample No: **182802**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7600.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.1

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	480	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSNDS-D**
Site: Klockner & Klockner

Lab Sample No: **182803**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7601.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	ND	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSNDS-6**
Site: Klockner & Klockner

Lab Sample No: **182804**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7602.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.1

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	410	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSNDS-7A**
Site: Klockner & Klockner

Lab Sample No: **182805**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7603.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 9.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSNDS-7B**
Site: Klockner & Klockner

Lab Sample No: **182806**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7605.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSNDS-8**
Site: Klockner & Klockner

Lab Sample No: **182807**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7606.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	110
Chloromethane	ND	110
Vinyl Chloride	ND	110
Bromomethane	ND	110
Chloroethane	ND	110
Trichlorofluoromethane	ND	110
1,1-Dichloroethene	ND	110
Methylene Chloride	ND	110
trans-1,2-Dichloroethene	ND	110
1,1-Dichloroethane	ND	110
cis-1,2-Dichloroethene	ND	110
Chloroform	ND	110
1,1,1-Trichloroethane	ND	110
Carbon Tetrachloride	ND	110
1,2-Dichloroethane	ND	110
Trichloroethene	ND	110
1,2-Dichloropropane	ND	110
Bromodichloromethane	ND	110
2-Chloroethyl Vinyl Ether	ND	110
cis-1,3-Dichloropropene	ND	110
trans-1,3-Dichloropropene	ND	110
1,1,2-Trichloroethane	ND	110
Tetrachloroethene	ND	110
Dibromochloromethane	ND	110
Chlorobenzene	ND	110
Bromoform	ND	110
1,1,2,2-Tetrachloroethane	ND	110
1,3-Dichlorobenzene	ND	110
1,4-Dichlorobenzene	ND	110
1,2-Dichlorobenzene	ND	110

Client ID: **TB0200**
Site: Klockner & Klockner

Lab Sample No: **182809**
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00
Date Analyzed: 02/17/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7607.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSFS-1C**
Site: **Klockner & Klockner**

Lab Sample No: 182787
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: SOLID
Level: LOW
% Moisture: 5.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	77.3	4.5	N*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-4A**
Site: **Klockner & Klockner**

Lab Sample No: 182789
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: SOLID
Level: LOW
% Moisture: 9.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	128	4.7	N*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-5A**
Site: **Klockner & Klockner**

Lab Sample No: 182791
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: SOLID
Level: LOW
% Moisture: 4.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	11.1	4.5	N*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-6A**
Site: **Klockner & Klockner**

Lab Sample No: 182793
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: SOLID
Level: LOW
% Moisture: 4.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	8.8	4.5	BN*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **FB0200**
Site: **Klockner & Klockner**

Lab Sample No: 182808
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Lead	ND	21.4	N*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFDS-D**
Site: **Klockner & Klockner**

Lab Sample No: 182810
Lab Job No: X303

Date Sampled: 02/08/00
Date Received: 02/09/00

Matrix: SOLID
Level: LOW
% Moisture: 3.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	34.6	4.4	N*	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

SAMPLE DATE: 2/8/00
SAMPLER(S): Cheryl Coffee

X 303

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS	
2:40	Alleyway/Bldg	SSAW-9	5-5.5'	soil	PHAL	MeOH	2	CLP Package	182785
2:15	Alleyway/Bldg	SSAW-11	1-1.5'	soil	PHAL	MeOH	2	PHAL by 8021	182786
1:00	~~North~~ drum Storage	SSFS-1C	2-2.5'	soil	Lead	Ice	1		182787
1:05	Drum Storage	SSFS-1D	5-5.5'	soil	PHAL	MeOH	2		182788
12:35	Drum Storage	SSFS-4A	0.-0.5'	soil	Lead	Ice	1		182789
12:30	Drum Storage	SSFS-4B	2-2.5'	soil	Lead - Contingent	Ice	1	Hold	182790
12:15	Drum Storage	SSFS-5A	0-0.5'	soil	Lead	Ice	1		182791
12:20	Drum Storage	SSFS-5B	2-2.5'	soil	Lead - contingent	Ice	1	hold	182792
1:15	Drum Storage	SSFS-6A	0-0.5'	soil	Lead	Ice	1		182793
1:20	Drum Storage	SSFS-6B	2-2.5'	soil	Lead - contingent	Ice	1	hold	182794
11:40	North Drum Storage	SSNDS-1C	4.5-5'	soil	PHAL	MeOH	2		182795
11:50	North Drum Storage	SSNDS-1D	12-12.5'	soil	PHAL	MeOH	2		182796
11:15	North Drum Storage	SSNDS-2C	5-5.5'	soil	PHAL	MeOH	2		182797
1:45	North Drum Storage	SSNDS-3A	1-1.5'	soil	PHAL	MeOH	2		182798
1:50	North Drum Storage	SSNDS-3B	4.5-5'	soil	PHAL	MeOH	2		182799
11:55	North Drum Storage	SSNDS-4A	1.5-2'	soil	PHAL	MeOH	2		182800
12:00	North Drum Storage	SSNDS-4B	4.5-5'	soil	PHAL	MeOH	2		182801
12:45	North Drum Storage	SSNDS-5	1-1.5'	soil	PHAL	MeOH	2		182802
12:50	North Drum Storage	SSNDS-D	1-1.5'	soil	PHAL	MeOH	2		182803
11:05	North Drum Storage	SSNDS-6	1-1.5'	soil	PHAL	MeOH	2		182804
10:50	North Drum Storage	SSNDS-7A	1.5-2'	soil	PHAL	MeOH	2		182805
10:55	North Drum Storage	SSNDS-7B	4.5-5'	soil	PHAL	MeOH	2		182806
10:30	North Drum Storage	SSNDS-8	1-1.5'	soil	PHAL	MeOH	2		182807

RELINQUISHED BY: Cheryl L Coff DATE: 2/9/00 TIME: 1350 RECEIVED BY: [illegible] DATE: 2/9/00 TIME 1350

RELINQUISHED BY: [illegible] DATE: 2/9/00 TIME: 1550 RECEIVED BY: [illegible] DATE: 2/9/00 TIME 1550

ANALYTICAL PARAMETER IDENTIFICATION KEY:
PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

TOTAL NO. CONTAINERS_____

302746

PROJECT NO. 15-03-02
LABORATORY: Envirotech Research

SITE ADDRESS: Rockaway, NJ
SAMPLE DATE: 2/8/00
SAMPLER(S): Cheryl Coffee

X303

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
2:50	Field Blank	FB0200	—	H_2O	PHAL, ~~Lead~~ ~~182808~~	HCL	2	PHAL by 8021 ~~182808~~
2:50	Field Blank	FB0200	—	H_2O	Lead ↓	HNO_3	1	~~182809~~
	Trip Blank	TB0200	—	MeOH	PHAL 182809	MeOH	2	~~182810~~
12:30	~~Former Drum Storage~~	SSFDS-D	0-0.5'	Soil	Lead 182810	Ice	1	~~182811~~

RELINQUISHED BY: Cheryl L Coffee DATE: 2/9/00 TIME: 1350 RECEIVED BY: [signature] DATE: 2.9.00 TIME: 1350

RELINQUISHED BY: [signature] DATE: 2.9.00 TIME: 1550 RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:
PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

TOTAL NO. CONTAINERS_____

The Whitman Companies
44 West Ferris Street
East Brunswick, NJ 08816
908-390-5858

302747

16

302748

ATTACHMENT 16

ANALYTICAL DATA SHEETS

2/15/00 – JOB #X455

302749

STL Envirotech
a division of Severn Trent Laboratories, Inc.

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

March 06, 2000

RECEIVED
MAR - 9
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. X455 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 16, 2000:

Lab No.	Client ID	Analysis Required
183826	SSFA-1	Method 8021 - Purgeable Halocarbons
183827	SSFA-D	Method 8021 - Purgeable Halocarbons
183828	SSFA-4A	Method 8021 - Purgeable Halocarbons
183829	SSFA-4B	Method 8021 - Purgeable Halocarbons
183830	SSFA-4C	Method 8021 - Purgeable Halocarbons

If you have any questions please contact your Project Manager, Brian Reddy, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302750

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Client ID: **SSFA-1**
Site: Klockner & Klockner

Lab Sample No: **183826**
Lab Job No: X455

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7679.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 4.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	110
Chloromethane	ND	110
Vinyl Chloride	ND	110
Bromomethane	ND	110
Chloroethane	ND	110
Trichlorofluoromethane	ND	110
1,1-Dichloroethene	ND	110
Methylene Chloride	ND	110
trans-1,2-Dichloroethene	ND	110
1,1-Dichloroethane	ND	110
cis-1,2-Dichloroethene	ND	110
Chloroform	ND	110
1,1,1-Trichloroethane	ND	110
Carbon Tetrachloride	ND	110
1,2-Dichloroethane	ND	110
Trichloroethene	ND	110
1,2-Dichloropropane	ND	110
Bromodichloromethane	ND	110
2-Chloroethyl Vinyl Ether	ND	110
cis-1,3-Dichloropropene	ND	110
trans-1,3-Dichloropropene	ND	110
1,1,2-Trichloroethane	ND	110
Tetrachloroethene	ND	110
Dibromochloromethane	ND	110
Chlorobenzene	ND	110
Bromoform	ND	110
1,1,2,2-Tetrachloroethane	ND	110
1,3-Dichlorobenzene	ND	110
1,4-Dichlorobenzene	ND	110
1,2-Dichlorobenzene	ND	110

Client ID: **SSFA-D**
Site: Klockner & Klockner

Lab Sample No: **183827**
Lab Job No: X455

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7680.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 20.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	ND	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	2600	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSFA-4A**
Site: Klockner & Klockner

Lab Sample No: **183828**
Lab Job No: X455

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7681.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 7.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSFA-4B**
Site: Klockner & Klockner

Lab Sample No: **183829**
Lab Job No: X455

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7682.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 6.9

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSFA-4C**
Site: Klockner & Klockner

Lab Sample No: **183830**
Lab Job No: X455

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7683.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 14.1

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	150	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

CHAIN-OF-CUSTODY

Page 1 of 1

302760

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 T204
LABORATORY: ENVIROTECH RESEARCH

SITE ADDRESS: Stickle Ave and Elm St, Rockaway, N
SAMPLE DATE: Feb 15, 2000
SAMPLER(S): Cheryl L. Coffee

Job X455

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
14:40	Fence Area	SSFA-1	5-5.5'	Soil	PHAL 183826	MeOH	2	PHAL by 8021
14:45	Fence Area	SSFA-D	5-5.5'	Soil	PHAL 183827	MeOH	2	
14:20	Fence Area	SSFA-4A	5-5.5'	Soil	PHAL 183828	MeOH	2	CLP Package
14:25	Fence Area	SSFA-4B	7-7.5'	Soil	PHAL 183829	MeOH	2	
14:30	Fence Area	SSFA-4C	10.5-11'	Soil	PHAL 183830	MeOH	2	

RELINQUISHED BY: Cheryl L. Coffee DATE: 2/16/00 TIME: 0820 RECEIVED BY: [illegible] DATE: 2/16/00 TIME 0820

RELINQUISHED BY: [illegible] DATE: 2/16/00 TIME: [illegible] RECEIVED BY: [illegible] DATE: 2/16/00 TIME 10:00

ANALYTICAL PARAMETER IDENTIFICATION KEY:
PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH

TOTAL NO. CONTAINERS_____

The Whitman Companies
44 West Ferris Street
East Brunswick, NJ 08816
908-390-5858

6

ATTACHMENT 17

ANALYTICAL DATA SHEETS

2/15/00 – JOB #X456

302762

STL Envirotech
a division of Severn Trent Laboratories, Inc.

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

March 06, 2000

RECEIVED
MAR -
The Whitman Companies, Inc.

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: Job No. X456 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on February 16, 2000:

Lab No.	Client ID	Analysis Required
183831	SSAW-3	Method 8021 - Purgeable Halocarbons
183832	SSAW-12	Method 8021 - Purgeable Halocarbons
183833	SSAW-13	Method 8021 - Purgeable Halocarbons
183834	SSAW-14	Method 8021 - Purgeable Halocarbons
183835	SSAW-15	Method 8021 - Purgeable Halocarbons
183836	SSAW-16	Method 8021 - Purgeable Halocarbons
183837	SSAW-D	Method 8021 - Purgeable Halocarbons
183838	SSAW-17	Method 8021 - Purgeable Halocarbons
183839	SSFS-3A	Pb
183840	SSFS-3B	Method 8021 - Purgeable Halocarbons
183841	SSFS-3C	Pb
183842	FBA0200	Method 8021 - Purgeable Halocarbons, Pb
183843	TBA0200	Method 8021 - Purgeable Halocarbons

If you have any questions please contact your Project Manager, Brian Reddy, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302763

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified detection limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

Client ID: **SSAW-3**
Site: Klockner & Klockner

Lab Sample No: **183831**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7708.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 20.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	280
Chloromethane	ND	280
Vinyl Chloride	ND	280
Bromomethane	ND	280
Chloroethane	ND	280
Trichlorofluoromethane	ND	280
1,1-Dichloroethene	ND	280
Methylene Chloride	ND	280
trans-1,2-Dichloroethene	ND	280
1,1-Dichloroethane	ND	280
cis-1,2-Dichloroethene	4100	280
Chloroform	ND	280
1,1,1-Trichloroethane	ND	280
Carbon Tetrachloride	ND	280
1,2-Dichloroethane	ND	280
Trichloroethene	5400	280
1,2-Dichloropropane	ND	280
Bromodichloromethane	ND	280
2-Chloroethyl Vinyl Ether	ND	280
cis-1,3-Dichloropropene	ND	280
trans-1,3-Dichloropropene	ND	280
1,1,2-Trichloroethane	ND	280
Tetrachloroethene	ND	280
Dibromochloromethane	ND	280
Chlorobenzene	ND	280
Bromoform	ND	280
1,1,2,2-Tetrachloroethane	ND	280
1,3-Dichlorobenzene	ND	280
1,4-Dichlorobenzene	ND	280
1,2-Dichlorobenzene	ND	280

Client ID: **SSAW-12**
Site: Klockner & Klockner

Lab Sample No: **183832**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7685.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 11.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	2400	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSAW-13**
Site: Klockner & Klockner

Lab Sample No: **183833**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7710.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 18.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	260
Chloromethane	ND	260
Vinyl Chloride	ND	260
Bromomethane	ND	260
Chloroethane	ND	260
Trichlorofluoromethane	ND	260
1,1-Dichloroethene	ND	260
Methylene Chloride	ND	260
trans-1,2-Dichloroethene	ND	260
1,1-Dichloroethane	ND	260
cis-1,2-Dichloroethene	470	260
Chloroform	ND	260
1,1,1-Trichloroethane	ND	260
Carbon Tetrachloride	ND	260
1,2-Dichloroethane	ND	260
Trichloroethene	5300	260
1,2-Dichloropropane	ND	260
Bromodichloromethane	ND	260
2-Chloroethyl Vinyl Ether	ND	260
cis-1,3-Dichloropropene	ND	260
trans-1,3-Dichloropropene	ND	260
1,1,2-Trichloroethane	ND	260
Tetrachloroethene	8300	260
Dibromochloromethane	ND	260
Chlorobenzene	ND	260
Bromoform	ND	260
1,1,2,2-Tetrachloroethane	ND	260
1,3-Dichlorobenzene	ND	260
1,4-Dichlorobenzene	ND	260
1,2-Dichlorobenzene	ND	260

Client ID: **SSAW-14**
Site: Klockner & Klockner

Lab Sample No: **183834**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7711.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 16.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	280
Chloromethane	ND	280
Vinyl Chloride	ND	280
Bromomethane	ND	280
Chloroethane	ND	280
Trichlorofluoromethane	ND	280
1,1-Dichloroethene	ND	280
Methylene Chloride	ND	280
trans-1,2-Dichloroethene	ND	280
1,1-Dichloroethane	ND	280
cis-1,2-Dichloroethene	ND	280
Chloroform	ND	280
1,1,1-Trichloroethane	ND	280
Carbon Tetrachloride	ND	280
1,2-Dichloroethane	ND	280
Trichloroethene	5500	280
1,2-Dichloropropane	ND	280
Bromodichloromethane	ND	280
2-Chloroethyl Vinyl Ether	ND	280
cis-1,3-Dichloropropene	ND	280
trans-1,3-Dichloropropene	ND	280
1,1,2-Trichloroethane	ND	280
Tetrachloroethene	4000	280
Dibromochloromethane	ND	280
Chlorobenzene	ND	280
Bromoform	ND	280
1,1,2,2-Tetrachloroethane	ND	280
1,3-Dichlorobenzene	ND	280
1,4-Dichlorobenzene	ND	280
1,2-Dichlorobenzene	ND	280

Client ID: **SSAW-15**
Site: Klockner & Klockner

Lab Sample No: **183835**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7714.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 11.1

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	360	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSAW-16**
Site: Klockner & Klockner

Lab Sample No: **183836**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7712.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 22.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	290
Chloromethane	ND	290
Vinyl Chloride	ND	290
Bromomethane	ND	290
Chloroethane	ND	290
Trichlorofluoromethane	ND	290
1,1-Dichloroethene	ND	290
Methylene Chloride	ND	290
trans-1,2-Dichloroethene	ND	290
1,1-Dichloroethane	ND	290
cis-1,2-Dichloroethene	ND	290
Chloroform	ND	290
1,1,1-Trichloroethane	ND	290
Carbon Tetrachloride	ND	290
1,2-Dichloroethane	ND	290
Trichloroethene	7600	290
1,2-Dichloropropane	ND	290
Bromodichloromethane	ND	290
2-Chloroethyl Vinyl Ether	ND	290
cis-1,3-Dichloropropene	ND	290
trans-1,3-Dichloropropene	ND	290
1,1,2-Trichloroethane	ND	290
Tetrachloroethene	ND	290
Dibromochloromethane	ND	290
Chlorobenzene	ND	290
Bromoform	ND	290
1,1,2,2-Tetrachloroethane	ND	290
1,3-Dichlorobenzene	ND	290
1,4-Dichlorobenzene	ND	290
1,2-Dichlorobenzene	ND	290

Client ID: **SSAW-D**
Site: Klockner & Klockner

Lab Sample No: **183837**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7713.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 100.0
% Moisture: 22.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	310
Chloromethane	ND	310
Vinyl Chloride	ND	310
Bromomethane	ND	310
Chloroethane	ND	310
Trichlorofluoromethane	ND	310
1,1-Dichloroethene	ND	310
Methylene Chloride	ND	310
trans-1,2-Dichloroethene	ND	310
1,1-Dichloroethane	ND	310
cis-1,2-Dichloroethene	ND	310
Chloroform	ND	310
1,1,1-Trichloroethane	ND	310
Carbon Tetrachloride	ND	310
1,2-Dichloroethane	ND	310
Trichloroethene	9400	310
1,2-Dichloropropane	ND	310
Bromodichloromethane	ND	310
2-Chloroethyl Vinyl Ether	ND	310
cis-1,3-Dichloropropene	ND	310
trans-1,3-Dichloropropene	ND	310
1,1,2-Trichloroethane	ND	310
Tetrachloroethene	ND	310
Dibromochloromethane	ND	310
Chlorobenzene	ND	310
Bromoform	ND	310
1,1,2,2-Tetrachloroethane	ND	310
1,3-Dichlorobenzene	ND	310
1,4-Dichlorobenzene	ND	310
1,2-Dichlorobenzene	ND	310

Client ID: **SSAW-17**
Site: Klockner & Klockner

Lab Sample No: **183838**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7720.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 22.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	ND	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSFS-3A**
Site: **Klockner & Klockner**

Lab Sample No: 183839
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00

Matrix: SOLID
Level: LOW
% Moisture: 37.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	841	1.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSFS-3B**
Site: Klockner & Klockner

Lab Sample No: **183840**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7721.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 21.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	150
Chloromethane	ND	150
Vinyl Chloride	ND	150
Bromomethane	ND	150
Chloroethane	ND	150
Trichlorofluoromethane	ND	150
1,1-Dichloroethene	ND	150
Methylene Chloride	ND	150
trans-1,2-Dichloroethene	ND	150
1,1-Dichloroethane	ND	150
cis-1,2-Dichloroethene	ND	150
Chloroform	ND	150
1,1,1-Trichloroethane	ND	150
Carbon Tetrachloride	ND	150
1,2-Dichloroethane	ND	150
Trichloroethene	710	150
1,2-Dichloropropane	ND	150
Bromodichloromethane	ND	150
2-Chloroethyl Vinyl Ether	ND	150
cis-1,3-Dichloropropene	ND	150
trans-1,3-Dichloropropene	ND	150
1,1,2-Trichloroethane	ND	150
Tetrachloroethene	ND	150
Dibromochloromethane	ND	150
Chlorobenzene	ND	150
Bromoform	ND	150
1,1,2,2-Tetrachloroethane	ND	150
1,3-Dichlorobenzene	ND	150
1,4-Dichlorobenzene	ND	150
1,2-Dichlorobenzene	ND	150

Client ID: **SSFS-3C**
Site: **Klockner & Klockner**

Lab Sample No: 183841
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00

Matrix: SOLID
Level: LOW
% Moisture: 18.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	373	1.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **FBA0200**
Site: Klockner & Klockner

Lab Sample No: **183842**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/25/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7678.d

Matrix: WATER
Level: MED
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Dichlorodifluoromethane	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Client ID: **FBA0200**
Site: **Klockner & Klockner**

Lab Sample No: 183842
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Lead	ND	2.1		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **TBA0200**
Site: Klockner & Klockner

Lab Sample No: **183843**
Lab Job No: X456

Date Sampled: 02/15/00
Date Received: 02/16/00
Date Analyzed: 02/29/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held7722.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

CHAIN-OF-CUSTODY

Page 1 of 1

302782

PROJECT NAME: Klockner & Klockner
PROJECT NO: 95-03-02 T202
LABORATORY: ENVIROTECH RESEARCH

SITE ADDRESS: 10 Stickle Ave, Rockaway, NJ
SAMPLE DATE: Feb 15, 2000
SAMPLER(S): Cheryl L. Coffee

X456

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED		PRESER-VATIVE	NO. OF CONT.	SPECIAL INSTRUCTIONS
13:10	Alleyway	SSAW-3	4-4.5'	soil	PHAL	183831	MeOH	2	PHAL by 8021
10:35	Alleyway/Bldg	SSAW-12	1-1.5'	soil	PHAL	183832	MeOH	2	/
12:00	Alleyway/Bldg	SSAW-13	1.5-2'	soil	PHAL	183833	MeOH	2	CLP Package
11:20	Alleyway/Bldg	SSAW-14	4.5-5'	soil	PHAL	183834	MeOH	2	
15:45	Alleyway/Bldg	SSAW-15	4.5-5	soil	PHAL	183835	MeOH	2	
12:30	Alleyway/Bldg	SSAW-16	1.5-2'	soil	PHAL	183836	MeOH	2	
12:35	Alleyway/Bldg	SSAW-D	1.5-2'	soil	PHAL	183837	MeOH	~~1~~	
13:40	Alleyway/HVT	SSAW-17	4-4.5	soil	PHAL	183838	MeOH	2	
12:50	Drum Storage	SSFS-3A	0-0.5'	soil	Lead	183839	Ice	1	
12:52	Drum Storage	SSFS-3B	1.5-2'	soil	PHAL	183840	MeOH	2	
12:55	Drum Storage	SSFS-3C	2-2.5'	soil	Lead	183841	Ice	1	Hold* Activated 2/23/00 per Cheryl Coffee
14:50	Field Blank	FBA0200	—	H_2O	PHAL	183842	Ice	2	
14:50	Field Blank	FBA0200	—	H_2O	Lead	↓	HNO_3	1	
—	Trip Blank	TBA0200	—	~~H_2O~~ MeOH	PHAL	183843	HCL	2	

RELINQUISHED BY: Cheryl L. Coffee DATE: 2/16/00 TIME: 0820 RECEIVED BY: [illegible] DATE: 2/16/00 TIME 0820

RELINQUISHED BY: [illegible] DATE: 2/16/00 TIME: 1000 RECEIVED BY: [illegible] DATE: 2/16/00 TIME 1000

ANALYTICAL PARAMETER IDENTIFICATION KEY:
PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH

TOTAL NO. CONTAINERS_____

The Whitman Companies
44 West Ferris Street
East Brunswick, NJ 08816
908-390-5858

18

302783

ATTACHMENT 18

ANALYTICAL DATA SHEETS

8/16/00 – JOB #C924

302784

RECEIVED
8 2000
The Whitman Companies, Inc.

SEVERN TRENT SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817

Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

September 11, 2000

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: C924 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on August 17, 2000:

Lab No.	Client ID	Analysis Required
223537	SSAW-18	Purgeable Halocarbons – Method 8021
223538	SSAW-19	Purgeable Halocarbons – Method 8021
223539	SSAW-21	Purgeable Halocarbons – Method 8021
223540	SSAW-22	Purgeable Halocarbons – Method 8021
223541	SSAW-24	Purgeable Halocarbons – Method 8021
223542	SSAW-25	Purgeable Halocarbons – Method 8021
223543	SSAW-26	Purgeable Halocarbons – Method 8021
223544	SSFS-7A	Pb
223550	SSNDS-9A	Purgeable Halocarbons – Method 8021
223551	SSNDS-9B	Purgeable Halocarbons – Method 8021
223552	SSNDS-DUP816	Purgeable Halocarbons – Method 8021

302785

SEVERN TRENT SERVICES

Lab No.	Client ID	Analysis Required
223553	SSFS-DUP816	Pb
223554	SSNDS-10A	Purgeable Halocarbons – Method 8021
223555	SSNDS-10B	Purgeable Halocarbons – Method 8021
223556	SSNDS-10C	Purgeable Halocarbons – Method 8021
223559	SSFA-1R	Purgeable Halocarbons – Method 8021
223560	FB-081600	Purgeable Halocarbons – Method 8021 Pb
223561	Trip_Blank	Purgeable Halocarbons – Method 8021

An invoice for our services is also enclosed. If you have any questions please contact your Project Manager, Brian Reddy, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302786

Client ID: **SSAW-18**
Site: Klockner & Klockner

Lab Sample No: **223537**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8345.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 9.9

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAW-19**
Site: Klockner & Klockner

Lab Sample No: **223538**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8346.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 15.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	470	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSAW-21**
Site: Klockner & Klockner

Lab Sample No: **223539**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8347.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSAW-22**
Site: Klockner & Klockner

Lab Sample No: **223540**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8348.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 19.2

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	1200	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAW-24**
Site: Klockner & Klockner

Lab Sample No: **223541**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8349.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 14.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	310	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAW-25**
Site: Klockner & Klockner

Lab Sample No: **223542**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/22/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8350.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 10.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSAW-26**
Site: Klockner & Klockner

Lab Sample No: **223543**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8375.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 9.4

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSFS-7A**
Site: **Klockner & Klockner**

Lab Sample No: 223544
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00

Matrix: SOLID
Level: LOW
% Moisture: 16.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	145	1.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSNDS-9A**
Site: Klockner & Klockner

Lab Sample No: **223550**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8376.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 21.8

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	150
Chloromethane	ND	150
Vinyl Chloride	ND	150
Bromomethane	ND	150
Chloroethane	ND	150
Trichlorofluoromethane	ND	150
1,1-Dichloroethene	ND	150
Methylene Chloride	ND	150
trans-1,2-Dichloroethene	ND	150
1,1-Dichloroethane	ND	150
cis-1,2-Dichloroethene	ND	150
Chloroform	ND	150
1,1,1-Trichloroethane	ND	150
Carbon Tetrachloride	ND	150
1,2-Dichloroethane	ND	150
Trichloroethene	190	150
1,2-Dichloropropane	ND	150
Bromodichloromethane	ND	150
2-Chloroethyl Vinyl Ether	ND	150
cis-1,3-Dichloropropene	ND	150
trans-1,3-Dichloropropene	ND	150
1,1,2-Trichloroethane	ND	150
Tetrachloroethene	ND	150
Dibromochloromethane	ND	150
Chlorobenzene	ND	150
Bromoform	ND	150
1,1,2,2-Tetrachloroethane	ND	150
1,3-Dichlorobenzene	ND	150
1,4-Dichlorobenzene	ND	150
1,2-Dichlorobenzene	ND	150

Client ID: **SSNDS-9B**
Site: Klockner & Klockner

Lab Sample No: **223551**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8377.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 8.3

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **SSNDS-DUP816**
Site: Klockner & Klockner

Lab Sample No: **223552**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8378.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 19.9

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	ND	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	ND	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSFS-DUP816**
Site: **Klockner & Klockner**

Lab Sample No: 223553
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00

Matrix: SOLID
Level: LOW
% Moisture: 16.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	111	1.4		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **SSNDS-10A**
Site: Klockner & Klockner

Lab Sample No: **223554**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8380.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 25.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	150
Chloromethane	ND	150
Vinyl Chloride	ND	150
Bromomethane	ND	150
Chloroethane	ND	150
Trichlorofluoromethane	ND	150
1,1-Dichloroethene	ND	150
Methylene Chloride	ND	150
trans-1,2-Dichloroethene	ND	150
1,1-Dichloroethane	ND	150
cis-1,2-Dichloroethene	ND	150
Chloroform	ND	150
1,1,1-Trichloroethane	ND	150
Carbon Tetrachloride	ND	150
1,2-Dichloroethane	ND	150
Trichloroethene	220	150
1,2-Dichloropropane	ND	150
Bromodichloromethane	ND	150
2-Chloroethyl Vinyl Ether	ND	150
cis-1,3-Dichloropropene	ND	150
trans-1,3-Dichloropropene	ND	150
1,1,2-Trichloroethane	ND	150
Tetrachloroethene	ND	150
Dibromochloromethane	ND	150
Chlorobenzene	ND	150
Bromoform	ND	150
1,1,2,2-Tetrachloroethane	ND	150
1,3-Dichlorobenzene	ND	150
1,4-Dichlorobenzene	ND	150
1,2-Dichlorobenzene	ND	150

Client ID: **SSNDS-10B**
Site: Klockner & Klockner

Lab Sample No: **223555**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8381.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 14.5

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	130
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	130
trans-1,2-Dichloroethene	ND	130
1,1-Dichloroethane	ND	130
cis-1,2-Dichloroethene	ND	130
Chloroform	ND	130
1,1,1-Trichloroethane	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Trichloroethene	ND	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
2-Chloroethyl Vinyl Ether	ND	130
cis-1,3-Dichloropropene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
Tetrachloroethene	ND	130
Dibromochloromethane	ND	130
Chlorobenzene	ND	130
Bromoform	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
1,2-Dichlorobenzene	ND	130

Client ID: **SSNDS-10C**
Site: Klockner & Klockner

Lab Sample No: **223556**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8382.d

Matrix: SOIL
Level: HIGH
Sample Weight: 12 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.3

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	110
Chloromethane	ND	110
Vinyl Chloride	ND	110
Bromomethane	ND	110
Chloroethane	ND	110
Trichlorofluoromethane	ND	110
1,1-Dichloroethene	ND	110
Methylene Chloride	ND	110
trans-1,2-Dichloroethene	ND	110
1,1-Dichloroethane	ND	110
cis-1,2-Dichloroethene	ND	110
Chloroform	ND	110
1,1,1-Trichloroethane	ND	110
Carbon Tetrachloride	ND	110
1,2-Dichloroethane	ND	110
Trichloroethene	ND	110
1,2-Dichloropropane	ND	110
Bromodichloromethane	ND	110
2-Chloroethyl Vinyl Ether	ND	110
cis-1,3-Dichloropropene	ND	110
trans-1,3-Dichloropropene	ND	110
1,1,2-Trichloroethane	ND	110
Tetrachloroethene	ND	110
Dibromochloromethane	ND	110
Chlorobenzene	ND	110
Bromoform	ND	110
1,1,2,2-Tetrachloroethane	ND	110
1,3-Dichlorobenzene	ND	110
1,4-Dichlorobenzene	ND	110
1,2-Dichlorobenzene	ND	110

Client ID: **SSFA-1R**
Site: Klockner & Klockner

Lab Sample No: **223559**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8383.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 3.7

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **FB-081600**
Site: Klockner & Klockner

Lab Sample No: **223560**
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8374.d

Matrix: WATER
Level: MED
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Dichlorodifluoromethane	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Client ID: **FB-081600**
Site: **Klockner & Klockner**

Lab Sample No: 223560
Lab Job No: C924

Date Sampled: 08/16/00
Date Received: 08/17/00

Matrix: WATER
Level: LOW

METALS ANALYSIS

Analyte	Analytical Result Units: ug/l	Instrument Detection Limit	Qual	M
Lead	ND	2.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **223561**
Lab Job No: C924

Date Sampled: 08/15/00
Date Received: 08/17/00
Date Analyzed: 08/28/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8384.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816
Phone: (732) 390-5858 Fax: (732) 390-9496

CHAIN OF CUSTODY / ANALYSIS REQUEST

302806

Project Manager: Mike Metliz	Samplers Name (Printed): Cheryl Coffee
Site/Project Identification: Klockner & Klockner	Project #: 95-03-02
Site Address: Rockaway Boro, NJ	State (Location of site): NJ: [X] NY: [ ] Other:
Special Instructions:	Regulatory Program: EPA

Analysis Turnaround Time: Standard [X]
Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: C924

Area of Concern	Sample ID	Depth	Date	Time	Matrix	No. of Cont.	PHAL	Lead										Sample Numbers
Bldg 12 Alleyway	SSAW-18	1.5-2'	8/16/00	12:55	Soil	2	✓											223537
Bldg 12 Alleyway	SSAW-19	0.5-1'	8/16/00	10:45	Soil	2	✓											223538
Bldg 12 Alleyway	SSAW-21	1.5-2'		10:00	Soil	2	✓											223539
Bldg 12 Alleyway	SSAW-22	0.5-1'		15:00	Soil	2	✓											223540
→ ED Bldg 12 Alleyway	SSAW-23	1-1.5'		11:45	Soil	2	✓											—
Bldg 12 Alleyway	SSAW-24	1-1.5'		11:30	Soil	2	✓											223541
Bldg 12 Alleyway	SSAW-25	1-1.5'		11:15	Soil	2	✓											223542
Bldg 12 Alleyway	SSAW-26	1-1.5'		12:15	Soil	2	✓											223543
																		—
			8/16/00															—
						Soil:	6											
						Water:												

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = MeOH, 7 = Other _____

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Cheryl Coffee	Whitman	8-17-00 12:10	1) John C Winters	STL
2) John C Winters	STL	8-17-00 13:18	2) [signature]	STL

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

G:\Forms\Field Sampling Forms\Whitman - NewCOC.xls

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816
Phone: (732) 390-5858 Fax: (732) 390-9496

CHAIN OF CUSTODY / ANALYSIS REQUEST

302807

Project Manager: Mike Metliz
Samplers Name (Printed): Cheryl Coffee
Site/Project Identification: Klockner & Klockner
Project #: 95-03-02
State (Location of site): NJ: [X] NY: [ ] Other:
Regulatory Program: EPA
Site Address: Rockaway Boro, NJ
Special Instructions:

Analysis Turnaround Time
Standard [X]
Rush Charges Authorized For:
2 Week [ ]
1 Week [ ]
Other [ ]

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: C924

Area of Concern	Sample ID	Depth	Date	Time	Matrix	No. of Cont.	PHAL	Lead	Contingent Lead									Sample Numbers
Bldg 12 Former Shed	SSFS-7A	0-0.5'	8/16/00	13:00	Soil	1		✓										223544
Bldg 12 Former Shed	SSFS-7B	2-2.5'		13:05	Soil	1			✓									223545
"	SSFS-7C	7-7.5		13:06	Soil	1			✓									223546
"	SSFS-8A	0-0.5'		13:10	Soil	1			✓									223547
"	SSFS-8B	2-2.5'		13:15	Soil	1			✓									223548
"	SSFS-8C	7-7.5	8/16/00	13:16	Soil	1			✓									223549
Bldg 12 North Drum Stor	SSNDS-9A	1.5-2'	8/16/00	14:00	Soil	2	✓											223550
"	SSNDS-9B	4.5-5'	8/16/00	14:05	Soil	2	✓											223551
"	SSNDS-DUP(8/16)	1.5-2'	8/16/00	14:10	Soil	2	✓											223552
Bldg 12 Former Shed	SSFS-DUP(8/16)	0-0.5'	8/16/00	13:01	Soil	1		✓										223553
Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH					Soil:	6	1	1										
6 = MeOH, 7 = Other _____					Water:													

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Cheryl Coffee	Whitman	8/17/00 12:10	1) [illegible]	STL
2) [illegible]	STL	8/17/00 3:18	2) [illegible]	STL

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

G:\Forms\Field Sampling Forms\Whitman - NewCOC.xls

21

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816
Phone: (732) 390-5858 Fax: (732) 390-9496

CHAIN OF CUSTODY / ANALYSIS REQUEST

302808

Project Manager: Mike Metliz
Samplers Name (Printed): Cheryl Coffee
Site/Project Identification: Klockner & Klockner
Project #: 94-03-02
State (Location of site): NJ: ☑ NY: ☐ Other:
Regulatory Program: EPA
Site Address: Rockaway Boro, NJ
Special Instructions:

Analysis Turnaround Time: Standard ☑
Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: C924

Area of Concern	Sample ID	Depth	Date	Time	Matrix	No. of Cont.	PHAL	Contingent PHAL	Lead								Sample Numbers
Bldg 12 North Drum Storage	SSNDS-10A	1-1.5'	8/16/00	13:20	Soil	2	✓										223554
"	SSNDS-10B	4.5-5.0	8/16/00	13:30	Soil	2	✓										223555
"	SSNDS-10C	7-7.5'	8/16/00	13:35	Soil	2	✓										223556
Bldg 12 "	SSNDS-11A	1-1.5'	8/16/00	13:40	Soil	2		✓									223557
"	SSNDS-11B	4.5-5'	8/16/00	13:45	Soil	2		✓									223558
Bldg 13 Fence Area	SSFA-1R	5-5.5'	8/16/00	15:20	Soil	2	✓										223559
																	—
Field Blank	FB-081600	-	8/16/00	14:45	H_2O	3	✓		✓								223560
Trip Blank	TB-081600	-	8/~~16~~ 15/00	-	~~H_2O~~ MeOH	1	✓										223561
																	—
					Soil:		6	6	4								
					Water:												

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = MeOH, 7 = Other _____

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) Cheryl Coffee	Whitman	8/17/00 12:10	1) [signature]	STL
2) [signature]	STL	8-17-00 3:18	2) [signature]	STL

PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

G:\Forms\Field Sampling Forms\Whitman - NewCOC.xls

302809

ATTACHMENT 19

ANALYTICAL DATA SHEETS

10/9/00 – JOB #E510

302810

SEVERN TRENT SERVICES

STL Edison
777 New Durham Road
Edison, NJ 08817
Tel: 732-549-3900
Fax: 732-549-3679
www.stl-inc.com

October 26, 2000

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, NJ 08816

Attention: Mr. Michael Metlitz

Re: E510 - Klockner & Klockner

Dear Mr. Metlitz:

Enclosed are the results you requested for the following sample(s) received at our laboratory on October 09, 2000:

Lab No.	Client ID	Analysis Required
234142	Trip_Blank	Purgeable Halocarbons
234143	FB100900	Purgeable Halocarbons
234144	SSAW-23_1-1.5	Purgeable Halocarbons
234145	SSAW-Dup_1-1.5	Purgeable Halocarbons

If you have any questions please contact your Project Manager, Brian Reddy, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

302811

Client ID: **Trip_Blank**
Site: Klockner & Klockner

Lab Sample No: **234142**
Lab Job No: E510

Date Sampled: 10/09/00
Date Received: 10/09/00
Date Analyzed: 10/13/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8532.d

Matrix: SOIL
Level: HIGH
Sample Weight: 10 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	120
Chloromethane	ND	120
Vinyl Chloride	ND	120
Bromomethane	ND	120
Chloroethane	ND	120
Trichlorofluoromethane	ND	120
1,1-Dichloroethene	ND	120
Methylene Chloride	ND	120
trans-1,2-Dichloroethene	ND	120
1,1-Dichloroethane	ND	120
cis-1,2-Dichloroethene	ND	120
Chloroform	ND	120
1,1,1-Trichloroethane	ND	120
Carbon Tetrachloride	ND	120
1,2-Dichloroethane	ND	120
Trichloroethene	ND	120
1,2-Dichloropropane	ND	120
Bromodichloromethane	ND	120
2-Chloroethyl Vinyl Ether	ND	120
cis-1,3-Dichloropropene	ND	120
trans-1,3-Dichloropropene	ND	120
1,1,2-Trichloroethane	ND	120
Tetrachloroethene	ND	120
Dibromochloromethane	ND	120
Chlorobenzene	ND	120
Bromoform	ND	120
1,1,2,2-Tetrachloroethane	ND	120
1,3-Dichlorobenzene	ND	120
1,4-Dichlorobenzene	ND	120
1,2-Dichlorobenzene	ND	120

Client ID: **FB100900**
Site: Klockner & Klockner

Lab Sample No: **234143**
Lab Job No: E510

Date Sampled: 10/09/00
Date Received: 10/09/00
Date Analyzed: 10/13/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8535.d

Matrix: WATER
Level: MED
Purge Volume: 5.0 ml
Final Volume: 0.0 mL
Dilution Factor: 1.0

VOLATILE ORGANICS - GC

Parameter	Analytical Result Units: ug/l	Quantitation Limit Units: ug/l
Dichlorodifluoromethane	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Trichloroethene	ND	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Dibromochloromethane	ND	1.0
Chlorobenzene	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Client ID: **SSAW-23_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **234144**
Lab Job No: E510

Date Sampled: 10/09/00
Date Received: 10/09/00
Date Analyzed: 10/13/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8533.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 15.0

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	350	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	280	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

Client ID: **SSAW-Dup_1-1.5**
Site: Klockner & Klockner

Lab Sample No: **234145**
Lab Job No: E510

Date Sampled: 10/09/00
Date Received: 10/09/00
Date Analyzed: 10/13/00
GC Column: DB624
Instrument ID: VOAGC2.i
Lab File ID: held8534.d

Matrix: SOIL
Level: HIGH
Sample Weight: 11 g
Methanol Ext. Volume: 25.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 17.6

VOLATILE ORGANICS - GC

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dichlorodifluoromethane	ND	140
Chloromethane	ND	140
Vinyl Chloride	ND	140
Bromomethane	ND	140
Chloroethane	ND	140
Trichlorofluoromethane	ND	140
1,1-Dichloroethene	ND	140
Methylene Chloride	ND	140
trans-1,2-Dichloroethene	ND	140
1,1-Dichloroethane	ND	140
cis-1,2-Dichloroethene	ND	140
Chloroform	ND	140
1,1,1-Trichloroethane	ND	140
Carbon Tetrachloride	ND	140
1,2-Dichloroethane	ND	140
Trichloroethene	210	140
1,2-Dichloropropane	ND	140
Bromodichloromethane	ND	140
2-Chloroethyl Vinyl Ether	ND	140
cis-1,3-Dichloropropene	ND	140
trans-1,3-Dichloropropene	ND	140
1,1,2-Trichloroethane	ND	140
Tetrachloroethene	270	140
Dibromochloromethane	ND	140
Chlorobenzene	ND	140
Bromoform	ND	140
1,1,2,2-Tetrachloroethane	ND	140
1,3-Dichlorobenzene	ND	140
1,4-Dichlorobenzene	ND	140
1,2-Dichlorobenzene	ND	140

The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816

CHAIN-OF-CUSTODY

PROJECT NAME: Klockner + Klockner
PROJECT NO: 950302N2
LABORATORY: S.T.L

SITE ADDRESS: Rockaway Borough, Morris County N.J.
SAMPLE DATE: 10/9/00
SAMPLER(S): E

DATE E510

SAMPLE TIME	SAMPLE LOCATION	SAMPLE ID#	SAMPLE DEPTH	SAMPLE MATRIX	ANALYSIS REQUESTED	PRESER-VATIVE	NO. OF CONT.	~~SPECIAL INSTRUCTIONS~~
—		FB	—	~~H_2O~~ MEOH PP	VOC (8021)		1	10/9/00 234142
1115		FB100900	—	H_2O	VOC		2	10/9/00 234143
1130		SSAW-23	1-1.5'	soil	VOC		2	10/9/00 234144
1130		SSAW-Dup	1-1.5'	soil	VOC		2	10/9/00 234145
							0	

RELINQUISHED BY: [signature] DATE 10/9/00 TIME: RECEIVED BY: [signature] DATE: 10/9/00 TIME 1320

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME

ANALYTICAL PARAMETER IDENTIFICATION KEY:
PHC: PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANICS BY GC/MS WITH LIBRARY SEARCH
PAH: POLYCYCLIC AROMATIC HYDROCARBONS IN BASE NEUTRAL SCAN WITH LIBRARY SEARCH
BN: BASE NEUTRALS WITH LIBRARY SEARCH
AE: ACID EXTRACTABLES WITH LIBRARY SEARCH
PPM: PRIORITY POLLUTANT METALS
PP+40: PRIORITY POLLUTANT PLUS FORTY PEAKS

302816

TOTAL NO. CONTAINERS _____

The Whitman Companies
44 West Ferris Street
East Brunswick, NJ 08816
908-390-5858

ATTACHMENT 20

HISTORIC SAMPLE RESULTS TABLES

302818

ATTACHMENT 20

HISTORIC SAMPLE RESULTS TABLES

3.4 Tank #5 Soil Sampling Results
3.5 Tank #4 Soil Sampling Results
3.6 Trichloroethylene and Tetrachloroethylene Post Excavation Results - Tank #4 April and May 1986
3.7 Catch Basin Sediment Sampling Results April 18, 1986
3.8 Soil Sampling Results Monitoring Well MW-4D October 16, 1987
3.9 Preliminary Soil Sampling Results Catch Basin/Storm Sewer System October 26, 1988
3.10 Post Excavation Soil Sampling Results Catch Basin/Storm Sewer System February 9, 1989
3.11 Analytical Results Leaching Pit Invert Soil Sampling Volatile Organic Compounds By GC Screen December 14, 1987
3.12 Soil Sampling Results Monitoring Well MW-6S November 5, 1988
3.13 Analytical Results Post Excavation Soil Sampling - Leaching Pit February 10, 1989
3.14 Analytical Results Soil Sampling in Degreaser Pit, Alleyway, Scale Room and Quonset Hut Areas
3.15 Field Screening Results For Soil Vapor Samples Collected in the Degreaser Pit Area
3.16 Field Screening Results For Samples Collected in the Alleyway, Scale Room, Quonset Hut & Loading Dock Areas
3.17 Summary of Groundwater Sampling Results Shallow Monitoring Wells
3.18 Shallow Groundwater Sampling Results December 14, 1988
3.19 Analytical Results Shallow Groundwater Sampling September 1989
3.23 Analytical Results NJDEP Sampling Activities October 9, 1986

TABLE 3.4

TANK #5 SAMPLING RESULTS

Sample No.	Sample Location	Sample Depth	Total Volatile Organics (EPA Method 503.1)
S-1	North end of base of excavation along tank spine	0-1' below tank invert	N.D.
S-2	Center of base of excavation along tank spine	0-1' below tank invert	N.D.
S-3	West sidewall of excavation	0-1' below tank invert	N.D.
S-4	South end of base of excavation along tank spine	0-1' below tank invert	N.D.
S-5	East sidewall of excavation	0-1' below tank invert	N.D.
S-6	Duplicate of S-5	0-1' below tank invert	N.D.

Source: MES, 1987

TABLE 3.5

TANK #4 SOIL SAMPLING RESULTS*

Sample ID	Date	Depth	Location	Analysis**	Results (mg/kg)
4A	4/17/86	8'	Centerline	PHC	470.
4A	4/17/86	8'	Centerline	VOC	0.05
4B	4/17/86	8'	Centerline	PHC	< 18.
4B	4/17/86	8'	Centerline	VOC	1.49
4C	4/17/86	7'	Centerline	PHC	32.
4C	4/17/86	7'	Centerline	VOC	6.14
4D	4/17/86	7'	Centerline	PHC	< 40.
4D	4/17/86	7'	Centerline	VOC	3.87
4E	4/17/86	8'	Centerline	PHC	350.
4E	4/17/86	8'	Centerline	VOC	0.35
4F	4/17/86	7.5'	Sideline	PHC	120.
4F	4/17/86	7.5'	Sideline	VOC	N.D.
4G	5/22/86	12'	Centerline	PHC	10.
4G	5/22/86	12'	Centerline	VOC	N.D.
4H	5/22/86	12'	Centerline	PHC	78.
4H	5/22/86	12'	Centerline	VOC	N.D.
4I	5/22/86	12'	Centerline	PHC	86.
4I	5/22/86	12'	Centerline	VOC	1.0
Pit 4 Sample 1	5/22/86	9'	Sideline	VOC	0.208 mg/l
Pit 4 Sample 2	5/22/86	9'	Sideline	VOC	1.99 mg/l

N.D. = Not Detected

* All samples are soil matrix except seepage samples which are water matrix.

** PHC = Petroleum Hydrocarbons
VOC = Volatile Organic Compounds (GC scan)

302821

Source: GTI, 1986

TABLE 3.6
Trichloroethylene and Tetrachloroethylene
Post Excavation Results - Tank 4
April and May, 1986

SAMPLE LOCATION	4A	4B	4C	4D	4E	4F	4G	4H	4I	PIT 4 SAMPLE 1	PIT 4 SAMPLE 2
SAMPLE DEPTH (FEET)	8	8	7	7	8	7.5	12	12	12	9	9
SAMPLE DATE	4/17/86	4/17/86	4/17/86	4/17/86	4/17/86	4/17/86	5/22/86	5/22/86	5/22/86	5/22/86	5/22/86
Trichloroethylene (ppb)	50	400	4,000	2,800	200	u	u	u	500	1,300	93
Tetrachloroethylene (ppb)	u	90	300	300	60	u	u	u	400	30	u

u = Undetected
ppb = Parts per billion

Source: First Environment, 1992

302822

TABLE 3.7

CATCH BASIN SEDIMENT SAMPLING RESULTS

APRIL 18, 1986

Volatile Organic Compounds (ppm)	
Trichloroethylene	478
Tetrachloroethylene	94
t-1, 2-Dichloroethylene	9.4
Total Target Compounds	581.4
Total Library Search	3.7
Petroleum Hydrocarbons (ppm)	3,200
Polychlorinated Biphenyls (ppm)	None Detected
EP Toxicity Test (ppm)	
Arsenic	< 0.002
Barium	< 0.03
Cadmium	0.02
Chromium	0.02
Lead	< 0.06
Mercury	< 0.025
Selenium	< 0.005
Silver	< 0.03

Source: GTI, 1986

302823

TABLE 3.8

SOIL SAMPLING RESULTS
MONITORING WELL MW-4D
OCTOBER 16, 1987

SAMPLE LOCATION SAMPLE DEPTH	MW-4D SOILS 2-4'	MW-4D SOILS 8-10'	MW-4D SOILS 13-15'	MW-4D SOILS 18-20'	MW-4D SOILS 20-22'	MW-4D SOILS 25-27'	MW-4D SOILS 34-36'	TRIP BLANK	FIELD BLANK
Volatile Organics (ppb)									
Targeted Peaks									
Trans-1,2-Dichloroethylene	u	u	17	25	11	u	u	u	u
Trichloroethylene	u	u	120	62	72	8	u	u	u
Benzene	u	u	7	u	u	u	6	u	u
Toluene	u	u	u	u	u	u	u	u	u
Ethylbenzene	u	u	6	u	u	u	5	u	u
Total Xylenes	u	u	17	u	u	u	15	u	u
Non-targeted Peaks (1)									
Acetone									
Methyl Cyclopentane Isomer	u	u	8	u	u	u	8	u	u
Unknown	u	u	81	u	u	u	77	u	u
Petroleum Hydrocarbons (ppm)	u	u	u	u	u	u	u	u	u

* u Estimated value, below the detection limit
u = Undetected
(1) = Estimated concentrations of tentatively identified compounds

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

Source: First Environment, 1989a

TABLE 3.3

PRELIMINARY SOIL SAMPLING RESULTS
CATCH BASIN/STORM SEWER SYSTEM
OCTOBER 26, 1988

SAMPLE LOCATION		SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10
SAMPLE DEPTH		58"	26"	38"	34"	34"	32"	32"	26"	50"	26"
Volatile Organics (ppb)											
Targeted Peaks											
Methylene Chloride		u	u	u	u	u	7	u	u	u	u
1,1-Dichloroethylene		u	u	u	u	u	u	u	u	u	u
T-1,2-Dichloroethylene		u	11	u	u	u	u	u	u	13	u
Trichloroethylene		u	5	u	11	11	13	u	u	100	u
Tetrachloroethylene		u	u	u	u	u	u	u	u	u	u
Non-targeted Peaks (1)											
Unknown Hexane Isomer		6	6	u	6	u	8	6	u	9	16
Unknown Hydrocarbon		u	u	u	u	u	u	u	u	u	u
Unknown		u	u	u	u	u	u	u	u	u	u
Petroleum Hydrocarbons (ppm)	case-by-case	u	140	u	u	u	u	u	3,000	92	490

* = Estimated value, below the detection limit
u = Undetected
(1) = Estimated concentration of tentatively identified compounds

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

Source: First Environment, 1989a

302825

TABLE 3.9 (continued)

Preliminary Soil Sampling Results

Catch Basin/Storm Sewer System - October 26, 1988

ıPLE LOCATION ıPLE DEPTH	SS-11 39"	SS-12 35"	SS-13 34"	SS-14 34"	SS-15 32"	SS-16 27"	SS-17 50"	SS-18 50"	TRIP BLANK	FIELD BLANK
ıtile Organics (ppb)										
ırgeted Peaks										
ıethylene Chloride	u	u	u	u	u	u	u	u	u	u
;,1-Dichloroethylene	u	u	u	u	u	u	10	8	u	u
'-1,2-Dichloroethylene	9	14	20	7	23	1700	8100	2800	u	u
'richloroethylene	175	200	200	61	220	4200	2900	1300	u	u
:etrachloroethylene	u	u	u	u	37	u	1600	900	u	u
›n-targeted Peaks (1)										
Jnknown Hexane Isomer	u	15	u	u	u	u	u	u	u	u
Jnknown Hydrocarbon	u	u	u	u	u	53,400	u	u	u	u
Jnknown	u	u	u	u	u	u	22	32	u	u
:roleum Hydrocarbons (ppm)	600	u	u	42	170	13000	1300	350	u	u

› Estimated value, below the detection limit
: Undetected
) = Estimated concentrations of tentatively identified compounds

TE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

›urce: First Environment, 1989a

302826

TABLE 3.10

POST EXCAVATION SOIL SAMPLING RESULTS
CATCH BASIN/STORM SEWER SYSTEM
FEBRUARY 9, 1989

SAMPLE LOCATION SAMPLE DEPTH	SS-10 8'	SS-11 8'	SS-12 8'	SS-13 8'	SS-14 8'	SS-15 7'	SS-16 7'	SS-17 7'	SS-18 7'	SS-19 8'	SS-20 9'	TRIP BLANK	FIELD BLANK
Volatile Organics (ppb)													
Targeted Peaks													
Methylene Chloride	--	u	u	u	u	u	u	u	u	u	28**	u	u
T-1,2-Dichloroethylene	--	u	4*	u	10	93	u	6	5*	u	u	u	u
Trichloroethylene	--	u	6	u	6	250	u	7	u	5*	u	u	u
Tetrachloroethylene	--	u	u	u	u	17	u	u	u	u	u	u	u
Non-targeted Peaks (1)													
Acetone	--	u	130	u	u	u	u	u	u	u	u	u	u
Unknown	--	u	5	u	u	u	u	u	u	u	u	u	u
Petroleum Hydrocarbons (ppm)	u	u	52	u	42	--	--	--	--	--	--	--	u

-- = Not analyzed
* = Estimated value, below the detection limit
** = Found in corresponding method blank, but is probably in the sample as well
u = Undetected
(1) = Estimated concentrations of tentatively identified compounds

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory cause contamination and are therefore not included in this table.

Source: First Environment, 1989a

TABLE 3.11
ANALYTICAL RESULTS
LEACHING PIT INVERT SOIL SAMPLING
VOLATILE ORGANIC COMPOUNDS BY GC SCREEN*
DECEMBER 14, 1987

Sample ID	t 1,2-dichloroethylene	TCE	PCE	Unknowns
Trip Blank	ND	ND	ND	ND
Soil from 11-foot depth	19	87	370	77**

* Values are reported in ppb on a wet-weight basis; dry weight values may be as much as 3ppb higher for each compound.

** Breakdown of unknown compounds:

	Retention Time	Est. Concentration (ppb)
unk hydrocarbon	26.9	7
unk hydrocarbon	32.2	45
unk alkane	30.5	25

Source: First Environment, 1989

TABLE 3.12

SOIL SAMPLING RESULTS
MONITORING WELL MW-6S
NOVEMBER 5, 1988

SAMPLE LOCATION SAMPLE DEPTH	MW-6S SOILS 1-3'	MW-6S SOILS 3-5'	MW-6S SOILS 5-7'	MW-6S SOILS 7-9'	MW-6S SOILS 9-11'	MW-6S SOILS 11-13'	MW-6S SOILS 13-15'	MW-6S SOILS 15-17'	MW-6S SOILS 17-19'	DUP-1 SOILS (9-11')	TRIP BLANK	FIELD BLANK
Volatile Organics (ppb)												
Targeted Peaks												
T-1,2-Dichloroethylene	u	u	u	u	u	u	u	u	6*	u	u	u
Trichloroethylene	u	u	u	u	u	u	u	u	13	u	u	u
Tetrachloroethylene	u	u	u	u	u	u	u	5*	57	u	u	u
Non-targeted Peaks(1)												
Acetone	u	u	u	u	38	u**	u**	u	u**	u**	u	u
Unknown Hexane Isomer	u	u	u	u	u	7*	7*	u	5*	5*	u	u

* = Estimated value, below the detection limit
** = Not found in the corresponding method blank, but it is a common laboratory contaminant
u = Undetected
(1) = Estimated concentrations of tentatively identified compounds

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

Source: First Environment, 1989a

Analytical Results
Post Excavation Soil Sampling - Leaching Pit
February 10, 1989

SAMPLE LOCATION SAMPLE DEPTH	ECRA GUIDELINES	SS-21 12.5'	SS-22 12.5'	SS-23 12.5'	SS-24 12.5'	SS-25 12.5'	SS-26 12.5'	SS-27 12.5'	SS-28 12.5'	SS-29 12.5'	SS-30 11.5'
Volatile Organics (ppb)	1,000										
Targeted Peaks											
Tetrachloroethylene		u	u	u	33	30	u	u	38	6	u
Methylene Chloride		u	u	u	u	u	u	u	u	u	u
Non-Targeted Peaks (1)		u	u	u	u	u	u	u	586	94	u

u = Undetected
(1) = Estimated concentrations of tentatively identified compounds
* = Methylene chloride was detected in the sample as well as in the laboratory blank. Background contribution, if adjusted for sample dilution calculates to an estimated 40 ppb of methylene chloride.

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

Source: First Environment, 1989a

TABLE 3.13 (continued)
Analytical Results
Post Excavation Soil Sampling - Leaching Pit
February 10, 1989

PLE LOCATION PLE DEPTH	SS-31 11.5'	SS-32 11.5'	SS-33 11.5'	SS-34 7.5'	SS-35 7.5'	SS-36 7.5'	SS-37 7.5'	SS-38 7.5'	TRIP BLANK	FIELD BLANK
Atile Organics (ppb)										
rgeted Peaks										
etrachloroethylene	160	10	U	U	U	U	U	U	U	U
lethylene Chioride	190*	U	U	U	U	U	U	U	U	U
n-targeted Peaks	34,900	U	U	U	U	U	U	U	U	U

Undetected

= Estimated concentrations of tentatively identified compounds

*Methylene chloride was detected in the sample as well as in the laboratory blank. Background contribution, if adjusted for sample dilution calculates to an estimated 40 ppb of methylene chloride.

E: Analytes detected in both the sample and laboratory blank indicate laboratory contamination and are therefore not included in this table.

rce: First Environment, August 1989a

302831

TABLE 3.14

ANALYTICAL RESULTS
SOIL SAMPLING IN
THE DEGREASER PIT, ALLEYWAY, SCALE ROOM AND QUONSET HUT AREAS

LOCATION	SAMPLE	DATE	DEPTH	TCE (ppm)	PCE (ppm)	T-1,2 DCE (ppm)
Degreaser Pit	SS-39	9/21/89	10-14"*	u	u	u
	SS-40	9/21/89	10-14"*	u	u	u
	SS-1	1/17/92	2.5-3'	0.430	0.150	u
	SS-2	1/17/92	2.5-3'	0.180	0.140	u
Alleyway	"At Back Door"	7/24/90	1.5-2'	u	u	3.2
	SS-3	1/20/92	2.5-3'	0.670	0.021	u
Scale Room	"Funnel Area"	7/24/90	14-20"	16.000	0.012	1.100
Quonset Hut	SS-4	1/20/92	2.5-3'	2.300	2.500	u

TCE Trichloroethylene
PCE Tetrachloroethylene
T-1,2 DCE - Trans - 1,2 - Dichloroethylene
U Undetected
* Sample collected below pit invert

NOTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and therefore are not included in this table.

Source: First Environment, 1989c and 1992

302832

TABLE 3.15

FIELD SCREENING RESULTS FOR SOIL VAPOR SAMPLES COLLECTED IN THE DEGREASER PIT AREA

SAMPLE ID SAMPLE DEPTH	VD-1-VP 4.0'	VD-2-VP 3.0'	VD-2-VP 5.0'	VD-3-VP 3.0'	VD-3-VP 5.0'	VD-4-VP 3.0'	VD-5-VP 3.0'	VD-5-VP 5.0'
Trichloroethene	6,000	34,000	17,000	65,000	40,000	30,000	87,000	106,000 (1)
Tetrachloroethene	1,000	11,000	5,000	18,000	8,000	1,000	7,000	8,000

ppb - Parts per billion
(1) - Estimated value; beyond calibration range

Field screen results with Photovac 10S50 in accordance with NJDEPE "Field Delineation of Volatile Contamination using Ambient Temperature Headspace Analysis".
NOTE: Samples collected on December 19 and 20, 1991 and January 10 and 17, 1992

Source: First Environment, 1992

TABLE 3.15 (continued)
FIELD SCREENING RESULTS FOR SOIL VAPOR SAMPLES COLLECTED
IN THE DEGREASER PIT AREA

SAMPLE ID SAMPLE DEPTH	VD-6-VP 3.0'	VD-7-VP 3.0'	VD-8-VP 3.0'	VD-9-VP 3.0'	VD-9-VP 5.0'	VD-10-VP 3.0'	VD-11-VP 3.0'	VD-11-VP 5.0'
Trichloroethene	54,000	1,000	36,000	125,000(1)	90,000	105,000(1)	16,000	7,000
Tetrachloroethene	40,000	1,000	32,500	14,000	25,000	12,000	5,000	5,000

ppb - Parts per billion
(1) - Estimated value; beyond calibration range

Field screen results with Photovac 10S50 in accordance with NJDEPE "Field Delineation of Volatile Contamination using Ambient Temperature Headspace Analysis".

NOTE: Samples collected on December 19 and 20, 1991 and January 10 and 17, 1992

Source: First Environment, 1992

TABLE 3.15 (continued)
FIELD SCREENING RESULTS FOR SOIL VAPOR SAMPLES COLLECTED
IN THE DEGREASER PIT AREA

SAMPLE ID SAMPLE DEPTH	VD-12-VP 3.0'	VD-13-VP 3.0'	VD-14-VP 3.0'	VD-15-VP 3.0'	VD-16-VP 3.0'	VD-17-VP 3.0'	VD-17-VP 5.0'	VD-18-VP 3.0'	VD-19-VP 3.0'
Trichloroethene	110,000(1)	94,000	90,000	54,000	80,000	94,000	24,000	96,000	80,000
Tetrachloroethene	75,000	93,000	97,000	80,000	80,000	15,000	1,000	55,000	20,000

ppb = Parts per billion
(1) = Estimated value; beyond calibration range

Field screen results with Photovac 10S50 in accordance with NJDEPE "Field Delineation of Volatile Contamination using Ambient Temperature Headspace Analysis".

NOTE: Samples collected on December 19 and 20, 1991 and January 10 and 17, 1992

Source: First Environment , 1992

TABLE 3.16

FIELD SCREENING RESULTS FOR SOIL VAPOR SAMPLES COLLECTED IN THE ALLEYWAY, SCALE ROOM, QUONSET HUT AND LOADING DOCK AREAS

LOCATION	SAMPLE	DATE	DEPTH	TCE*	PCE*	T-1,2-DCE*
Alleyway	"Back Door Area"	7/24/90	10"	u	u	u
	"At Back Door"	7/24/90	18-24"	0.006	u	u
	AL-1	12/19/91	18"	0.090	0.015	u
	AL-2	12/19/91	12-18"	0.630	u	u
	AL-3	12/19/91	12-18"	2.400	u	u
	AL-4-VP	1/13/92	3'	20.000	u	u
	AL-5-VP	1/13/92	3'	60.000	u	u
	AL-6-VP	1/13/92	3'	5.000	u	u
	AL-7-VP	1/13/92	3'	5.000	u	u
Scale Room	"Funnel Pipe"	7/24/90	---	u	u	u
	"Scale Pit Bottom Sludge"	7/24/90	---	u	u	u
	"Funnel Area"	7/24/90	14-20"	4.580	u	u
Quonset Hut	QH-1	12/19/91	14-18"	0.320	<0.010	u
	QH-2	12/19/91	14-18"	1.710	2.500	u
	QH-3	12/19/91	14-18"	0.950	0.100	u
	QH-4	12/19/91	14-18"	0.390	u	u
Loading Dock	LD-1-VP	1/13/92	3'	<1.000	u	u
	LD-2-VP	1/13/92	3'	u	u	u
	LD-3-VP	1/13/92	3'	u	u	u

TABLE 3.16 (continued)

FIELD SCREENING RESULTS FOR SOIL VAPOR SAMPLES COLLECTED IN THE ALLEYWAY, SCALE ROOM, QUONSET HUT AND LOADING DOCK AREAS

u Undetected
--- Not applicable
TCE Trichloroethylene
PCE Tetrachloroethylene
T-1,2 - DCE - Trans - 1,2 - Dichloroethylene
* Results presented in parts per million (ppm)

NOTE: Field screen results with Photovac 10S50 or 10S70 in accordance with NJDEP "Field Delineation of Volatile Contamination Using Ambient Temperature Headspace Analysis"

Source: First Environment, 1992

302837

Table 3.17
Summary of Groundwater Sampling Results
Shallow Monitoring Wells

PARAMETERS	MW1S (6/30/87)	MW1S (8/7/87)	MW2S (6/30/87)	MW2S (8/7/87)	MW3S (7/2/87)	MW3S (8/7/87)
VOLATILE ORGANIC COMPOUNDS (ppb)						
Trans-1,2-dichloroethylene	130	43	51	97	N.D.	N.D.
Trichloroethylene	230	78	100	280	10	15
Tetrachloroethylene	22	N.D.	N.D.	28	50	82
Total	382	121	151	405	60	97
BASE/NEUTRALS + 15	N.D.	*	N.D.	*	N.D.	*
PRIORITY POLLUTANT METALS (ppm)						
Aresnic	0.007	N.D.	0.014	N.D.	0.014	N.D.
Chromium	0.009	0.014	0.028	0.02	0.019	N.D.
Copper	0.04	0.012	0.07	0.025	0.04	N.D.
Lead	0.023	0.015	0.047	0.025	0.109	N.D.
Zinc	0.09	0.07	0.017	0.08	0.14	0.04
Nickel	N.D.	0.11	N.D.	0.16	N.D.	N.D.
PETROLEUM HYDROCARBONS (ppb)	N.D.	*	N.D.	*	N.D.	*
FIELD MEASUREMENTS						
ph	8.8	*	8.8	*	*	*
Specific Conductance (ohms/cm)	496	*	193	*	*	*
Temperature (°C)	11.3	*	17	*	*	*

* Parameter Not Tested for
N.D. Not detected
** Identified but below detection limit

Source: MES, 1987

302838

SHALLOW GROUNDWATER SAMPLING RESULTS
DECEMBER 14, 1988

PLE LOCATION	MW-1S	MW-2S	MW-3S	MW-5S	MW-6S	DUP (MW-2S)	TRIP BLANK	FIELD BLANK
atile Organics (ppb)								
rgeted Peaks								
-1,2-Dichloroethylene	13	320	u	6	24	310	u	u
hloroform	u	u	u	u	3	u	u	u
arbon Tetrachloride	u	u	u	u	12	u	u	u
richloroethylene	74	430	15	260	41	460	u	u
etrachloroethylene	u	41	89	51	150	40	u	u
n-targeted Peaks	u	u	u	u	u	u	u	u
e/Neutrals (ppb)								
rgeted Peaks								
is(2-ethylhexyl)phthalate	--	--	--	5	u	--	--	u
i-n-butyl phthalate	--	--	--	1	u	--	--	u
n-targeted Peaks (1)								
olecular sulfur	--	--	--	4	u	--	--	u
yclohexadecane	--	--	--	u	10	--	--	u
als (ppm)								
rsenic	--	--	--	0.021	0.009	--	--	u
admium	--	--	--	0.002	u	--	--	u
hromium	--	--	--	0.075	0.021	--	--	u
opper	--	--	--	0.180	u	--	--	u
ead	--	--	--	0.149	0.034	--	--	u
ercury	--	--	--	0.0006	u	--	--	u
ickel	--	--	--	0.117	u	--	--	u
inc	--	--	--	0.365	0.079	--	--	u
troleum Hydrocarbons (ppm)	--	--	--	u	u	--	--	u

* Not analyzed
* Estimated value, below the detection limit
* Undetected

1) = Estimated concentrations of tentatively identified compounds

OTE: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

ource: First Environment, 1989a

302839

TABLE 3.19
ANALYTICAL RESULTS
SHALLOW GROUNDWATER SAMPLING
SEPTEMBER 1989

SAMPLE LOCATION SAMPLE DATE	MW-1S 9/25/89	MW-2S 9/27/89	MW-3S 9/25/89	MW-4S 9/25/89	MW-5S 9/25/89
Volatile Organics (ppb)					
Targeted Peaks					
1,1-Dichloroethylene	u	u	u	u	7
Total-1,2-Dichloroethylene	85	180	15	460	u
Chloroform	u	u	u	u	u
Carbon Tetrachloride	u	u	u	u	u
Trichlorethylene	100	260	12	350	46
Tetrachloroethylene	u	29	97	u	21
Non-targeted Peaks (1)	u	250	u	u	u

u - Undetected
* - Estimated value, below detection limit

(1) - Estimated concentration of tentatively identified compounds

Note: Analytes detected in both the sample and laboratory blank indicate laboratory caused contamination and are therefore not included in this table.

Source: First Environment, 1989c

302840

TABLE 3.23

ANALYTICAL RESULTS
NJDEP SAMPLING ACTIVITIES
OCTOBER 9, 1986

Location	**Drywell**	**Tank Contents**
Sample	PM005	PM006
Volatile Organic Compounds + 15 (ug/l)		
Benzene	u	50
Ethylbenzene	u	140
Methylene Chloride	1,510*	116*
Toluene	u	413
Total Xylenes	u	8,100
Library Search(1)	3,300	4,370
Base/Neutral/Acid Extractable Compounds + 25 (ug/l)		
Bis(2-ethyl hexyl) phthalate	80.7	---
Butyl benzyl phthalate	33.2	---
Naphthalene	5,980	---
Library Search (1)	35,474	---
Petroleum Hydrocarbons (mg/l)	4.7	---

--- Not-analyzed for parameter
u Undetected
* Contaminant also detected in blank and is likely due to laboratory contamination

Source: ETC, 1986

302841

302842

ATTACHMENT 21

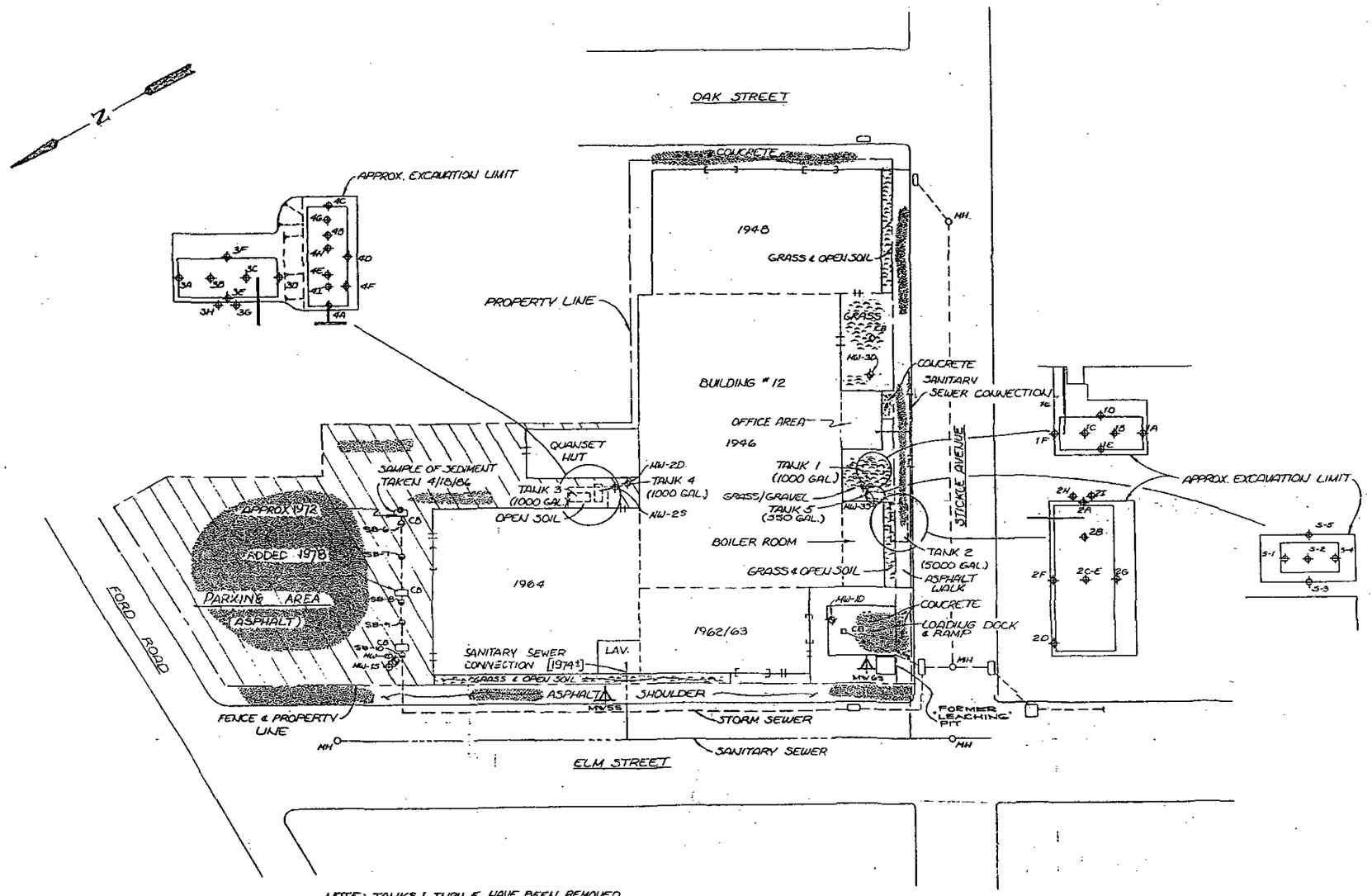
HISTORIC SAMPLE LOCATION FIGURES

302843

ATTACHMENT 21

HISTORIC SAMPLE LOCATION FIGURES

3.4 Underground Storage Tanks - Sample Locations
3.5 Catch Basin/Storm Sewer - Sample and Excavation Locations
3.6 Leaching Pit - Post Excavation Soil Sample Locations
3.7 Degreaser Pit - Sample Locations
3.8 Alley Way - Sample Locations
3.9 Scale Room - Sample Locations
3.10 Quonset Hut - Sample Locations
3.11 Loading Dock - Sample Locations
3.12 Monitoring Well Locations



NOTE: TANKS 1 THRU 5 HAVE BEEN REMOVED

LEGEND

- EXISTING DEEP MONITOR WELL
- EXISTING SHALLOW MONITOR WELL
- POST EXCAVATION SOIL SAMPLES
- PROPOSED SHALLOW MONITORING WELL
- PROPOSED POST EXCAVATION SOIL SAMPLE

302845

SCALE

0 60'

SOURCE: FIRST ENVIRONMENT

THE WHITMAN Companies, INC.	KLOCKNER & KLOCKNER PROPERTY ROCKAWAY BOROUGH MORRIS COUNTY, NJ	
	UNDERGROUND STORAGE TANKS SAMPLE LOCATIONS	
ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG.#:	DATE: NOV. 1995	FIGURE: 3.4

LEGEND

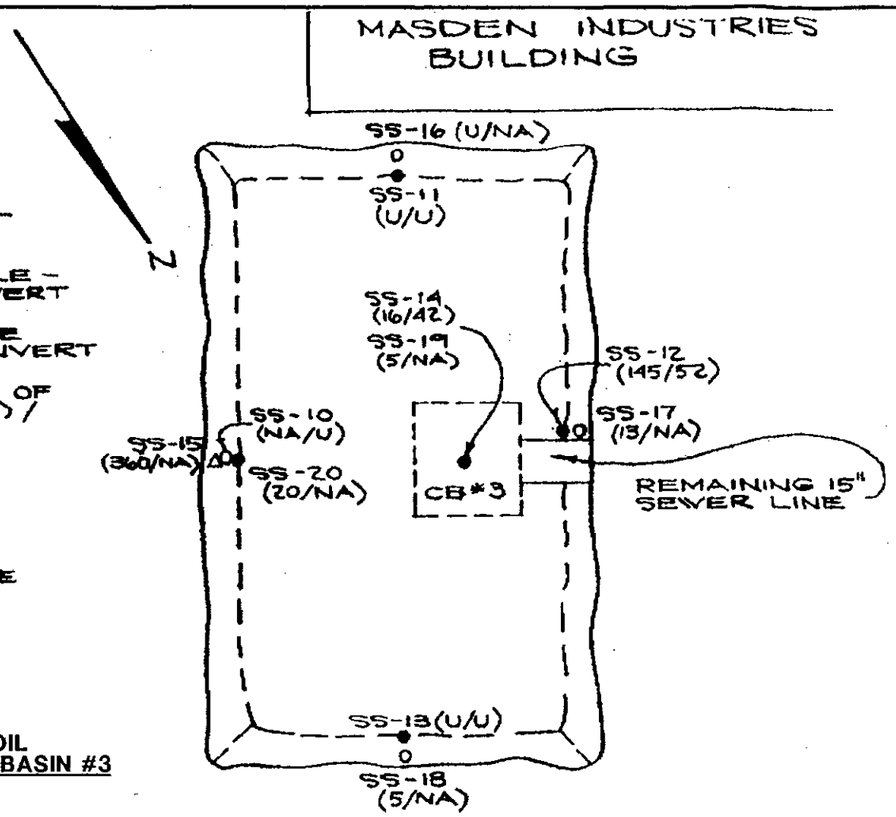
- ● INVERT SAMPLE – 9 FOOT DEPTH
- o SIDEWALL SAMPLE – 1 FOOT ABOVE INVERT
- Δ SIDEWALL SAMPLE 2 FOOT ABOVE INVERT
- (100/10) CONCENTRATIONS OF TOTAL VOC'S (ppb) / PHC'S (ppm)
- N/A NOT ANALYZED
- U UNDETECTED

NOTE

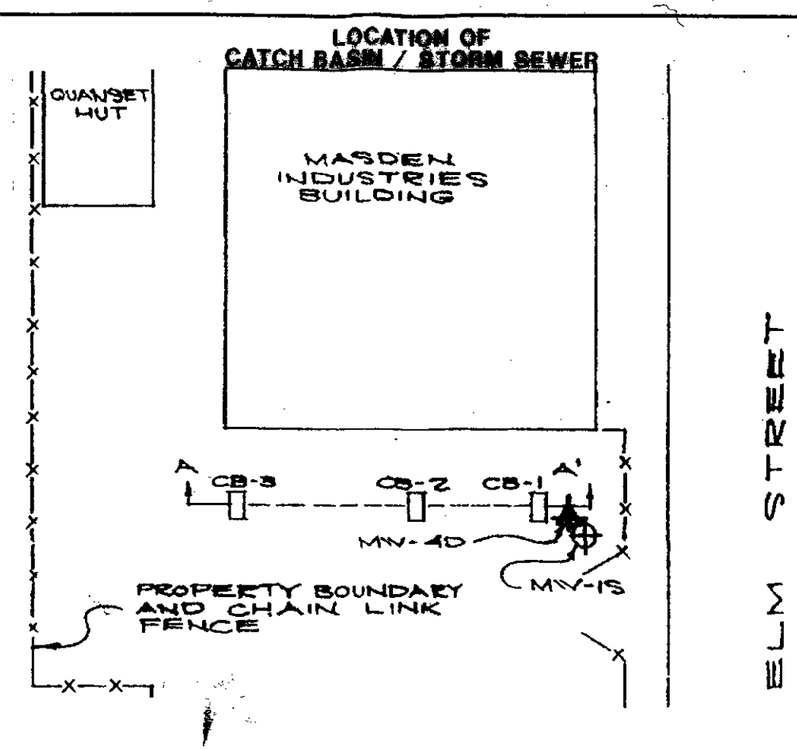
1) SS-19 IS A DUPLICATE OF SS-14

SCALE

1"=4'



POST EXCAVATION SOIL
SAMPLE LOCATIONS CATCH BASIN #3



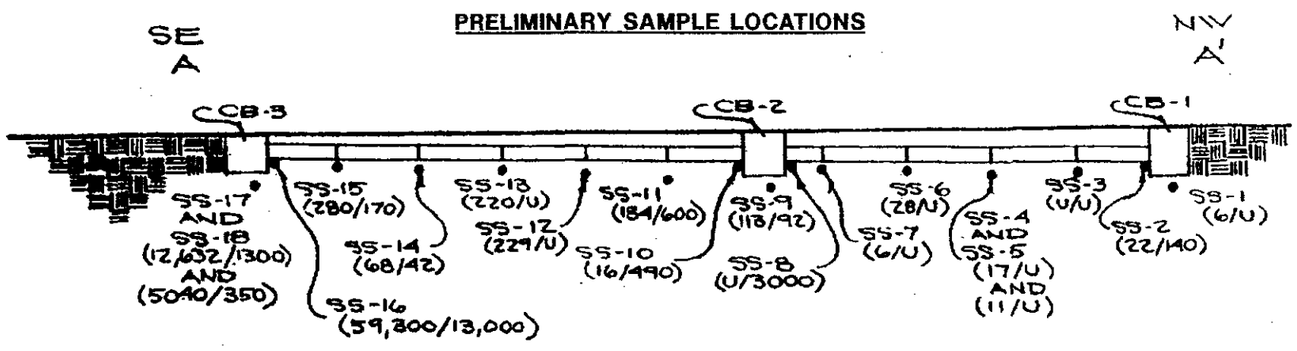
LEGEND

- DEEP MONITORING WELL LOCATION
- SHALLOW MONITORING WELL LOCATION
- A A' CROSS-SECTION LOCATION

SCALE

1"=30'

PRELIMINARY SAMPLE LOCATIONS



LEGEND

- ● SOIL SAMPLING LOCATION
- GROUND SURFACE
- (1500/300) CONCENTRATIONS OF TOTAL VOC'S (ppb) / PHC'S (ppm)
- U UNDETECTED

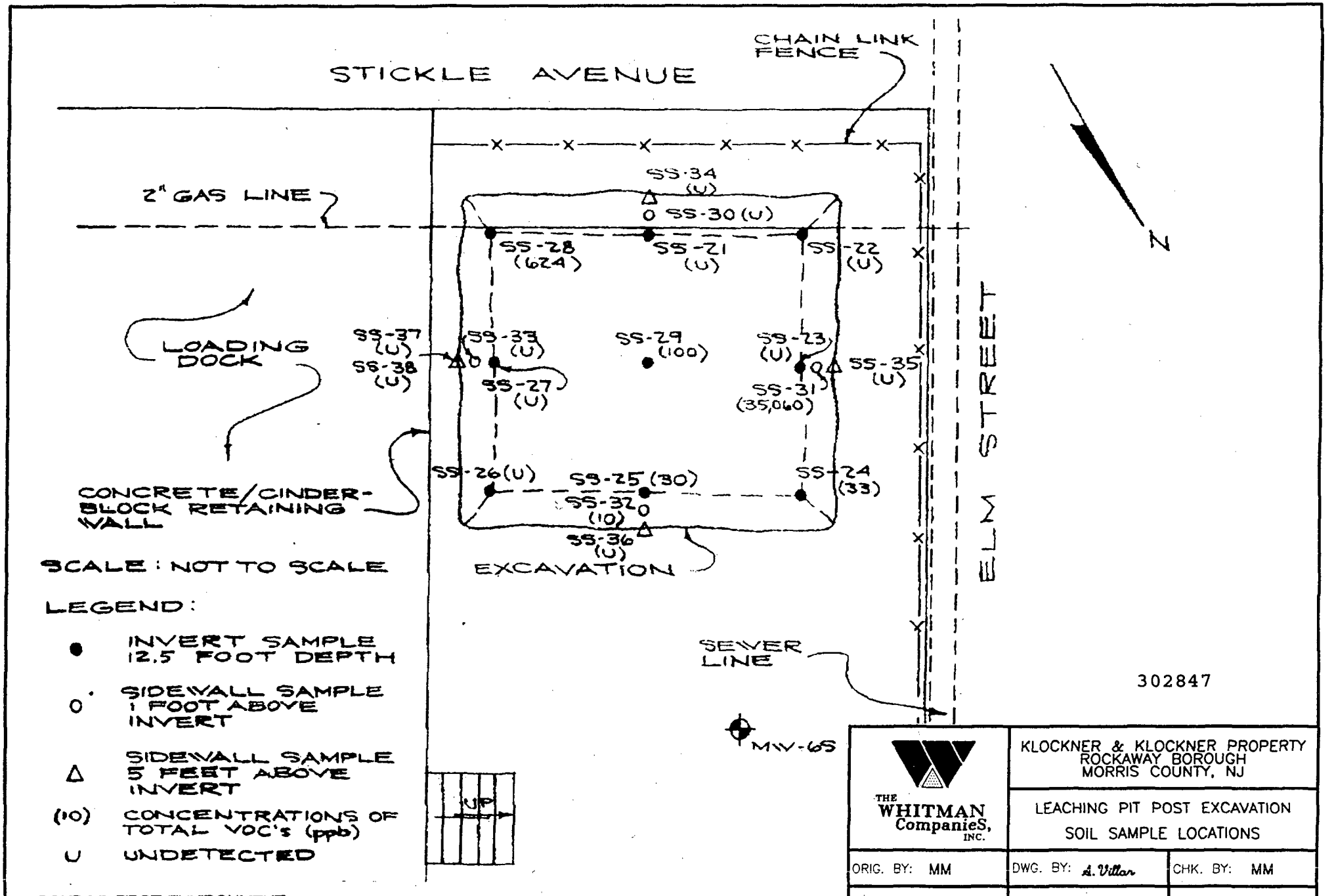
SCALE

0 10'

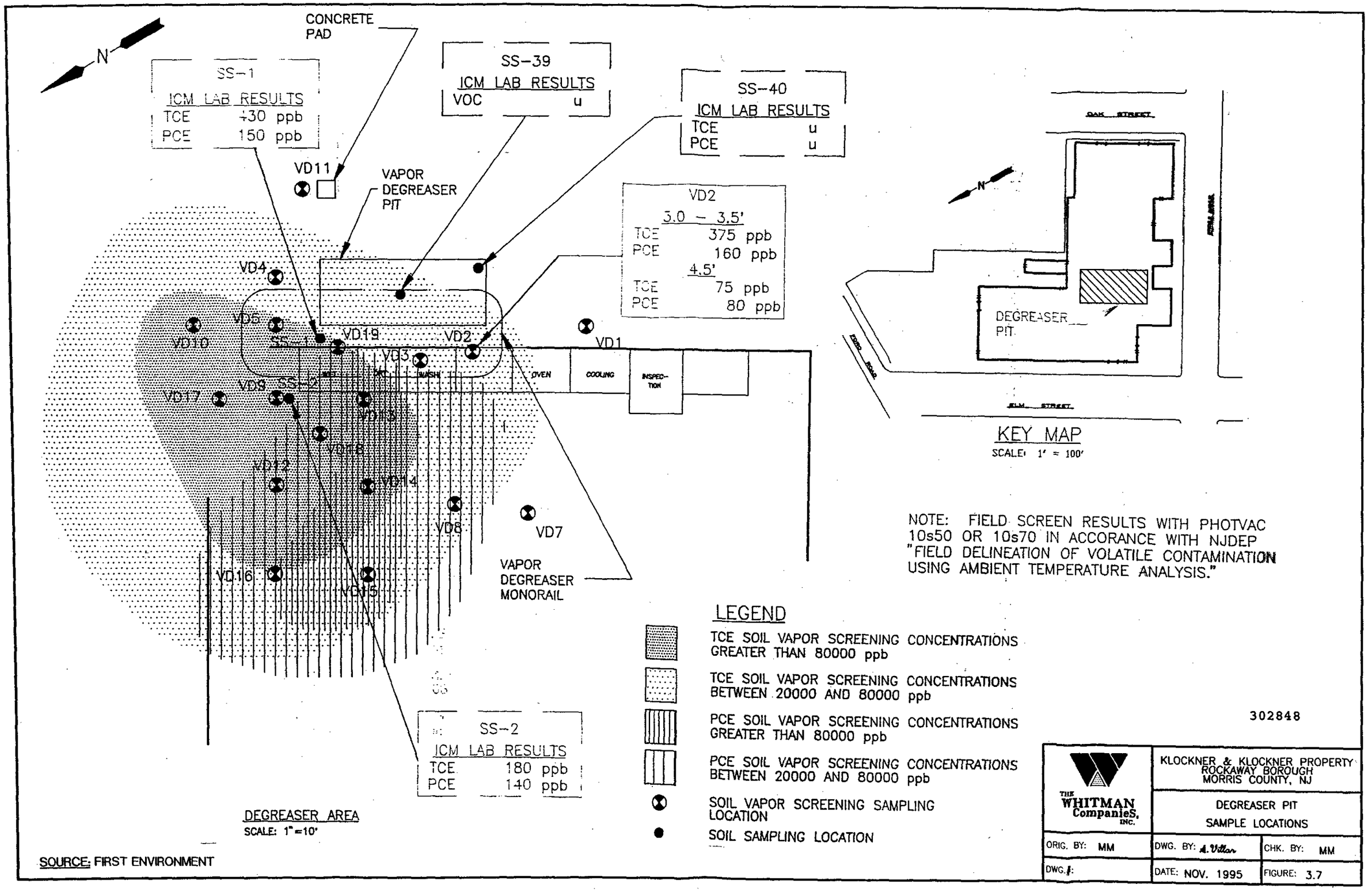
SOURCE: FIRST ENVIRONMENT

302846

THE WHITMAN COMPANIES, INC.	KLOCKNER & KLOCKNER PROPERTY ROCKAWAY BOROUGH MORRIS COUNTY, NJ	
	CATCH BASIN / STORM SEWER SAMPLE & EXCAVATION LOCATIONS	
ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG. #:	DATE: NOV. 1995	FIGURE: 3.5



SOURCE: FIRST ENVIRONMENT



SOURCE: FIRST ENVIRONMENT

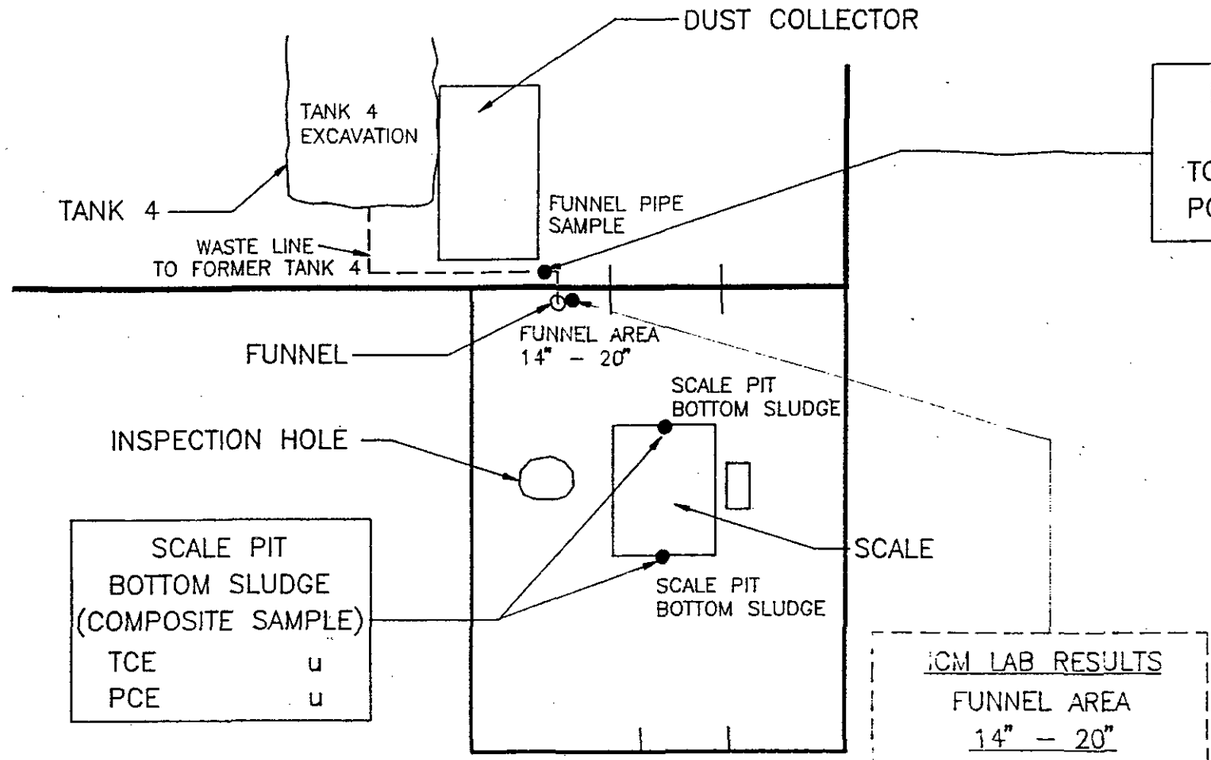
THIS MAP IS AN OVERSIZED DOCUMENT. IT IS AVAILABLE FOR REVIEW AT THE U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NEW YORK, NY 10007

NOTE: FIELD SCREEN RESULTS WITH PHOTOVAC 10s50 OR 10s70 IN ACCORDANCE WITH NJDEPE "FIELD DELINEATION OF VOLATILE CONTAMINATION USING AMBIENT TEMPERATURE HEADSPACE ANALYSIS."

302849

SOURCE: FIRST ENVIRONMENT

THE WHITMAN Companies, INC.	KLOCKNER & KLOCKNER PROPERTY ROCKAWAY BOROUGH MORRIS COUNTY, NJ	
	ALLEYWAY SAMPLE LOCATIONS	
ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG.#:	DATE: NOV. 1995	FIGURE: 3.8



FUNNEL PIPE SAMPLE

TCE	u
PCE	u

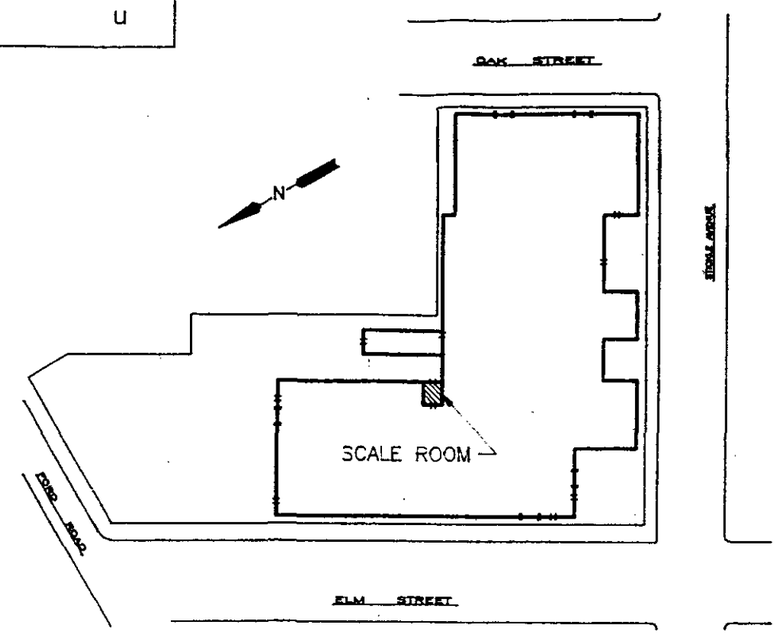
SCALE ROOM

SCALE: 1" = 5'

ICM LAB RESULTS

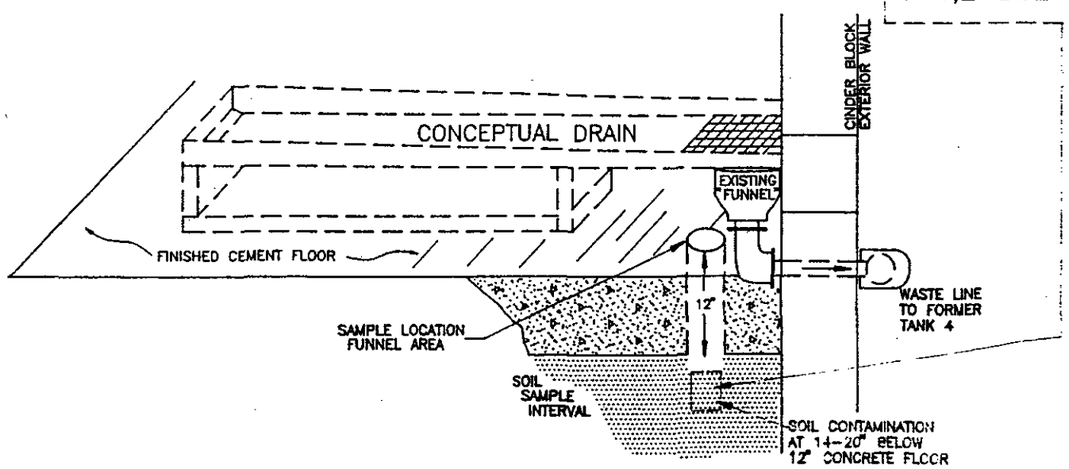
FUNNEL AREA 14" – 20"

TCE	16,000 ppb
PCE	12 ppb
T-1,2-DCE	1,100 ppb



KEY MAP

SCALE: 1" = 100'



CROSS SECTION VIEW

SCALE: NTS

NOTE: FIELD SCREENING RESULTS WITH PHOTOVAC 10s50 OR 10s70 IN ACCORDANCE WITH NJDEP "FIELD DELINEATION OF VOLATILE CONTAMINATION USING AMBIENT TEMPERATURE HEADSPACE ANALYSIS."

LEGEND

●	SAMPLE LOCATION
TCE	TRICHLOROETHYLENE
PCE	TETRACHLORORTHYLENE
T-1,2-DCE	TOTAL 1,2-DICHLOROETHYLENE
ppb	PARTS PER BILLION
u	UNDETECTED

302850

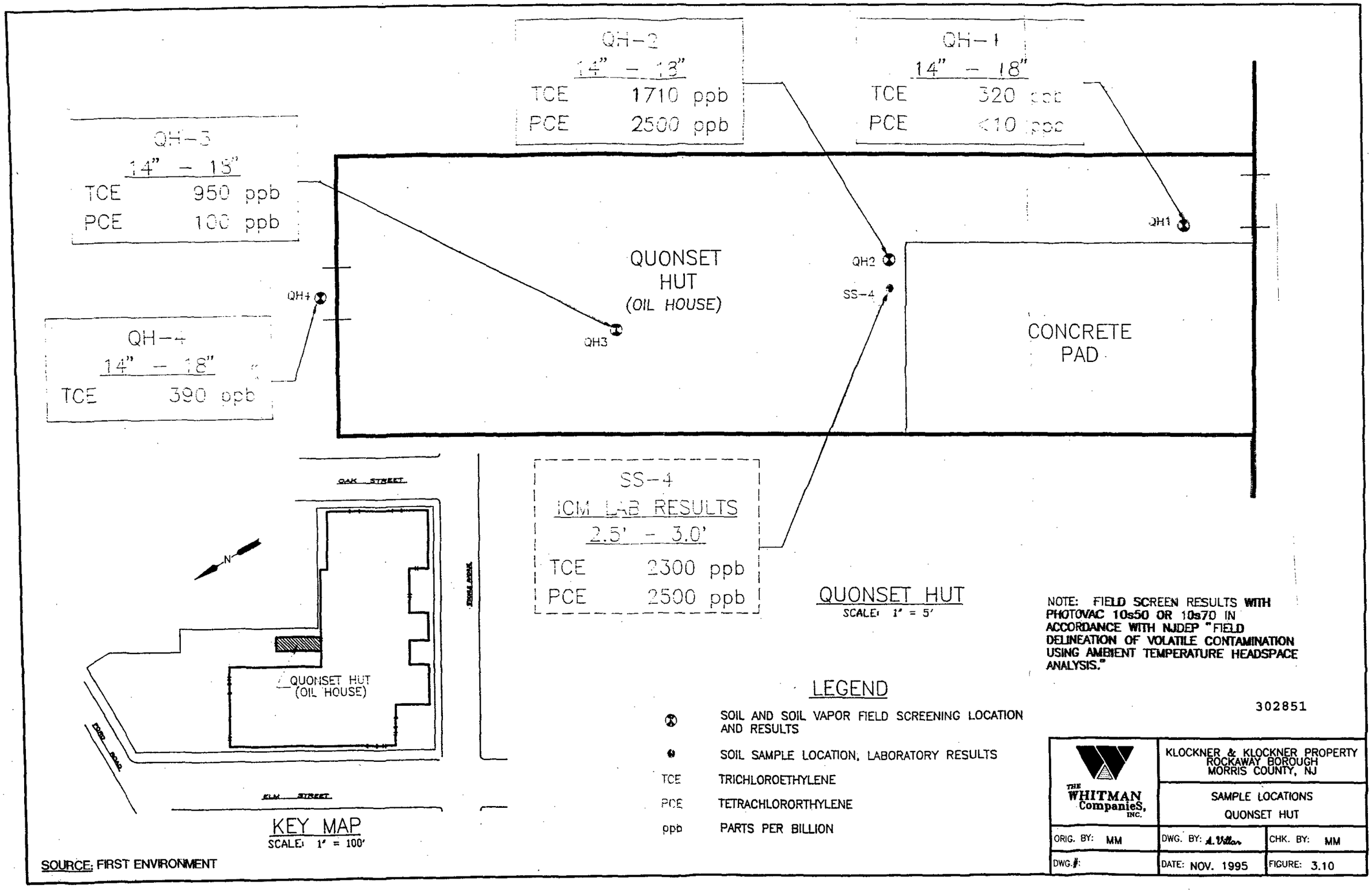
THE WHITMAN CompanieS, INC.

KLOCKNER & KLOCKNER PROPERTY
ROCKAWAY BOROUGH
MORRIS COUNTY, NJ

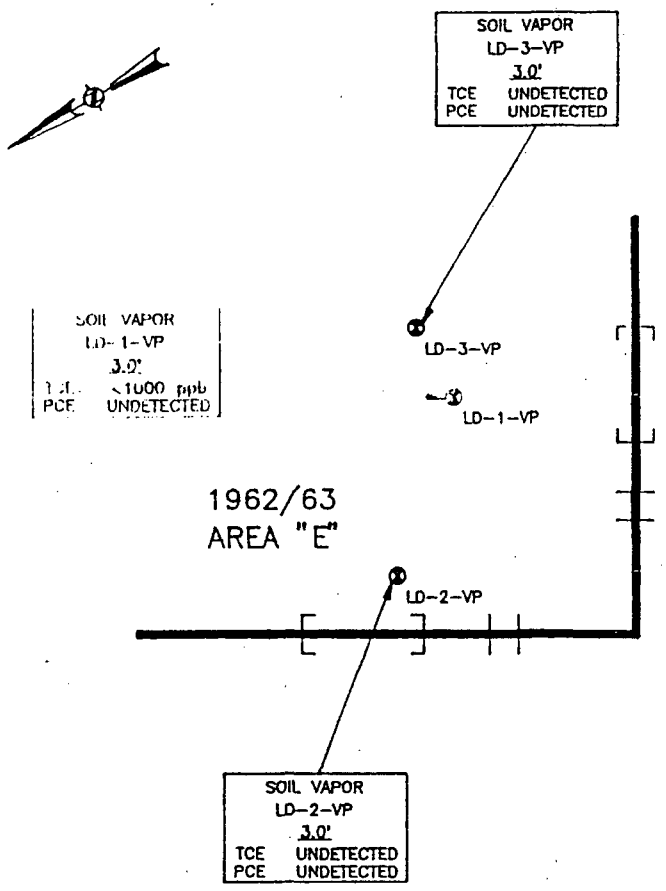
SAMPLE LOCATIONS
SCALE ROOM

ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG.#:	DATE: NOV. 1995	FIGURE: 3.9

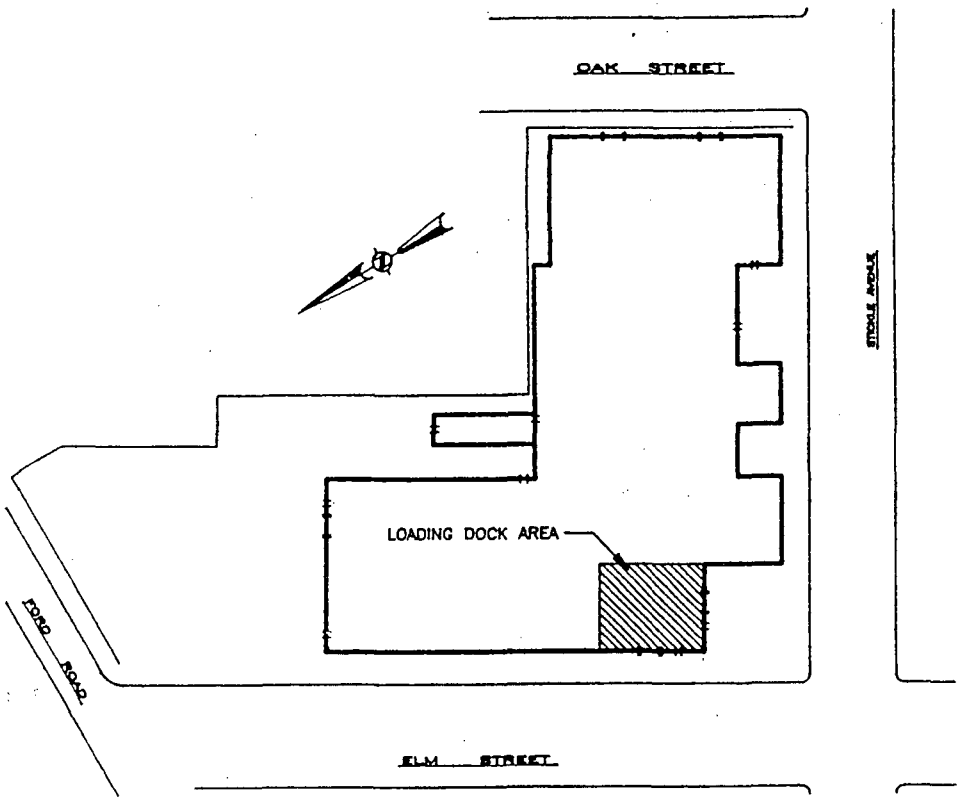
SOURCE: FIRST ENVIRONMENT



SOURCE: FIRST ENVIRONMENT



LOADING DOCK
SCALE: 1" = 20'



KEY MAP
SCALE: 1" = 100'

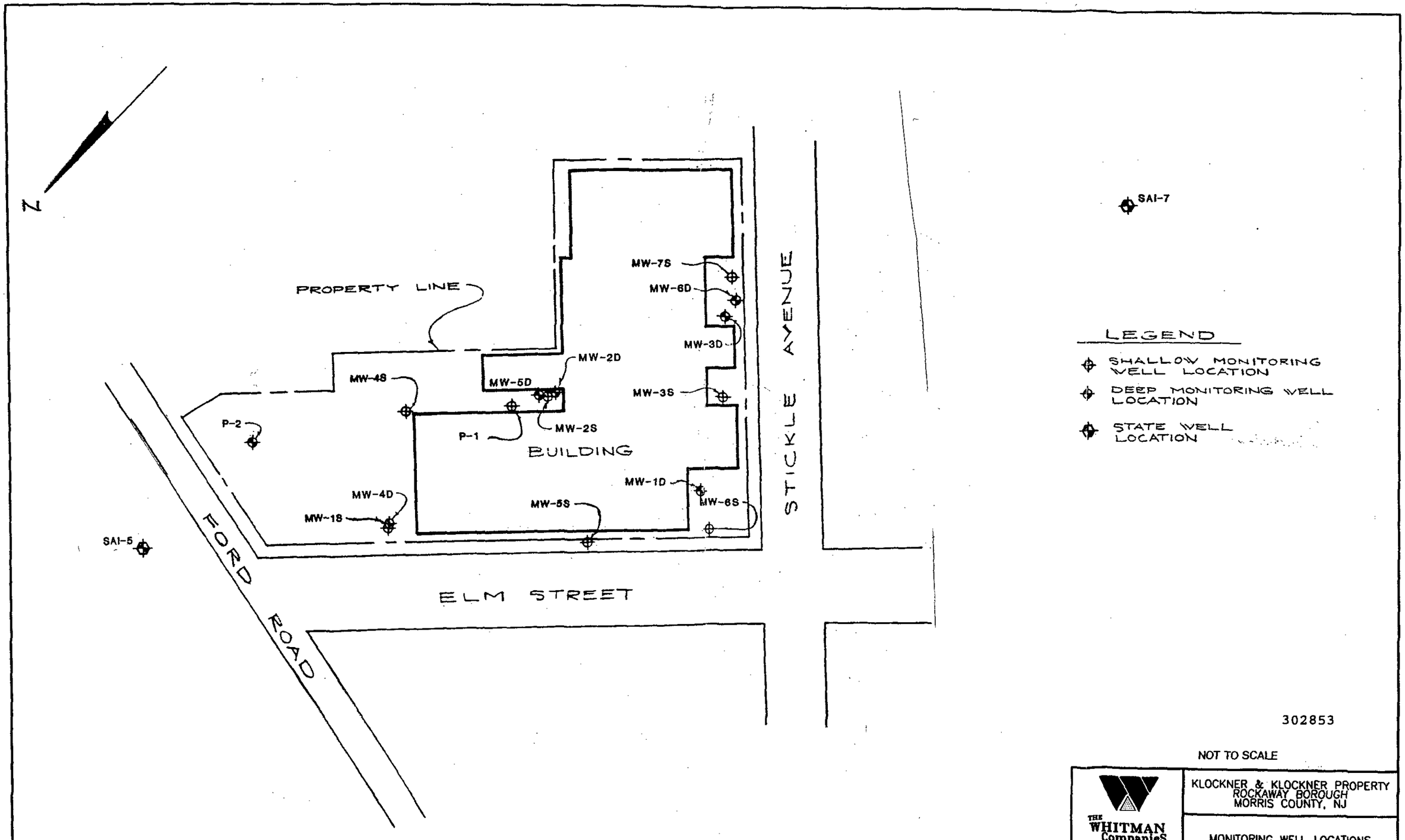
NOTE: FIELD SCREEN RESULTS WITH PHOTOVAC 10s50 OR 10s70 IN ACCORDANCE WITH NJDEP "FIELD DELINEATION OF VOLATILE CONTAMINATION USING AMBIENT TEMPERATURE HEADSPACE ANALYSIS."

302852

LEGEND

- ⊗ SOIL AND SOIL VAPOR FIELD SCREENING LOCATION AND RESULTS
- TCE TRICHLOROETHYLENE
- PCE TETRACHLOROETHLENE
- ppb PARTS PER BILLION

THE WHITMAN CompanieS, INC.	KLOCKNER & KLOCKNER PROPERTY ROCKAWAY BOROUGH MORRIS COUNTY, NJ	
	SAMPLE LOCATIONS LOADING DOCK	
ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG.#:	DATE: NOV. 1995	FIGURE: 3.11



302853

NOT TO SCALE

SOURCE: FIRST ENVIRONMENT

THE WHITMAN CompanieS, INC.	KLOCKNER & KLOCKNER PROPERTY ROCKAWAY BOROUGH MORRIS COUNTY, NJ	
	MONITORING WELL LOCATIONS	
ORIG. BY: MM	DWG. BY: A. Villar	CHK. BY: MM
DWG.#:	DATE: NOV. 1995	FIGURE: 3.12

ATTACHMENT 22

EPA COMMENT LETTERS AND WHITMAN RESPONSE LETTERS

302855

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

RECEIVED
APR 12 2004
PIE WHITMAN COMPANIES

APR 07 2004

Klockner
Metlitz

EXPRESS MAIL
RETURN RECEIPT REQUESTED

Mr. Michael Metlitz
116 Tices Lane
Unit B-1
East Brunswick, New Jersey 08816

Re: Draft Remedial Investigation Report for the Rockaway Borough Wellfield Superfund Site, Morris County, New Jersey

Dear Mr. Metlitz:

The U.S. Environmental Protection Agency (EPA) and New Jersey Department of Environmental Protection (NJDEP) have reviewed the Whitman Companies' January 26, 2004 Draft First Amended Remedial Investigation Report for the Klockner and Klockner portion of the Rockaway Borough Wellfield site. EPA's comments were fully addressed in this report. NJDEP has one further comment which is set forth in the enclosed letter. The Final Remedial Investigation Report is due 30 days after receipt of this letter.

Should you have any questions or comments on any of the above, please contact Brian Quinn, of my staff, at 212-637-4381.

Sincerely yours,

Carole Petersen

Carole Petersen, Chief
New Jersey Remediation Branch

Enclosure

cc: David L. Isabel, Riker, Danzig, Scherer, Hyland & Perretti, w/encl.
Donna Gaffigan, NJDEP, w/encl.

302856

State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

March 18, 2003

Brian Quinn, Project Manager
USEPA, Region II
NJ Remedial Branch
290 Broadway, 19th Floor
New York, NY 10007-1866

Re: Draft First Amended Remedial Investigation Report
Rockaway Borough Wellfield Contamination Site
Rockaway Borough, Morris County

Dear Mr. Quinn,

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the Draft First Amended Remedial Investigation Report for Operable Unit #2 for the Property of Klockner & Klockner dated January 2004.

Upon review of the Report, NJDEP finds that its August 4, 2003 comments have been adequately addressed, with the exception of the following.

In Table 32, the list of Location-Specific Applicable or Relevant and Appropriate Requirements must include the New Jersey Flood Hazard Area Control Act (N.J.S.A. 58:16A-50) and the implementing regulations (N.J.A.C. 7:13).

If you have any questions regarding this letter, please contact me at (609) 633-1494.

Sincerely,

Donna L. Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Case Management

C: K. Kunze, BEERA
D. Clark, BGWPA

302857

THE
WHITMAN
COMPANIES, INC.

Corporate Headquarters
116 Tices Lane, Unit B-1
East Brunswick, NJ 08816

Tel: 732.390.5858 • Fax: 732.390.9496
Email: whitman@whitmanco.com
Internet: www.whitmanco.com

January 26, 2004

Chief, New Jersey Superfund Branch I
Emergency & Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway, Floor 19
New York, NY 10007

Attn: Brian Quinn, Project Manager

RE: Draft Remedial Investigation Report
Klockner & Klockner
Rockaway Borough Wellfield Superfund Site
Administrative Order on Consent ("AOC")
Index No. II-CERCLA-95-0104
Whitman Project #95-03-02

Dear Mr. Quinn:

In compliance with Paragraph 31 of the above AOC and Task VII of the Statement of Work, enclosed are two (2) copies of the Draft First Amended Remedial Investigation Report (FARIR) for the above referenced site. The Report has been revised to address the November 22, 2003 comment letter (November Comments) from the United States Environmental Protection Agency (EPA) concerning the June 2003 Draft Remedial Investigation Report (RIR). Revisions are presented in the FARIR in **bold** print. Responses to the November Comments are provided below.

The FARIR consists of revised text from the RIR and revised or new tables, figures and attachments. All tables, figures, attachments and volumes will be provided with the final copies of the Remedial Investigation Report.

Responses to EPA's November Comments are presented below. The November Letter included August 4, 2003 comments (August Comments) from the New Jersey Department of Environmental Protection (NJDEP). Responses to the August Comments are also included.

302858

302859

1.0 EPA COMMENTS

EPA Comment #1: A schedule of upcoming milestones needs to be included in this report.

Response: The requested schedule is included as Table 33 in the FARIR.

EPA Comment #2: Section 1.2 -Report Organization, Page 2 - The listing of the report organization does not correspond with the Table of Contents or report sections for Section 6 to Section 10.

Response: The appropriate change has been made in the FARIR.

EPA Comment #3: **Section 2.3 -Previous Investigation** - An updated explanation needs to be included in this section or added as an attachment.

Response: Section 2.3 has been revised in the FARIR to refer to Attachment 26 which includes the Previous Investigation section of the May 1996 First Amended Summary Report. Section 2.3 has also been updated to include a referral to Section 5 of the FARIR where information on previous investigation activities is presented under each individual area.

EPA Comment #4: Section 3.6 -Field Quality Assurance/Quality Control (QA/QC) Samples, Page 7 - The methods used to calculate Relative Percent Differences for duplicate pairs in which one sample result was non-detect and the other sample result was detected needs to be included in this section. This was noted in the tables, but not explained in the text. The text should state the rationale for and validity of using the Practical Quantitation Limit as the value used in the calculation when one result of a duplicate pair was non-detect.

Response: The appropriate change has been made in Section 3.6 of the FARIR.

EPA Comment #5: Section 6.0 – The discussion regarding the potential fate and transport of soil contaminants lacks the level of detail needed to evaluate contaminant migration and the impact to ground water beneath the site.

Response: The appropriate changes have been made in Section 6.0 of the FARIR.

EPA Comment #6: Section 6.1 -Potential Routes of Migration, Page 41 - The potential for the storm drain and sewer system to transport and/or effect transport of site contaminants needs to be addressed in this section.

Response: The appropriate change has been made in Section 6.1 of the FARIR.

302860

EPA Comment #7: Section 6.1.1 - Vapor Migration, Page 42 - Units are incorrectly stated for Henry's Law Constants. The units should be atm-m^3/mole and it appears the superscript value for the power of ten used in the scientific notation is missing. Also, the justification or citation for the statement in the first sentence needs to be stated in the text. "Predominantly capped" needs to be defined in this section and a justification/rationale explaining why "volatilization is not an issue" as stated in the 4th sentence needs to be presented in this section.

Response: The appropriate changes have been made in Section 6.1.1 of the FARIR.

EPA Comment #8: Section 6.1.2 -Soil Migration, Page 42 - The text should include the definition of: "primary migration"; "PHAL compounds"; and "high K values". The value in the text and Table 29 needs to be specified. The basis for the statements made in the last two sentences at the bottom of the page needs to be stated in the text.

Response: The appropriate changes have been made in Section 6.1.2 of the FARIR.

EPA Comment #9: Section 6.2 -Contaminant Persistence, Page 43 - In addition to the factors discussed in Section 6.2, contaminant persistence is also affected by non-degradation/transformation related factors, such as dilution, movement by diffusion, gravity, etc. These additional factors should be addressed in this section. Half-life is discussed, but data are not provided for the contaminants of concern. It is stated in the 3rd paragraph that a "qualitative evaluation was conducted," but details are not provided as to what this evaluation consisted of, what data were evaluated, or how the evaluation was performed. All of these excluded factors need to be addressed/discussed in this section.

Response: The appropriate changes have been made in Section 6.2 of the FARIR.

EPA Comment #10: Section 9.1 -Building 12, Page 47 - The dimensions of the TCE-impacted area and approximate volume should be presented.

Response: The requested information is included in Section 9.1 of the FARIR.

EPA Comment #11: Section 9.1 -Building 12, Page 48 - The dimensions of the PCE-impacted areas and approximate volumes should be presented along with references to site physical features.

Response: The requested information is included in Section 9.1 of the FARIR.

EPA Comment #12: Section 9.3 -Fate and Transport, Page 48 - The statement "Therefore the soil contamination identified at the Klockner and Klockner site does not appear to be the primary continuing source of the regional groundwater contamination present below the

site" is not substantiated by the preceding sentences nor by, for that matter, the rest of the information presented in the report.

Response: This statement has been removed from the FARIR. It is noted that dense non-aqueous phase liquid (DNAPL) potentially could be present below the water table and acting as a primary source of ground water contamination. Under the AOC between Klockner and EPA, Klockner is responsible for conducting the RI/FS for the soils above the water table and any contamination below the water table is the responsibility of others.

EPA Comment #13: Table 29 - Physical and Chemical Properties of Contaminants of Concern - Units are incorrectly stated for Henry's Law Constants. The units should be atm-m^3/mole and it appears the superscript value for the power often used in the scientific notation is missing. Also, the Henry's Law Constants presented do not appear to be consistent with the existing published data. All values in Table 29 need to be checked for accuracy and to ensure they are the most currently accepted by the scientific community. The table excludes numerous other important physicochemical properties, such as vapor pressure, density, K_d (for lead), Bio Concentration Factor, and rates for hydrolysis/photolysis/oxidation/biodegration, and/or qualitative statements about susceptibility to each of these, which need to be included. The sources listed at the bottom of the table are not presented in correct citation format, which makes them difficult to locate in Section 10.0.

Response: The appropriate changes have been incorporated in to new Tables 29A and 29B which are included in the Tables section of the FARIR.

EPA Comment #14: Table 30 - Estimated Degradation Potential for Contaminants of Concern - The table provides insufficient detail to evaluate the potential for degradation by each process/factor listed and discussed in Section 6.2 (e.g., photolysis, hydrolysis, oxidation, and biodegradation). Each category needs to be expanded to show the degradation potential for each specific process/factor. Also, the definitions of "Low", "Moderate", and "Low/Moderate" need to be clearly defined in the table and/or within the accompanying text. Sources 1 and 2 listed at the bottom of the table are not listed in the References section.

Response: Section 6.2 and Table 30 have been revised in the FARIR to address EPA's comment.

EPA Comment #15: Figure 11B - The 23 mg/kg contour line should encompass sample location SSAW-4 as the TCE result is 23.2 mg/kg.

Response: The appropriate change has been made to Figure 11B which is included in the Figures section of the FARIR.

302861

302862

Figure 11C -Sample location SSDP-01should be connected to the larger PCE-impacted area to the northeast as there are no points in between to suggest separate areas. The legend has TCE concentration contours listed instead of PCE.

Response: The appropriate changes have been made to Figure 11C which is included in the Figures section of the FARIR.

2.0 NJDEP COMMENTS

NJDEP Comment #1: Upon review of the FACR, NJDEP finds that its August 15,2002 comments (Enclosure 1) were not fully addressed, as indicated below. Since the FACR will not be revised, the changes must appear in the Final RI.

a) Figure 12 stills needs a footnote explaining why soil sample SSAW - 1 is located outside of the 1 ppm TCE isoconcentration line with a concentration of 1.33 ppm. The explanation is given in the last paragraph of Section 5.1.7 on page 23 of Draft RI (page 24 of the FACR), but it must also appear on Figure 12.

Response: The appropriate change has been made to Figure 12 which is included in the Figures section of the FARIR.

b) Page 23 of the Draft RI (page 24 of the FACR) - The last sentence of the last paragraph of Section 5.1.7 should end: "The approximate horizontal and vertical extent of the TCE concentration to the NJSCC is included in Figures 10, 11B, 12 **and 13**."

Response: The appropriate change has been made in Section 5.1.7 of the FARIR.

c) Page 30 of the Draft RI (pages 30-31 of the FACR) - Figure 13 has a new footnote indicating "The TCE result of the sample SSSP-1 was not used in the preparation of the isoconcentration lines because the result is suspect." The explanation as to why SSSP-1 is "suspect" must appear in both Section 5.1.13 and Figure 13.

Response: The appropriate changes have been made in Section 5.1.13 of the FARIR and Figure 13 which is included in the Figures section.

d) Page 30 of the Draft RI (pages 30-31 of the FACR) - The second sentence of the third paragraph should end: "The TCE and PCE results are plotted on Figures 11A, 11B, 11C **and 13**."

Response: The appropriate change has been made in the FARIR.

NJDEP Comment #2. Section 1 -Purpose of Report, page 1 - The second bullet states that one of the purposes of the report is to identify potential applicable or relevant and appropriate requirements (ARARs), but there is no section specifically devoted to the topic. In Section 5.0, page 12 it is stated that a discussion of potential ARARs was presented in Section 4.3 and Table 2 of the June 1997 RI/FS Work Plan. However, the potential ARARs must also be discussed in the separate section of the Draft RI.

Response: The requested discussion of ARARs is included in new Section 8.2 of the FARIR.

NJDEP Comment #3: Section 5.0 -Nature and Extent of Contamination, page 12 - The discussion of the New Jersey Soil Cleanup Criteria (NJSCC) must include the Impact to Ground Water, the Residential Direct Contact and the Non-Residential Direct Contact NJSCC. The discussion should be in a separate section of the Draft RI, as discussed in Comment No.2.

Please note that pursuant to the New Jersey Technical Requirements for Site Remediation, N.J.A.C. 7:26E-4.1(b), NJDEP requires remediation of soil contamination that exceeds the unrestricted use criteria, i.e. the most stringent of either the Impact to Ground Water or the Direct Contact NJSCC.

Response: The requested discussion of ARARs is included in new Section 8.2 of the FARIR.

NJDEP Comment #4: Section 7.0 -Risk Assessment, page 45 - NJDEP provided comments on the Draft Soil RA on October 16, 2002 (Enclosure 2). The Final Soil RA was attached to the RI Report and was not revised to address NJDEP's comments, nor were responses to the comments provided. Although most of the comments were merely deferring issues to EPA, the last two comments warranted response, particularly regarding the toxicity hierarchy used by EPA and the consideration of total chromium/hexavalent chromium as a contaminant of concern requiring remediation.

Please note that NJDEP reviews baseline risk assessments to see if they are completed in accordance with EPA requirements. NJDEP does not rely on the baseline risk assessments to determine the need for remediation at a site.

Response: The Risk Assessment was prepared by the EPA. Therefore, responses concerning the Risk Assessment are deferred to EPA.

302863

NJDEP Comment #5: Section 9.0 - Summary, pages 46-49 - Somewhere, this section must clearly state that the NJSCC were identified as TBCs, that soil contaminants exceed the NJSCC, and that the soil remediation is required, despite the findings of the RA, to eliminate the continuing potential to impact ground water and direct contact.

Response: The appropriate change has been made in the FARIR.

NJDEP Comment #6: Section 9.4 -Baseline Risk Assessment, page 49 - In Section 9.4, the Draft RI states that the risks for soil exposure are below or within acceptable EPA values implying that no action is necessary, but it is followed by a statement that "a remedial action *may* still be necessary." NJDEP disagrees. As discussed above, the NJSCC were identified as TBCs, soil contamination exceeds the NJSCC, therefore, soil remediation is required to eliminate the continuing potential to impact ground water and direct contact.

Response: The appropriate change has been made in the FARIR.

NJDEP Comment #7: Section 9.6 -Conclusion, page 49 - NJDEP disagrees that the Draft RI "identified the need for remediation" at the site. At best it merely *suggested* the need for remediation. In various sections, the Draft RI does discuss the exceedences of the NJSCC but nowhere does it definitively state that remediation is required based on those exceedences and/or the need to eliminate the continuing potential to impact the ground water. The RI needs language that states: Based on the RA, remedial action is not required for the soil contaminants in accordance with CERCLA requirements. However, because the soil contaminants exceed ARARs/TBCs (the NJSCC for both impact to ground water and direct contact) and because the soil is acting as a continuing source of ground water contamination, remedial action is required for the soil.

Response: NJDEP's concern is addressed in Section 9.6 of the FARIR.

Please call our office at (732) 390-5858 if you have any questions or comments.

Very truly yours,

Michael N. Metlitz
Project Manager

cc: Frances Zizila, Assistant Regional Counsel, EPA
Dan Klockner, Klockner & Klockner
William Pufko, Esq., Riker Danzig, Scherer, Hyland & Perretti (2 copies)
Donna Gaffigan, NJDEP (3 copies)

302864

Klockner + Klockner
95-03-02 TB
M. Metlitz
Info File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

NOV 2 2003

NOV 2 4 2003

EXPRESS MAIL
RETURN RECEIPT REQUESTED

Mr. Michael Metlitz
116 Tices Lane
Unit B-1
East Brunswick, New Jersey 08816

Re: Draft Remedial Investigation Report for the Rockaway Borough Wellfield Superfund Site, Morris County, New Jersey

Dear Mr. Metlitz:

The U.S. Environmental Protection Agency (EPA) and New Jersey Department of Environmental Protection (NJDEP) have reviewed the Whitman Companies' June 18, 2003 Draft Remedial Investigation Report for the Klockner and Klockner portion of the Rockaway Borough Wellfield site. NJDEP comments are enclosed. EPA has the following comments:

1. A schedule of upcoming milestones needs to be included in this report.

2. **Section 1.2 - Report Organization, Page 2** - The listing of the report organization does not correspond with the Table of Contents or report sections for Section 6 to Section 10.

3. **Section 2.3 - Previous Investigation** - An updated explanation needs to be included in this section or added as an attachment.

4. **Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, Page 7** - The methods used to calculate Relative Percent Differences for duplicate pairs in which one sample result was non-detect and the other sample result was detected needs to be included in this section. This was noted in the tables, but not explained in the text. The text should state the rationale for and validity of using the Practical Quantitation Limit as the value used in the calculation when one result of a duplicate pair was non-detect.

5. **Section 6.0** - The discussion regarding the potential fate and transport of soil contaminants lacks the level of detail needed to evaluate contaminant migration and the impact to groundwater beneath the site.

6. **Section 6.1 - Potential Routes of Migration, Page 41** - The potential for the storm drain and sewer system to transport and/or effect transport of site contaminants needs to be addressed in this section.

302865

7. **Section 6.1.1 - Vapor Migration, Page 42 -** Units are incorrectly stated for Henry's Law Constants. The units should be atm-m^3/mole and it appears the superscript value for the power of ten used in the scientific notation is missing. Also, the justification or citation for the statement in the first sentence needs to be stated in the text. "Predominantly capped" needs to be defined in this section and a justification/rationale explaining why "volatilization is not an issue" as stated in the 4th sentence needs to be presented in this section.

8. **Section 6.1.2 - Soil Migration, Page 42 -** The text should include the definition of: "primary migration"; "PHAL compounds"; and "high K values". The value in the text and Table 29 needs to be specified. The basis for the statements made in the last two sentences at the bottom of the page needs to be stated in the text.

9. **Section 6.2 - Contaminant Persistence, Page 43 -** In addition to the factors discussed in Section 6.2, contaminant persistence is also affected by non-degradation/transformation related factors, such as dilution, movement by diffusion, gravity, etc. These additional factors should be addressed in this section. Half-life is discussed, but data are not provided for the contaminants of concern. It is stated in the 3rd paragraph that a "qualitative evaluation was conducted," but details are not provided as to what this evaluation consisted of, what data were evaluated, or how the evaluation was performed. All of these excluded factors need to be addressed/discussed in this section.

10. **Section 9.1 - Building 12, Page 47 -** The dimensions of the TCE-impacted area and approximate volume should be presented.

11. **Section 9.1 - Building 12, Page 48 -** The dimensions of the PCE-impacted areas and approximate volumes should be presented along with references to site physical features.

12. **Section 9.3 - Fate and Transport, Page 48 -** The statement "Therefore the soil contamination identified at the Klockner and Klockner site does not appear to be the primary continuing source of the regional groundwater contamination present below the site" is not substantiated by the preceding sentences nor by, for that matter, the rest of the information presented in the report.

13. **Table 29 - Physical and Chemical Properties of Contaminants of Concern -** Units are incorrectly stated for Henry's Law Constants. The units should be atm-m^3/mole and it appears the superscript value for the power of ten used in the scientific notation is missing. Also, the Henry's Law Constants presented do not appear to be consistent with the existing published data. All values in Table 29 need to be checked for accuracy and to ensure they are the most currently accepted by the scientific community. The table excludes numerous other important physicochemical properties, such as vapor pressure, density, K_d(for lead), Bio Concentration Factor, and rates for hydrolysis/photolysis/oxidation/biodegration, and/or qualitative statements about susceptibility to each of these, which need to be included. The sources listed at the bottom of the table are not presented in correct citation format, which makes them difficult to locate in Section10.0.

14. **Table 30 - Estimated Degradation Potential for Contaminants of Concern -** The table provides insufficient detail to evaluate the potential for degradation by each process/factor listed and discussed in Section 6.2 (e.g., photolysis, hydrolysis, oxidation, and biodegradation). Each category needs to be expanded to show the degradation potential for each specific process/factor. Also, the definitions of "Low", "Moderate", and "Low/Moderate" need to be clearly defined in the table and/or within the accompanying text. Sources 1 and 2 listed at the bottom of the table are not listed in the References section.

15. **Figure 11B -** The 23 mg/kg contour line should encompass sample location SSAW-4 as the TCE result is 23.2 mg/kg.

16. **Figure 11C -** Sample location SSDP-01 should be connected to the larger PCE-impacted area to the northeast as there are no points in between to suggest separate areas. The legend has TCE concentration contours listed instead of PCE.

In accordance with Section VII, paragraph 32 of the Administrative Order on Consent, an amended Remedial Investigation Report is due 30 days after receipt of this letter.

Should you have any questions or comments on any of the above, please contact Brian Quinn, of my staff, at 212-637-4381.

Sincerely yours,

Carole Petersen, Chief
New Jersey Remediation Branch

Enclosure

cc: David L. Isabel, Riker, Danzig, Scherer, Hyland & Perretti, w/encl.
Donna Gaffigan, NJDEP, w/encl.

302867

State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

August 4, 2003

Brian Quinn, Project Manager
USEPA, Region II
NJ Remedial Branch
290 Broadway, 19th Floor
New York, NY 10007-1866

RECEIVED
NOV 2 4 2003
THE WHITMAN COMPANIES INC.

Re: First Amended Characterization Report
Draft Remedial Investigation Report
Rockaway Borough Wellfield Contamination Site
Rockaway Borough, Morris County

Dear Mr. Quinn,

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the First Amended Characterization Report (FACR) and the Draft Remedial Investigation Report (Draft RI) dated September 2002 and June 2003, respectively. The Draft RI Report incorporates the First Amended Characterization Report and the February 2002 Draft Hazards and Risks Associated with Soil Exposure Report (Draft Soil RA) into a single document.

1. Upon review of the FACR, NJDEP finds that its August 15, 2002 comments (Enclosure 1) were not fully addressed, as indicated below. Since the FACR will not be revised, the changes must appear in the Final RI.

   a) Figure 12 stills needs a footnote explaining why soil sample SSAW-1 is located outside of the 1 ppm TCE isoconcentration line with a concentration of 1.33 ppm. The explanation is given in the last paragraph of Section 5.1.7 on page 23 of Draft RI (page 24 of the FACR), but it must also appear on Figure 12.

   b) Page 23 of the Draft RI (page 24 of the FACR) - The last sentence of the last paragraph of Section 5.1.7 should end: "The approximate horizontal and vertical extent of the TCE concentration to the NJSCC is included in Figures 10, 11B, 12 **and 13**."

   c) Page 30 of the Draft RI (pages 30-31 of the FACR) - Figure 13 has a new footnote indicating "The TCE result of the sample SSSP-1 was not used in the preparation of the isoconcentration lines because the result is suspect." The explanation as to why SSSP-1 is "suspect" must appear in both Section 5.1.13 and Figure 13.

   d) Page 30 of the Draft RI (pages 30-31 of the FACR) – The second sentence of the third paragraph should end: "The TCE and PCE results are plotted on Figures 11A, 11B, 11C **and 13**."

302868

In addition, NJDEP has the following comments on the Draft RI.

2. Section 1.1 – Purpose of Report, page 1

   The second bullet states that one of the purposes of the report is to identify potential applicable or relevant and appropriate requirements (ARARs), but there is no section specifically devoted to the topic. In Section 5.0, page 12 it is stated that a discussion of potential ARARs was presented in Section 4.3 and Table 2 of the June 1997 RI/FS Work Plan. However, the potential ARARs must also be discussed in the separate section of the Draft RI.

3. Section 5.0 - Nature and Extent of Contamination, page 12

   The discussion of the New Jersey Soil Cleanup Criteria (NJSCC) must include the Impact to Ground Water, the Residential Direct Contact and the Non-Residential Direct Contact NJSCC. The discussion should be in a separate section of the Draft RI, as discussed in Comment No. 2.

   Please note that pursuant to the New Jersey Technical Requirements for Site Remediation, N.J.A.C. 7:26E-4.1(b), NJDEP requires remediation of soil contamination that exceeds the unrestricted use criteria, i.e. the most stringent of either the Impact to Ground Water or the Direct Contact NJSCC.

4. Section 7.0 – Risk Assessment, page 45

   NJDEP provided comments on the Draft Soil RA on October 16, 2002 (Enclosure 2). The Final Soil RA was attached to the RI Report and was not revised to address NJDEP's comments, nor were responses to the comments provided. Although most of the comments were merely deferring issues to EPA, the last two comments warranted response, particularly regarding the toxicity hierarchy used by EPA and the consideration of total chromium/hexavalent chromium as a contaminant of concern requiring remediation.

   Please note that NJDEP reviews baseline risk assessments to see if they are completed in accordance with EPA requirements. NJDEP does not rely on the baseline risk assessments to determine the need for remediation at a site.

5. Section 9.0 – Summary, pages 46-49

   Somewhere, this section must clearly state that the NJSCC were identified as TBCs, that soil contaminants exceed the NJSCC, and that the soil remediation is required, despite the findings of the RA, to eliminate the continuing potential to impact ground water and direct contact.

6. Section 9.4 – Baseline Risk Assessment, page 49

302869

In Section 9.4, the Draft RI states that the risks for soil exposure are below or within acceptable EPA values implying that no action is necessary, but it is followed by a statement that "a remedial action *may* still be necessary." NJDEP disagrees. As discussed above, the NJSCC were identified as TBCs, soil contamination exceeds the NJSCC, therefore, soil remediation is required to eliminate the continuing potential to impact ground water and direct contact.

7. Section 9.6 – Conclusion, page 49

NJDEP disagrees that the Draft RI "identified the need for remediation" at the site. At best it merely *suggested* the need for remediation. In various sections, the Draft RI does discuss the exceedences of the NJSCC but nowhere does it definitively state that remediation is required based on those exceedences and/or the need to eliminate the continuing potential to impact the ground water. The RI needs language that states: Based on the RA, remedial action is not required for the soil contaminants in accordance with CERCLA requirements. However, because the soil contaminants exceed ARARs/TBCs (the NJSCC for both impact to ground water and direct contact) and because the soil is acting as a continuing source of ground water contamination, remedial action is required for the soil.

If you have any questions regarding this letter, please contact me at (609) 633-1494.

Sincerely,

Donna L. Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Case Management

Enclosure: (1) 8/15/02 Comments on FACR
(2) 10/18/02 Comments on Draft RA

C: K. Kunze, BEERA
D. Clark, BGWPA

302870

State of New Jersey
Department of Environmental Protection

James E. McGreevey
Governor

Bradley M. Campbell
Commissioner

302871

Brian Quinn, Project Manager
USEPA, Region II
NJ Remedial Branch
290 Broadway, 19th Floor
New York, NY 10007-1866

AUG 15 2002

Re: Klockner & Klockner Property
Characterization Report
Rockaway Borough Wellfield Contamination Site
Rockaway Borough, Morris County

Dear Mr. Quinn,

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the January 2001 Characterization Report for the Klockner & Klockner Property, which is part of the Rockaway Borough Wellfield Contamination Site. Upon review, NJDEP agrees that the approximate extent of the soil contamination has been identified.

As you know, the New Jersey Residential Direct Contact Soil Cleanup Criteria (RDCSCC) for trichloroethene (TCE) and tetrachloroethene (PCE) are 23 ppm and 4 ppm, respectively. The Impact to Ground Water Soil Cleanup Criteria (IGWSCC) for both of these compounds is 1 ppm. The figures show the delineation of the soil contamination to the RDCSCC and the IGWSCC both laterally and vertically. NJDEP notes two instances where the delineation is not accurate based on the data.

1. Pages 16-17/Figure 12: TCE was detected in SSAW-1 at 1.33 ppm in the 13-13.5 foot interval, but is drawn outside of the 1 ppm isoconcentration line. Even though this sample is only slightly above the IGWSCC, it should not be discounted as an anomaly since nearby sample SSAW-7 had a detection of TCE of 0.648 ppm in the 12-12.5 foot interval. The figure must be redrawn to indicate this value.

2. Page 22/Figure 13: TCE was detected in SSSP-1 at 37 ppm, but is drawn outside of both the 1 ppm and 23 ppm isoconcentration lines. The figure must to be redrawn to indicate this value.

As stated above, NJDEP agrees that the soil contamination at the Klockner & Klockner Property has been delineated. As I understand, the next step in the remediation process will be the submittal of the Remedial Investigation Report by the responsible party, which will include both the information from the Characterization Report and EPA's Risk Assessment. Please be reminded that NJDEP only received EPA's Risk Assessment

Enclosure 1

(dated February 2002) on August 7, 2002 and is currently reviewing it. We will be providing EPA with the results of our review by mid-September.

If you have any questions regarding this letter, please contact me at (609) 633-1494.

Sincerely,

Donna L Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Case Management

C: K. Kunze, BEERA
D. Clark, BGWPA

302872

State of New Jersey
Department of Environmental Protection

James E. McGreevey
Governor

Bradley M. Campbell
Commissioner

Brian Quinn, Project Manager
NJ Remedial Branch
USEPA, Region II
290 Broadway, 19th Floor
New York, NY 10007-1866

OCT 16 2002

Re: Rockaway Borough Wellfield Superfund Site
Rockaway Borough, Morris County
Draft – Hazards and Risks Associated with Soil Exposure from the Klockner & Klockner Property (Operable Unit #3)

Dear Mr. Quinn:

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the draft report titled *Hazards and Risks Associated with Soil Exposure from the Klockner & Klockner Property* dated February 2002 (Draft Soil RA). The Draft Soil RA was developed by the United States Environmental Protection Agency (USEPA) to address Operable Unit No. 3 of the Rockaway Borough Wellfield Superfund Site. Please note that NJDEP did not receive the Draft Soil RA until August 7, 2002.

The summary of the Draft Soil RA states that the concentrations of trichloroethene (TCE) and tetrachloroethene (PCE) exceed NJDEP's Impact to Groundwater Soil Cleanup Criteria (IGWSCC) and hence remedial action may be necessary. This statement does not fully reflect the situation. As indicated in Comment No. 1, below, the maximum concentrations of several contaminants in the soil, including TCA and PCE, also exceed the Residential Direct Contact SCC (Residential SCC), and some exceed both the Residential SCC and the Non-Residential Direct Contact SCC (Non-Residential SCC). Exceedance of any of the SCC requires remediation pursuant to NJDEP rules and regulations.

The SCC were developed pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B et. seq., which set more stringent risk requirements (i.e., less than $1x10^{-6}$ and a Hazard Index not to exceed 1.0 for individual contaminants) than CERCLA (i.e., within the risk range of $1x10^{-4}$ to $1x10^{-6}$ and a Hazard Index not to exceed 1.0 for total contaminants). Thus, even though the risks and hazards from the chemical contaminants are acceptable under the CERCLA definition, they are not acceptable to NJDEP.

It is for this reason that NJDEP does not use baseline risk assessments to determine whether remediation is needed on a site. However, for the Rockaway Borough Wellfield Site, NJDEP has reviewed the Draft Soil RA in accordance with standard EPA guidance, including USEPA's Risk Assessment Guidance for Superfund, Vol. I, 1989 (RAGS).

302873

Enclosure 2

Therefore, while NJDEP provides the following comments on the Draft Soil RA, NJDEP does not require such an assessment, and all comments are based on the mandate to satisfy Superfund requirements.

Specific Comments

1. In addition, to TCE and PCE, lead, arsenic and cis-1,2-dichloroethene exceed the SCC, as indicated in Table 2-1 and Table 3, as summarized in the following table. Any exceedance of the SCC requires remediation pursuant to NJDEP rules and regulations.

Contaminant	Maximum Concentration Detected	Residential Direct Contact SCC	Non-Residential Direct Contact SCC	Impact to Ground Water SCC
Trichloroethene	90	28	54	1
Tetracholoroethene	23.7	4	6	1
Cis-1,2-Dichloroethene	3.1	79	1000	1
Lead	841	400	600	--
Arsenic	21	20	20	--

2. The Draft Soil RA assesses the potential for exposure to contamination detected at 0-2.5 feet in depth. Please note that NJDEP policy does not distinguish between exposure from surficial soil versus subsurface soil. Therefore, all concentrations of contaminants that exceed the NJDEP SCC must be listed and addressed, regardless of their depth or location under buildings.

3. Due to the uncertainties inherent in the dermal pathway, NJDEP does not currently evaluate the risks associated with this pathway, and therefore defers to USEPA for the acceptability of the various values assigned to its exposure parameters. These parameters include the dermal absorption factor, the soil to skin adherence factor, the permeability coefficients and the skin surface area. The proposed values are acceptable to NJDEP as long as they conform to the USEPA's latest values, and are acceptable to USEPA Region II.

4. The inhalation pathway was not evaluated, even for the volatile compounds, for any receptor except adult construction worker. The reason for this is unclear, but the acceptability of this omission is deferred to USEPA. It is possible that the evaluation and quantification of this pathway would increase cumulative risk and individual risk, especially if the chromium detected is in hexavalent form.

5. The following exposure values used in the Draft Soil RA either differ from those used by NJDEP, or have no counterpart in NJDEP. Since the associated scenarios are being developed to satisfy Superfund requirements, not NJDEP mandates, NJDEP defers the acceptability of these values to USEPA, Region II.

a) Exposure duration of 1 year for construction worker.

b) Ingestion rate of 330 mg/day for construction worker and 50 mg/day for adult, resident.
c) Exposure frequency of 104 days for adolescent and adult recreational park visitors, 180 days for construction workers.

6. A separate toxicity section is necessary to discuss the toxicity hierarchy used by USEPA for the Site. NJDEP's toxicity hierarchy is as follows: A-280, IRIS, HEAST, NCEA. However, please be advised that for contaminants on the A-280 list, NJDEP may develop toxicity that differ from the above USEPA databases, leading to SCC that differ from USEPA criteria even when the latter uses a one in a million risk or a Hazard Index of 1.0. Again, all contaminants present in concentrations above NJDEP SCC must be addressed, no matter what the results of the risk assessment.

Currently, of the listed Contaminants of Potential Concern at least 2 contaminants, TCE and PCE, are A-280 contaminants.

7. In Section 4.2, Toxicity Assumptions for Chromium, it is stated that all chromium detected was assumed to be in hexavalent form. Based on this assumption, the NRDCSCC of 20 ppm for hexavalent chromium appears to be exceeded. Hence, it is critical that the form of chromium either be determined or all samples that exceed 20 ppm of chromium be addressed in the remedial decision.

If you have any questions regarding this letter, please contact me at (609) 633-1494.

Sincerely,

Donna L. Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Case Management

C: Kathleen Kunze, BEERA
Swati Toppin, BEERA/ETRA

302875

95-03-02 TP MNM IW cc File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUL - 9 2002

RECEIVED
JUL 12 2002
The Whitman Companies, Inc.

EXPRESS MAIL
RETURN RECEIPT REQUESTED

Mr. Michael Metlitz
The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816

Re: Response to EPA Comments on the Characterization Report for the Rockaway Borough Well Field Superfund Site, Morris County, New Jersey

Dear Mr. Metlitz:

The U.S. Environmental Protection Agency (EPA) has reviewed the Whitman Companies' October 12, 2001 response to EPA comments on the Characterization Report for the Klockner and Klockner portion of the Rockaway Borough Wellfield site. The New Jersey Department of Environmental Protection has not as of yet provided comments on the Characterization Report. EPA is satisfied with the explanations provided in your response, with the exception of the following comments:

1. **Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, 3rd Paragraph, 1st Sentence** - A Table 1C is referred to in this sentence, but is not present in the document. In our earlier comments, we erroneously identified Paragraph 5, Sentence 1, as referring to the table.

2. **Section 5.1.8 - Building 12 - Scale Room, 2nd Paragraph, 3rd Sentence** - Please add your explanation of the origin of the water found in the pit.

In accordance with Section VII, paragraph 32 of the Administrative Order on Consent, an amended Characterization Report is due 30 days after receipt of this letter.

Should you have any questions or comments on any of the above, please contact Brian Quinn, of my staff, at 212-637-4381.

Sincerely yours,

Carole Petersen, Chief
New Jersey Remediation Branch

cc: David L. Isabel, Riker, Danzig, Scherer, Hyland & Perretti

302876

THE WHITMAN COMPANIES, INC.

Corporate Headquarters
44 West Ferris Street
East Brunswick, NJ 08816

Tel: 732.390.5858 • Fax: 732.390.9496
E-mail: whitman@whitmanco.com
Internet: www.whitmanco.com

October 12, 2001

Chief, New Jersey Superfund Branch I
Emergency & Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway, Floor 19
New York, NY 10007

Attn: Brian Quinn, Project Manager

RE: Klockner & Klockner
Rockaway Borough Wellfield Superfund Site
Administrative Order on Consent ("AOC")
Index No. II-CERCLA-95-0104
Whitman Project #95-03-02

Dear Mr. Quinn:

In compliance with Section IX, paragraph 41, of the Rockaway Borough Well Field Site Administrative Order of Consent with Klockner and Klockner, The Whitman Companies, Inc. (Whitman) has prepared this letter in response to the comment letter dated August 28, 2001 from the United States Environmental Protection Agency (EPA) for the above referenced site.

In January 2001, Whitman submitted a Characterization Report for the above referenced site. The following addresses each comment issued by the EPA. Each of the EPA comments presented below is followed by Whitman's response (EPA's comments appear as presented in the August 28, 2001 comment letter). Rather than reissuing Characterization Report, we thought it would be more efficient first to resolve the outstanding issues. A revised Characterization Report, that includes revisions based on the EPA comment letter, will be provided after any questions regarding EPA's comments have been resolved.

1.0 GENERAL COMMENTS

1.1 EPA Comment #1

Please include a discussion of tentatively identified compounds that were potentially detected in the various Areas of Environmental Concern (AECs).

302877

Whitman Response:

The Characterization Report will be revised to include a discussion of tentatively identified compounds that were potentially detected in the various AECs. The discussion will be included where the results for each of the samples is discussed (i.e. the discussion for sample SSNDS-2 tentatively identified compounds will be included with the discussion for target compound results for sample SSNDS-2).

Of the nine (9) TCL Volatile Organic Compound + 10 (TCL VO+10) and five (5) TCL Base/Neutral Extractable Organic Compounds + 15 (TCL BN+15) samples collected, five (5) had potentially detected tentatively identified compounds (PDTICs). Of these five (5) locations, only one (SSFS-1 0.5-1) was a TCL VO+10 sample. The remainder were TCL BN+15 samples.

In sample SSFS-1 0.5-1, only one PDTIC was reported which was an unknown siloxane (estimated concentration (ec) 2.4 mg/kg) which is likely attributed to laboratory contamination. In two samples (SSNDS-2A 0-0.5, SSCB-1 2-2.5), only one PDTIC was reported which was an unknown (ec 6.8 and 0.31 mg/kg, respectively) for both locations. In sample location SSFS-2 0-0.5, two PDTIC were reported which were unknown alkanes (ec 11.2 and 3.9 mg/kg). Ten (10) PDTICs were reported for sample SSFS-1. The PDTICs reported included two Tricresylphosphate isomers (ec 0.32 and 0.62 mg/kg), a $C_{10}H_{12}$ PAH/Unknown (0.63 mg/kg) and seven unknowns (ec total of 7.12 mg/kg).

1.2 EPA Comment #2

In some instances Tetrachloroethylene (PCE) quantitation limits were above New Jersey Impact to Groundwater Soil Cleanup Criteria (NJIGSCC) level of (1 mg/kg), such as:

Sample ID	Depth (ft)	Result (mg/kg)
SSAW-2	1-1.5	3.07
SSAW-3	1-1.5	2.94
SSAW-4	4-4.5	3.07
SSAW-9	1-1.5	1.46
SSAW-10	1-1.5	1.51
SSSR-2	0-0.5	2.62
SSSR-3	0-0.5	2.62

Please evaluate these instances and determine the impact on the delineation of PCE.

302878

Whitman Response:

Tetrachloroethylene (PCE) is considered a secondary contaminant at the noted sample locations. The primary contaminant in the noted areas is Trichloroethylene (TCE). The TCE concentrations in the noted samples all exceeded 19 mg/kg. The quantitation limits for PCE exceeded 1 mg/kg due to the need for sample dilution by the laboratory for analysis. The quantitation limits for PCE in the samples noted were just above 1 mg/kg. Therefore, if the PCE was present above 1 mg/kg and less than the quantitation limit, it is highly likely that it would have been detected below the quantitation limit and reported as such. The vertical and horizontal extent of the PCE affected areas has been delineated.

2.0 SPECIFIC COMMENTS

2.1 EPA Comment #1

Section 2.2 - Site History, 2nd Paragraph - State the concentration of primary contaminants in groundwater.

Whitman Response:

This section of the report has been presented with the same wording in the May 1996 First Amended Summary Report, June 1997 Remedial Investigation/Feasibility Study (RI/FS) Work Plan, and Technical Memoranda and the January 2001 Characterization Report. The requested information has not been included in the previous reports and should not be included in the revised Characterization Report for the following reasons:

- The concentrations of the primary contaminants in ground water vary by location and sampling round.
- Section 2.2 provides a brief site history and is not intended to present the results of ground water investigations. A more detailed description of the ground water contamination is presented in the May 1996 First Amended Summary Report and reports prepared by Morton Thiokol and its successors who, pursuant to a Consent Decree with EPA, are responsible for addressing ground water issues.
- The focus of the Characterization activities conducted by Klockner & Klockner is related to soil contamination present above the ground water table.

302879

302880

2.2 EPA Comment #2

Section 3.4 - Soil Sampling, 2nd Paragraph, 3rd Sentence - How was hand-coring sampling performed?

Whitman Response:

The term "hand coring" in this case refers to the use of a hand held slide hammer equipped with an acetate sleeve to collect the sample.

2.3 EPA Comment #3

Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, 5th Paragraph, 1st Sentence - Table 1C is referred to but is not in the document.

Whitman Response:

The paragraph cited *does not* refer to Table 1C, the text refers to Table 3A, which is provided in the table section of the report.

2.4 EPA Comment #4

Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, 5th Paragraph - The way the duplicates are presented in the report makes it difficult to compare duplicate results that are presented throughout the data tables. Suggest putting all duplicate results side by side in one new table with a quantitative measure of acceptability, such as relative percent difference (RPD) or percent difference (%D) used against an acceptable, defined level (e.g., soils RPD<_ 100%, waters<50% RPD, etc.).

Whitman Response:

Agreed; Whitman will provide a table with the requested information in the revised Characterization Report.

2.5 EPA Comment #5

Section 4.2 - Site Geology/Hydrology - The discussion presents a description of the fill and geologic units based upon previous site investigations and does not discuss/interpret in sufficient

302881

detail the site-specific information obtained during the site characterization. The subsurface lithologic data (as shown on the boring logs in Volume 1B Attachment 1) was apparently added to cross-sections (Figures 12, 13, and 15); however, the contact lines were not drawn and the lithology units were not correlated across the site. Therefore, it appears that the data was not presented in a manner that would facilitate evaluation of contaminant migration pathways in the vadose zone at the site.

Whitman Response:

Agreed; Whitman will revise the cross sections with the requested information in the revised Characterization Report.

2.6 EPA Comment #6

Section 4.3 - Soils, 2nd Paragraph - This section does not provide enough detail on the soil conditions encountered during the recent soil sampling. A discussion on the various soil types encountered within the various AECs should be presented.

Whitman Response:

Whitman will provide brief description of the soil encountered at each AEC in the revised Characterization Report.

2.7 EPA Comment #7

Section 5.0 - Nature and Extent - Pre-existing data should be included to accurately depict the nature and extent of all contamination.

Whitman Response:

The pre-existing data was presented to EPA in the May 1996 First Amended Summary Report. Data relevant to the AECs investigated will be provided in the revised Characterization Report. The information will be presented in Section 5.0 by AEC.

2.8 EPA Comment #8

Section 5.1.2 - Building 12 - Underground Gasoline Tank, 1st Paragraph, 3rd Sentence - Based on a review of the boring logs, it is not clear that the material beneath the fill was sampled. No Photoionization Detector (PID) readings from 0 to 7 feet below ground surface

302882

(bgs) were recorded on the logs for borings SSGT - 1 and SSGT - 2. Were PID readings collected for these intervals? What information was used to determine the depth at which to collect samples?

Whitman Response:

The PID reading were 0 ppm for the entire length of both borings. The change in lithology noted at approximately 7 feet in both boring locations is believed to be the end of the fill material. In addition, based on our knowledge of the tank being 550 gallon capacity, approximately 4 feet in diameter by 6 feet in length, and the fact that no contaminated soil was excavated at the time of the removal, it is assumed that the invert of the tank was approximately 6 to 7 feet below grade. Based on this information, the change in lithology and as proposed in the June 1997 RI/FS Work Plan, Whitman collected the samples at the presumed invert of the tank. In the Moretrench Environmental Services October 1987 Report which documents the tank removal and post-excavation sampling, there are no details that indicate the depth that the post-excavation samples were collected other than at the tank invert.

2.9 EPA Comment #9

Section 5.1.3 - Building 12 - Waste Oil Tank, 2nd Paragraph - The boring log for SSWT-2 only provides a soil description from 0 to 1.5 feet bgs. Where is the soil description for 1.5 to 8 feet bgs? What specific information was used to select the boring locations? Also, please include information on the presence of Target Analyte List (TAL) metals in groundwater, such as monitoring wells impacted and the concentrations of TAL metals in excess of standards.

Whitman Response:

The log information should state the same lithology from 0-8 feet bgs. A corrected log will be provided in the revised Characterization Report.

The sampling was conducted as outlined in the June 1997 RI/FS Work Plan. As stated in the work plan, the reason that these samples were collected at these locations was to horizontally delineate the 1986 post-excavation samples with elevated concentrations of TCE. The 1986 samples were collected from 7 feet bgs. In the revised Characterization Report, Whitman will provide the locations of the previous post-excavation samples on the same figure with the WT-1 and WT-2 sample locations.

Since it is not the responsibility of Klockner and Klockner to investigate the ground water quality, only limited information was provided in the Characterization Report. Klockner and Klockner's responsibility extends to characterization of the soil to identify any soil source for the

302883

TAL metal contamination. The monitoring well located in close proximity is MW-2S. The ground water sampling results from 1987 were provided to EPA in the May 1996 First Amended Summary Report and show the presence of Arsenic, Lead and Nickel above the NJDEP Ground Water Quality Criteria (GWQC). The concentrations of these metals could be due to turbidity in the sample rather than a soil source. The 1987 ground water sample results will be provided in the revised Characterization Report.

2.10 EPA Comment #10

Section 5.1.5 - Building 12 - Leaching Pit – 2nd Paragraph, 2nd Sentence - The boring log for SSLP-1 does not contain PID readings. PID readings should be provided for this boring. The boring log also does not provide enough detailed soil descriptions. At a minimum, the color of the sand encountered, relative moisture content, and relative density should be provided.

Whitman Response:

Agree; Whitman will provide a corrected boring log in the revised Characterization Report which will provide the color of the sand encountered. The soil was not wet or moist. Therefore, no description was provided. The relative soil density was consistent with the soils encounter in the other borings in this area of the property. Therefore, no description was provided.

2.11 EPA Comment #11

Section 5.1.6 - Building 12 Degreaser Pit, 3rd Paragraph, 2nd Sentence - PCE detected in sample SSDP-1 exceeded the NJIGWSCC, however, sample SSDP-1 was not included in Figure 11. Please add this location to the figure. Also, please include a figure showing the isoconcentration lines for PCE concentrations above criterion.

Whitman Response:

Sample SSDP-1 was included in Figure 10. The PCE concentration detected was 1.1 mg/kg just above the NJIGWSCC. Whitman will edit the figures in the revised Characterization Report to address this comment.

2.12 EPA Comment #12

Section 5.1.7 - Building 12 - Alleyway - Please state the rationale for which soil gas locations were selected for soil borings. In reviewing this discussion and the associated boring

logs, there appears to be a need for clarification in regard to selection of sampling intervals and deficiencies with the boring logs. The following is a breakdown by boring of the discrepancies:

a. SSAW-1 - The highest PID reading measured was from 2.5 to 3 feet bgs, but this interval was not sampled.

Whitman Response:

An error was made on the boring log, however the tables and the figures clearly reference the depth of 2.5-3 feet bgs, the depth of the elevated tip reading. The boring log will be corrected and submitted with the revised Characterization Report.

b. SSAW-2 - The two intervals with the highest PID readings were not sampled.

Whitman Response:

An error was made on the boring log, SSW-2 samples were collected at 1.5-2 feet and 7.5-8 feet bgs, as stated in Table 1B Summary of Soil Sampling and as shown in Figure 11. As per the EPA approved June 1997 RI/FS Work Plan, the shallow sample was collected at the highest PID reading <5 feet bgs. The deeper sample was collected based on the following approved screening protocol from the June 1997 RI/FS Work Plan:

"The sample depth exhibiting the highest field reading will be submitted. When the field readings decrease with depth to water table, the second sample will be collected below this sample from a depth exhibiting the lowest reading. If the field readings increase with depth to ground water, the first sample will be collected at the 0 to 6 inch interval above ground water and the second sample will be collected from a depth of 18-24 inches."

At this boring, the PID reading were decreasing towards the water table after the small peak at 6.5 feet bgs and since refusal was encountered, the sample was collected from the lowest available sample depth 7.5-8 feet bgs. This data was previously submitted to the EPA for review on several occasions; if there was any question about the selected sampling depth, the EPA should have indicated that in earlier responses.

c. SSAW-3 (2/15/00) -Sample data indicates Chlorinated Volatile Organic Compounds (CVOCs) at 9.5 mg/kg, but the boring log shows PID reading at 0 ppm. Text states sample collected at 5 to 5.5 feet bgs.

302884

302885

Whitman Response:

The PID readings are discussed in Section 12-o below. As stated in Section 5.1.7 paragraph 7, the sample depth of 5 to 5.5 feet bgs was selected to vertically delineate the VOC contamination detected at a shallower depth at SSAW-3.

d. SSAW-6 - The deeper sample was collected from an interval beneath a silty clay layer where PID readings were 0 ppm. Elevated readings were found above the silty clay layer.

Whitman Response:

Refer to response for 12b. Whitman was following the EPA approved June 1997 RI/FS Work Plan. The sample was collected from an interval with the lowest tip reading. The objective of sampling the interval with the lowest tip reading or immediately above the water table is to vertically define the extents of the contamination with a clean vertical sample.

e. SSAW-7 - Sample not collected from elevated PID interval.

Whitman Response:

The shallow SSAW-7 sample *was* collected at the highest PID reading of the entire soil boring at 5-5.5 feet bgs. The second sample was collected as per the EPA approved June 1997 RI/FS Work Plan, 0-6 inches above the water table and at the lowest PID reading. The PID readings were decreasing towards the water table.

f. SSAW-8 - Clarify if the black gravel, found at 9 to 11 feet bgs, was fill or native soil and if the black color was the result of staining.

Whitman Response:

The layer of black gravel was only ½ inch thick. This was not clear on the boring log. The log will be revised to clearly indicate that information. The layer was probably a localized native thin layer of gravel, since there are no notes in the field log book that indicate that it appeared to be fill material or caused by staining.

g. SSAW-9 - Please explain why the shallow sample wasn't collected from the interval with the highest PID reading. Please explain why the deep sample wasn't collected.

Whitman Response:

The shallow sample depth on the boring log is depicted incorrectly and the deep sample location was omitted from the log. However, the two samples and the sample collection depths are presented in Tables 1B and 10, as well as on Figure 11. Whitman will amend the boring log and provide it with the revised Characterization Report.

h. SSAW-11 - The analytical results from the sample collected indicate the presence of CVOCs, but all PID readings were 0 ppm. Please explain the rationale for sampling at the depth selected. Resample at 4 to 4.5 feet bgs.

Whitman Response:

The sample was collected to horizontally delineate the elevated concentrations detected in SSAW-9 at the same depth of 1-1.5 feet bgs. Whitman does not see the need for additional vertical delineation at SSAW-11, since at SSAW-9, the TCE concentration is much higher and the vertical contamination does not reach the 5-5.5 feet interval.

i. SSAW-12 - See comment h. Resample at 4 to 4.5 feet bgs.

Whitman Response:

The sample was collected to horizontally delineate the elevated concentrations detected in SSAW-9 at the same depth of 1-1.5 feet bgs. Whitman does not see the need for additional vertical delineation at SSAW-12, since at SSAW-9 the TCE concentration is much higher and the vertical contamination does not reach the 5-5.5 feet interval.

j. SSAW-13 - See comment h. Resample at 4 to 4.5 feet bgs.

Whitman Response:

Although no PID readings were detected, the sample was collected from an interval of soil which appeared to have black staining, as indicated in the boring log. Also, sample SSAW-13 was collected to horizontally define the extent of TCE soil contamination detected at sample location SSAW-9. Based on the vertical delineation results for other samples (i.e. SSAW-9, SSAW-2) with much higher contaminant concentrations than detected at SSAW-13, no further vertical sampling is required.

k. SSAW-14 - See comment h. Resample at 5.5 to 6 feet bgs.

302887

Whitman Response:

The sample was collected in accordance with the EPA approved February 1999 Technical Memorandum in which it was stated that the sample would be collected at a field screened depth <5 feet bgs. The purpose of this sample was to horizontally delineate contamination detected at SSAW-2 and SSAW-9. Since there were no PID readings, the sample was collected from the same lithology as the elevated sample collected from 1-1.5 feet at SSAW-9. It should also be noted that the concrete floor was approximately 2 feet thick in this area. The vertical limits of the soil contamination are defined by the samples collected at SSAW-2, SSAW-4 and SSAW-9. No further sampling is proposed.

1. SSAW-15 - What was the rationale for sample selection? Resample at 2 to 2.5 feet bgs.

Whitman Response:

The sample was collected in accordance with the EPA approved February 1999 Technical Memorandum in which it was stated that the sample would be collected at a field screened depth <5 feet bgs. Since there were no PID readings, the sample was collected from the same depth as SSAW-14. Whitman does not see the need for additional sampling at SSAW-15. The shallow soil samples collected to the east (SSAW-21 and SSAW-22) and at the nearby degreaser pit were all below the NJIGWSCC for TCE. No further sampling is proposed.

m. SSAW-16 - See comment h. Resample at 4 to 4.5 feet bgs.

Whitman Response:

This sample was collected to horizontally delineate sample location SSAW-2 and SSAW-4 which showed elevated TCE concentrations at 1.5-2 feet and 4-4.5 feet bgs, respectively. Higher concentrations of TCE were detected and vertically defined at sample locations SSAW-2 and SSAW-4. No further sampling is proposed.

n. SSAW-17 to SSAW-26 - See comment 1.

Whitman Response:

- Sample location SSAW-17 was collected at the same sample depth interval as SSAW-4 for horizontal delineation.
- Sample location SSAW-18 was collected to horizontally delineate SSAW-16.
- Sample location SSAW-19 was collected to horizontally delineate SSAW-16, however, refusal was encountered at a shallow depth.

302888

- Sample location SSAW-21 was collected at a depth of 1.5-2 feet bgs to delineate SSAW-13. The depth for this sample is incorrect on Figure 11 and will be corrected for the revised Characterization Report.
- Sample location SSAW-22 was collected to horizontally delineate SSAW-13. Since there was a drop in surface elevation from SSAW-13 to the loading dock were SSAW-22 is located, the sample was taken at approximately the same elevation as SSAW-13.
- Sample locations SSAW-23 to 26 were collected to horizontally delineate elevated results detected at sample locations SSAW-9, 11, 12 and 13.

The TCE soil contamination was horizontally defined by shallow samples SSAW-17 to SSAW-26. No further sampling is proposed for these sample locations.

o. All PID readings collected for the additional drilling conducted in February and August of 2000 were recorded as 0 ppm on the boring logs. Please verify, through the submittal of field notes and calibration logs, that all readings were in fact 0 ppm.

Whitman Response:

On each day of field work, the PID was calibrated to a known gas concentration. The actual field calibration log will be provided in the revised Characterization Report as an additional attachment. The PID is effected by the weather conditions and during the February 2000 sampling the weather conditions were very cold ~35 degrees. There was snow on the ground. The cold conditions can lessen the effectiveness of the PID by reducing the volatility of the contaminants. Also, atmospheric conditions i.e. humidity can effect the response of the PID detector. In August 2000, the sample results confirm that the samples contained non detect and very low concentrations. The PID's are not always effective at detecting such low concentrations.

2.13 EPA Comment #13

Section 5.1.8 - Building 12 - Scale Room, 2rd Paragraph, 3nd Sentence - Please explain the origin of the water found in the pit.

Whitman Response:

According to the facility representatives, the area often floods from stormwater that enters the building through the adjacent door to the alleyway.

302889

2.14 EPA Comment #14

Section 5.1.8 - Building 12 - Scale Room, 2nd Paragraph, 12th Sentence - State if any CVOCs were detected in the composite samples in the text.

Whitman Response:

No CVOCs were detected in either of the composite samples. Whitman will revise the Characterization Report text to include this statement.

2.15 EPA Comment #15

Section 5.1.8 - Building 12 - Scale Room, 3rd Paragraph, Last Sentence - Vertical delineation was not performed at the locations of SSSR-2 and SSSR-3. Based on the reviewed data, elevated levels of Trichloroethylene (TCE) and PCE are present in this area and further vertical delineation should be performed.

Whitman Response:

While vertical delineation was not completed at these two (2) locations, SSSR-2 and SSSR-3, vertical delineation for the area was addressed by the deep sample collected at SSSR-1 at a depth of 4-4.5 feet bgs. The delineation of this area of concern has been combined together with the samples collected to address the alleyway and soil under the building.

2.16 EPA Comment #16

Section 5.1.8 - Building 12 - Scale Room, 6th Paragraph - Briefly summarize the important findings.

Whitman Response:

As stated in the Characterization Report, the delineation of this area of concern has been combined together with the samples collected to address the alleyway and soil under the building.

2.17 EPA Comment #17

Section 5.1.9 - Building 12 - Quonset Hut - Briefly summarize the important findings.

302890

Whitman Response:

As stated in the Characterization Report, the delineation of this area of concern has been combined together with the samples collected to address the alleyway and soil under the building.

2.18 EPA Comment #18

Section 5.1.10 - Building 12 - Drum Storage Shed, 4th Paragraph, 5th Sentence Vertical delineation of CVOCs at the additional delineation sample location should be evaluated.

Whitman Response:

As indicated in Section 5.1.10 paragraph 4 and 5, the vertical delineation sample for CVOC was collected at 5-5.5 feet and was non-detect.

2.19 EPA Comment #19

Section 5.1.10 - Building 12 - Drum Storage Shed, 9th Paragraph, 1st Sentence - It is not clear whether sufficient delineation for lead has been performed. It appears further delineation may be necessary in the vicinity of SSFS-3A. Please evaluate the need to collect additional delineation samples (e.g., along property line on each side of SSFA-3A and at the 0.5 to 1 foot bgs interval).

Whitman Response:

The EPA approved the proposed delineation sample locations in its approval of the Technical Memoranda. The area is horizontally defined by SSFS-4A, SSFS-5A, SSFS-6A and SSFS-7A. If the EPA had any concerns about the locations of the delineation samples, these concerns should have been raised prior to approving the last technical memorandum. No further sampling is proposed.

2.20 EPA Comment #20

Section 5.1.10 -Building 12 - Drum Storage Shed, 9th Paragraph, 2nd Sentence Please provide the basis for the areal extent of lead exceeding the criteria stated in this section.

Whitman Response:

The area is horizontally defined by SSFS-4A, SSFS-5A, SSFS-6A and SSFS-7A. This information will be included in the revised Characterization Report.

2.21 EPA Comment #21

Section 5.1.11 - Building 12 - Drum Storage in Alleyway, 4th Paragraph - Briefly summarize the major findings of this section.

Whitman Response:

As stated in the Characterization Report, the delineation of this area of concern has been combined together with the samples collected to address the alleyway and soil under the building. The findings will be revised to indicate that the only contaminant detected above its NJSCC was TCE.

2.22 EPA Comment #22

Section 5.1.12 - Building 12 - North Drum Storage Area, 2nd and 3rd Paragraphs - In the sixth sentence of the second paragraph, samples for Volatile Organic Compounds (VOCs) are stated to be collected at a depth of 1.5 to 2 feet bgs. This interval is assumed to be the B interval. In the next paragraph it is stated that TCE soil criterion was exceeded in the A interval. Please clarify what interval was sampled for TCE and exceeds criterion.

Whitman Response:

The sample intervals that exceed the TCE criteria are SSNDS-1 and SSNDS-2 collected at 1-1.5 feet and 1.5-2 feet respectively. The "A" (0-0.5 feet below the asphalt) interval was not sampled for VOC analysis. The text will be corrected in the revised Characterization Report.

2.23 EPA Comment #23

Section 5.1.12 - Building 12 - North Drum Storage Area -There is a boring log for SSNDS-11, but there is no mention of this boring, or the two samples collected from it, in the text. Please clarify.

302891

Whitman Response:

A sample was collected on a contingent basis from this location. The sample was not analyzed since the results of SSNDS-10 were below criteria.

2.24 EPA Comment #24

Section 5.1.12 - Building 12 - North Drum Storage Area, Last Paragraph, 2"d Sentence - TCE was detected above criterion at SSAW-1 approximately 13 feet bgs. Please discuss CVOC found below 5 feet bgs (see Figures 11 and 12).

Whitman Response:

The statement made in the Characterization Report is accurate; the extent of the contamination identified in the North Drum Storage Area is limited to an approximate depth of 5 feet bgs. SSAW-1 is part of the samples associated with the *Alleyway Area*.

2.25 EPA Comment #25

Section 5.1.13 - Building 12 - Sump, 2nd Paragraph - Vertical delineation of CVOCs and arsenic was not performed at this location. No horizontal delineation for arsenic was performed. Please provide a discussion on the occurrence of arsenic at this location and whether further delineation is necessary.

Whitman Response:

Whitman believes that the sample result for Arsenic (21.1 mg/kg) was marginally above its NJSCC of 20 mg/kg and since the access to that area of the facility is limited, no additional delineation was completed. No further sampling is proposed.

2.26 EPA Comment #26

Section 5.1.13 - Building 12 - Sump, 4th Paragraph - Briefly summarize the major findings of this section.

302892

Whitman Response:

As stated in the Characterization Report, the delineation of this area of concern has been combined together with the samples collected to address the alleyway and soil under the building.

2.27 EPA Comment #27

Section 5.2.2 - Building 13 - Underground Heating Oil Tanks - Please clarify if the tanks have been located and provide a discussion on the history and status.

Whitman Response:

As stated in the June 1997 RI/FS Work Plan, the exact location of the two former underground heating oil tanks is not known. Soil gas samples were proposed for the vicinity of the former tanks and the results were presented in the Characterization Report. Additional background information concerning the tanks was presented in the May 1996 First Amended Summary Report. The revised Characterization Report will provide further background on the former tanks.

2.28 EPA Comment #28

Section 5.2.3 - Building 13 - Dry Well, 2nd Paragraph, 3rd Sentence - The concentration detected in SSDW-1 as reported by the laboratory was 1.04 mg/kg, which is at, or slightly exceeding, the NJIGWSCC. Referring to Fig. 15 (cross-section C-C'), it may be appropriate to confirm/delineate the PCE contamination associated with the former dry well as if may extend vertically into the soil column.

Whitman Response:

Whitman believes that a concentration of 1.04 mg/kg is at the criteria and does not require additional delineation. Additionally, the EPA had several opportunities to state this concern and yet did not request additional sampling.

2.29 EPA Comment #29

Section 5.2.8 - Building 13 - Pipe, 1st Paragraph - Please state origin/purpose of pipe. This will be stated in the revised Characterization Report.

Whitman Response:

The origin/purpose of the pipe, as stated in the June 1997 RI/FS Work Plan, is unknown. This will be stated in the revised Characterization Report.

2.30 EPA Comment #30

Section 5.2.8 - Building 13 - Pipe, 2nd Paragraph - Please discuss the historical use of the encountered UST.

Whitman Response:

The use of the UST is unknown, however based on the contents it appears to have contained a fuel oil product. This will be stated in the revised Characterization Report.

2.31 EPA Comment #31

Section 5.2.8 - Building 13 - Pipe, 3rd and 4th Paragraphs - Please state the detection limits for both soil and tank liquid samples. Please state what the liquid is, if known, including any speculation if not know. Further analysis of this liquid is recommended.

Whitman Response:

The detection limits for the Purgeable Halocarbons (PHAL) soil sample analysis were located in Attachment 12 and were all 0.123 mg/kg. The detection limit for the tank liquid sample for PHAL analysis were located in Attachment 10 and were all 23.6 mg/kg as the sample consisted of product and required dilution for analysis. Based on the field observations, the liquid appeared to be a petroleum product. The UST does not contain PHAL and is not the responsibility of Klockner and Klockner. Therefore, no further investigation is planned at this time. The Characterization Report will be revised to include the above information.

2.32 EPA Comment #32

Section 5.2.12 - Building 13 -Concrete Pad Area, Last Paragraph - Please justify this statement.

302894

Whitman Response:

There were no concentrations of TCE or PCE detected above the NJSCC. Therefore, the area is no longer considered a potential source area. The Characterization Report will be revised to include this statement.

2.33 EPA Comment #33

Section 5.2.13 - Building 13 -Fence Area, 4th Paragraph, 1st Sentence - Table 24 includes the results of 3.72 mg/kg for soil sample SSFA-6A (1.5-2.0 feet.), presumably located in the fence area. This sample is not described in the text or shown in Figures 7, 14 or 15. Therefore, this soil sample needs to be identified and delineated. A boring log was not provided for SSFA-6A.

Whitman Response:

The sample was the duplicate sample for SSFA-1, as shown on Table 3B. The sample results will be added to Figure 14 in the revised Characterization Report.

2.34 EPA Comment #34

Section 6.1 - Building 12 – 2nd Paragraph - The analytical data presented in Section 5.1.6 of the report indicates that PCE was detected at 1.1 mg/kg in sample SSDP-1 (2.5-3.0 feet), which exceeds the NJIGWSCC. Based on this data, it appears that further remedial investigation is required in this area (i.e., the Degreaser Pit should be removed from Section 6.1 Paragraph 2 and added to Section 6.1 Paragraph 3).

Whitman Response:

Whitman believes that a PCE concentration of 1.1 mg/kg is only marginally above the NJIGWSCC of 1 mg/kg and no further remedial investigation is required for this area. Also, as stated in the Characterization Report, TCE and PCE concentrations in historic soil samples collected from this area were below the current NJIGWSCC. The EPA had multiple opportunities to raise this concern and request additional sampling, but did not.

302895

2.35 EPA Comment #35

Section 6.1 - Building 12 – 4th Paragraph - The statements made in this paragraph are not correct. Based on data shown on Figure 12 the vertical extent of contamination is not defined in the vicinity of sample locations SSDSA-1, SSSP-1, SSSR-2, and SSAW-1, and there is a lack of horizontal delineation data between SSDSA-1 and SSNDS 1-/C/D.

Whitman Response:

Vertical delineation does not require completion at every sample location in order to obtain an accurate delineation. There are other sample locations collected that show the vertical delineation (i.e. sample SSSR-1 for sample SSSR-2 area). The vertical delineation samples collected indicated that the vertical extent of the contamination does not extend beyond a depth of 9 feet and was defined to a depth of less than 5 to 7 feet bgs in several areas. These samples include but are not limited to SSWT-1 7-7.5', SSWT-2 7-7.5', SSFS-1D 5-5.5', SSNDS-1C 4.4-5', SSAW-9 5-5.5', and SSSR-1 4-4.5'.

As discussed in Section 5.1.7 last paragraph, the TCE soil contamination detected at sample SSAW-1 13-13.5' (1.33 mg/kg) was just above the NJIGWSCC and was likely the result of diffusion from the ground water to the soil in the capillary zone. The concentration of TCE in the shallow sample at SSAW-1 2.5-3' (2.47 mg/kg) was relatively low when compared to other shallow soil samples in the area where TCE concentrations in soil were vertically delineated to less than 7 feet bgs. In addition, sample SSAW-1 13-13.5' was collected just above the water table and Klockner & Klockner is not responsible for the investigation of soil contamination below the water table pursuant to the AOC between EPA and Klockner & Klockner.

Similarly, the TCE and PCE concentrations detected at sample SSSP-1 4-4.5' should decrease to below the NJIGWSCC at a depth of less than 9 to 11 feet (depth of contamination + 5 to 7 feet typical depth to clean zone). Also, there is limited access to sample location SSSP-1 for any further sampling at depth.

SSAW-8 is located between SSDSA-1 and SSNDS-1 for horizontal delineation.

It is Whitman's and Klockner and Klockner's position that sufficient sampling has been conducted to characterize the soil contamination present at the Klockner and Klockner property.

302896

2.36 EPA Comment #36

Section 6.3 - Conclusion - Based on the prior comment to Section 6.1, potential source area contamination to groundwater has not been defined vertically and horizontally for the Alleyway and Drum Storage Shed areas, and vertically for the scale room and Building 12 sump.

Whitman Response:

Whitman and Klockner and Klockner believe that sufficient vertical delineation has been conducted for the areas mentioned as detailed in the responses to EPA Comments presented above. As stated, the areas of concern were collectively combined and delineated under the alleyway area. In addition, the EPA has had multiple opportunities to request the collection of additional samples but chose not to do so.

3.0 TABLES

3.1 EPA Comment #1

Each table should refer to what specific attachment the detection/quantitation limits can be found in for each sample showing "ND", or the quantitation limits should be shown/listed on the Table.

Whitman Response:

Whitman will reference the Attachment in which the detection limits can be located.

3.2 EPA Comment #2

Table 1B - Parameters are not listed for Drum Storage Shed in the Table, but Figure 11 shows results. Please make tables and figures consistent.

Whitman Response:

Whitman will revise the table.

302897

3.3 EPA Comment #3

Define "Total Confident Conc." listed at bottom of some tables.

Whitman Response:

Whitman will provide a definition on the note section of the applicable tables.

3.4 EPA Comment #4

Table 20B - State the quantitation limits.

Whitman Response:

Whitman will provide a modified table.

4.0 FIGURES

4.1 EPA Comment #1

Isopleths should be prepared for soil gas sampling results.

Whitman Response:

Whitman will prepare isopleth maps and submit with the revised Characterization Report.

4.2 EPA Comment #2

Figure 11 - The red isoconcentration line should be similar to that seen for green line (one area-not two), since there are no Volatile Organic results for SSFS-4A & SSFS-5A presented.

Whitman Response:

Whitman will edit the figure and submit with the revised Characterization Report.

4.3 EPA Comment #3

Figure 12 - Consider extending the green isoconcentration line below 13 feet bgs in SSAW-1. It is not readily apparent what the basis for the green isoconcentration line position is below SSDSA-1. Please clarify.

Whitman Response:

As detailed in the response to EPA Comment 35 above, Whitman believes that the TCE detected at SSAW-1 is an isolated sample result and that the majority of the contamination is located in the shallow soil. With respect to SSDSA-1, the location of the isoconcentration line is based on the shallow vertical extent of contamination in nearby sample locations (see response to EPA Comment 35 above).

4.4 EPA Comment #4

Figure 13 - It appears that the red isoconcentration line should be deeper than the point shown in SSSP-1. Please evaluate. Please state the rationale for placing red and green isoconcentration lines where they are shown in SSSR-1, SSSP-1, SSSR-2 sampling locations and also, for placement of the green isoconcentration line in SSAW-12.

Whitman Response:

The isoconcentration line was derived by plotting results for samples near the cross section represented. Sample SSSP-1 was collected below a sump invert and is an anomaly with respect to preparation of the isoconcentration lines. Sample SSSR-2 contained a concentration of TCE that exceeded 23 mg/kg. Sample SSSR-1 vertically defined the extent of the TCE soil contamination in the area of sample SSSR-2. Therefore, the green isoconcentration line was plotted above the depth of SSSR-1. As the depth of the TCE soil contamination exceeding 23 mg/kg is present at a depth between samples SSSR-1 and SSSR-2, the red isoconcentration line was drawn conservatively closer to the depth of SSSR-1. The placement of the green isoconcentration line at SSAW-12 was based on the significant decrease in TCE concentration horizontally from SSAW-9 to SSAW-12 and the significant decrease in TCE concentration vertically at SSAW-9. Whitman will revise the figure to indicate that the concentration at sample SSSP-1 is an anomaly and submit it with the revised Characterization Report.

4.5 EPA Comment #5

Figures 12 and 13 - It appears that the concentration of TCE shown in the shallow soils in boring SSWT-1 and SSWT-2 in the Alleyway are conflicting in Figures 12 and 13 (cross-sections A-A' and B-B', respectively); for example, TCE is shown to be greater than 23 mg/kg in Figure 13, but less than 23 mg/kg in Figure 12. If it is likely that the shallow TCE contamination in the Alleyway is greater than the New Jersey Residential Direct Contact Soil Cleanup Criteria (NJRDCSCC), 23 mg/kg, as shown in cross-section B-B', additional shallow soil characterization sampling in this area may be warranted.

Whitman Response:

The red isoconcentration line (23 mg/kg TCE) on Figure 12 should have extended beyond SSWT-1 and SSWT-2 towards SSAW-1. Figure 12 will be corrected and submitted with the revised Characterization Report. No additional sampling is warranted.

4.6 EPA Comment #6

Referring to Figure 12, it appears that additional soil sampling (5 to 10 feet. in depth) at boring locations SSDSA-a and SSAW-1 would confirm the vertical extent of TCE contamination in this area. Also, an additional shallow soil sample collected at boring location SSAW-15 would confirm the horizontal/southwestern extent of the TCE contamination associated with Building 12.

Whitman Response:

As discussed in the Response to EPA Comment 35, sufficient data has been obtained concerning the vertical extent of soil contamination with TCE. Sample SSAW-15 was collected to horizontally delineate the TCE contamination detected at sample SSAW-4. On Figure 11, sample SSAW-15 is just south of the green isoconcentration line (1 mg/kg TCE) along with samples SSAW-21 1.5-2' and SSAW-22 0.5-1'. TCE was not detected in samples SSAW-21 or 22. Additionally, SSAW-15 was collected near the degreaser pit. The samples from the degreaser pit area had TCE concentrations of less than 1 mg/kg. Three of these samples were collected from a depth of 2.5-3 feet bgs. The green isoconcentration line on Figure 12 will be replotted to end just to the north (left) of SSAW-15 as on Figure 11. The corrected Figure 12 will be submitted with the revised Characterization Report. No additional sampling is warranted.

4.7 EPA Comment #7

It should be noted that the isoconcentration lines shown in Figures 11, 12, and 13, and in other figures have been drawn by a rough approximation method (it does not appear that concentration gradients have been determined by triangulation between adjacent sampling points). Therefore, it appears that all isoconcentration lines as shown are interpretive and may require a more accurate method of plotting. Please evaluate a more precise method of plotting isoconcentration lines.

302900

Whitman Response:

Whitman will evaluate the isoconcentration lines plotted on Figures 11, 12 and 13 and determine if a more accurate method of plotting is appropriate. If a more accurate method of plotting is appropriate, the isoconcentration lines will be replotted on the appropriate figures and submitted with the revised Characterization Report.

Upon receipt of EPA's comments concerning this response, the revised Characterization Report will be prepared and submitted to EPA. In an effort to reduce the time frame of the report review process, it is requested that EPA contact Whitman by phone to discuss any outstanding issues.

Please contact us at (732) 390-5858 if you have any additional questions or comments.

Very truly yours,

Michael N. Metlitz
Project Manager

Cheryl L. Coffee
Senior Hydrogeologist

CLC/
Enclosure
cc: Alexandra Varlay, Esquire, EPA
Dan Klockner, Klockner & Klockner
Nancy Eberhardt, Esquire, Riker Danzig, et. al.
Donna Gaffigan, NJDEP

302901

95-03-02TB
Klockner & Klockne
M. Metlitz
Ira
Chery!
Proj.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

RECEIVED
AUG 30 2001
The Whitman Companies, Inc.

AUG 28 2001

EXPRESS MAIL
RETURN RECEIPT REQUESTED

Mr. Michael Metlitz
The Whitman Companies, Inc.
44 West Ferris Street
East Brunswick, New Jersey 08816

Re: Characterization Report for the Rockaway Borough Well Field Superfund Site, Morris County, New Jersey

Dear Mr. Metlitz:

In accordance with Section IX, paragraph 38, of the Rockaway Borough Well Field Site Administrative Order on Consent with Klockner and Klockner, the U.S. Environmental Protection Agency (EPA) has reviewed the Characterization Report submitted by the Whitman Companies, Inc. dated January 2001. EPA's comments are enclosed. The New Jersey Department of Environmental Protection (NJDEP) has not as of yet provided comments on this document.

Should you have any questions or comments on any of the enclosed comments, please contact Brian Quinn, of my staff, at 212-637-4381.

Sincerely yours,

Carole Petersen, Chief
New Jersey Remediation Branch

Enclosure

cc: Nancy Eberhardt, Riker, Danzig, Scherer, Hyland & Perretti
Donna Gaffigan, NJDEP

302902

GENERAL COMMENTS

1. Please include a discussion of tentatively identified compounds that were potentially detected in the various Areas of Environmental Concern (AECs).

2. In some instances Tetrachloroethylene (PCE) quantitation limits were above New Jersey Impact to Groundwater Soil Cleanup Criteria (NJIGSCC) level of (1 mg/kg), such as:

Sample ID	Depth(ft.)	Result(mg/kg)
SSAW-2	1-1.5	3.07
SSAW-3	1-1.5	2.94
SSAW-4	4-4.5	3.07
SSAW-9	1-1.5	1.46
SSAW-10	1-1.5	1.51
SSSR-2	0-0.5	2.62
SSSR-3	0-0.5	2.62

Please evaluate these instances and determine the impact on the delineation of PCE.

SPECIFIC COMMENTS

1. **Section 2.2 - Site History, 2nd Paragraph** - State the concentration of primary contaminants in groundwater.

2. **Section 3.4 - Soil Sampling, 2nd Paragraph, 3rd Sentence** - How was hand coring sampling performed?

3. **Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, 5th Paragraph, 1st Sentence** - Table 1C is referred to but is not in the document.

4. **Section 3.6 - Field Quality Assurance/Quality Control (QA/QC) Samples, 5th Paragraph** - The way the duplicates are presented in the report makes it difficult to compare duplicate results that are presented throughout the data tables. Suggest putting all duplicate results side by side in one new table with a quantitative measure of acceptability, such as relative percent difference (RPD) or percent difference (%D) used against an acceptable, defined level (e.g., soils RPD$\leq$100%, waters$\leq$50% RPD, etc.).

5. **Section 4.2 - Site Geology/Hydrology -** The discussion presents a description of the fill and geologic units based upon previous site investigations and does not discuss/interpret in sufficient detail the site-specific information obtained during the site characterization. The subsurface lithologic data (as shown on the boring logs in Volume 1B Attachment 1) was apparently added to cross-sections (Figures 12, 13, and 15); however, the contact lines were not drawn and the lithology units were not correlated across the site. Therefore, it appears that the data was not presented in a manner that would facilitate evaluation of contaminant migration pathways in the vadose zone at the site.

6. **Section 4.3 - Soils, 2nd Paragraph -** This section does not provide enough detail on the soil conditions encountered during the recent soil sampling. A discussion on the various soil types encountered within the various AECs should be presented.

7. **Section 5.0 - Nature and Extent -** Pre-existing data should be included to accurately depict the nature and extent of all contamination.

8. **Section 5.1.2 - Building 12 - Underground Gasoline Tank, 1st Paragraph, 3rd Sentence -** Based on a review of the boring logs, it is not clear that the material beneath the fill was sampled. No Photoionization Detector (PID) readings from 0 to 7 feet below ground surface (bgs) were recorded on the logs for borings SSGT - 1 and SSGT - 2. Were PID readings collected for these intervals? What information was used to determine the depth at which to collect samples?

9. **Section 5.1.3 - Building 12 - Waste Oil Tank, 2nd Paragraph -** The boring log for SSWT-2 only provides a soil description from 0 to 1.5 feet bgs. Where is the soil description for 1.5 to 8 feet bgs? What specific information was used to select the boring locations? Also, please include information on the presence of Target Analyte List (TAL) metals in groundwater, such as monitoring wells impacted and the concentrations of TAL metals in excess of standards.

10. **Section 5.1.5 - Building 12 - Leaching Pit - 2nd Paragraph, 2nd Sentence -** The boring log for SSLP-1 does not contain PID readings. PID readings should be provided for this boring. The boring log also does not provide enough detailed soil descriptions. At a minimum, the color of the sand encountered, relative moisture content, and relative density should be provided.

11. **Section 5.1.6 - Building 12 Degreaser Pit, 3rd Paragraph, 2nd Sentence -** PCE detected in sample SSDP-1 exceeded the NJIGWSCC, however, sample SSDP-1 was not included in Figure 11. Please add this location to the figure. Also, please include a figure showing the isoconcentration lines for PCE concentrations above criterion.

12. **Section 5.1.7 - Building 12 - Alleyway** - Please state the rationale for which soil gas locations were selected for soil borings. In reviewing this discussion and the associated boring logs, there appears to be a need for clarification in regard to selection of sampling intervals and deficiencies with the boring logs. The following is a breakdown by boring of the discrepancies:

    a. SSAW-1 - The highest PID reading measured was from 2.5 to 3 feet bgs, but this interval was not sampled.
    b. SSAW-2 - The two intervals with the highest PID readings were not sampled.
    c. SSAW-3 (2/15/00) - Sample data indicates Chlorinated Volatile Organic Compounds (CVOCs) at 9.5 mg/kg, but the boring log shows PID reading at 0 ppm. Text states sample collected at 5 to 5.5 feet bgs.
    d. SSAW-6 - The deeper sample was collected from an interval beneath a silty clay layer where PID readings were 0 ppm. Elevated readings were found above the silty clay layer.
    e. SSAW-7 - Sample not collected from elevated PID interval.
    f. SSAW-8 - Clarify if the black gravel, found at 9 to 11 feet bgs, was fill or native soil and if the black color was the result of staining.
    g. SSAW-9 - Please explain why the shallow sample wasn't collected from the interval with the highest PID reading. Please explain why the deep sample wasn't collected.
    h. SSAW-11 - The analytical results from the sample collected indicate the presence of CVOCs, but all PID readings were 0 ppm. Please explain the rationale for sampling at the depth selected. Resample at 4 to 4.5 feet bgs.
    i. SSAW-12 - See comment h. Resample at 4 to 4.5 feet bgs.
    j. SSAW-13 - See comment h. Resample at 4 to 4.5 feet bgs.
    k. SSAW-14 - See comment h. Resample at 5.5 to 6 feet bgs.
    l. SSAW-15 - What was the rationale for sample selection? Resample at 2 to 2.5 feet bgs.
    m. SSAW-16 - See comment h. Resample at 4 to 4.5 feet bgs.
    n. SSAW-17 to SSAW-26 - See comment l.
    o. All PID readings collected for the additional drilling conducted in February and August of 2000 were recorded as 0 ppm on the boring logs. Please verify, through the submittal of field notes and calibration logs, that all readings were in fact 0 ppm.

13. **Section 5.1.8 - Building 12 - Scale Room, 2nd Paragraph, 3rd Sentence** - Please explain the origin of the water found in the pit.

14. **Section 5.1.8 - Building 12 - Scale Room, 2nd Paragraph, 12th Sentence** - State if any CVOCs were detected in the composite samples in the text.

15. **Section 5.1.8 - Building 12 - Scale Room, 3rd Paragraph, Last Sentence** - Vertical delineation was not performed at the locations of SSSR-2 and SSSR-3. Based on the reviewed data, elevated levels of Trichloroethylene (TCE) and PCE are present in this area and further vertical delineation should be performed.

16. **Section 5.1.8 - Building 12 - Scale Room, 6th Paragraph** - Briefly summarize the important findings.

17. **Section 5.1.9 - Building 12 - Quonset Hut** - Briefly summarize the important findings.

18. **Section 5.1.10 - Building 12 - Drum Storage Shed, 4th Paragraph, 5th Sentence** - Vertical delineation of CVOCs at the additional delineation sample location should be evaluated.

19. **Section 5.1.10 - Building 12 - Drum Storage Shed, 9th Paragraph, 1st Sentence** - It is not clear whether sufficient delineation for lead has been performed. It appears further delineation may be necessary in the vicinity of SSFS-3A. Please evaluate the need to collect additional delineation samples (e.g., along property line on each side of SSFA-3A and at the 0.5 to 1 foot bgs interval).

20. **Section 5.1.10 - Building 12 - Drum Storage Shed, 9th Paragraph, 2nd Sentence** - Please provide the basis for the areal extent of lead exceeding the criteria stated in this section.

21. **Section 5.1.11 - Building 12 - Drum Storage in Alleyway, 4th Paragraph** - Briefly summarize the major findings of this section.

22. **Section 5.1.12 - Building 12 - North Drum Storage Area, 2nd and 3rd Paragraphs** - In the sixth sentence of the second paragraph, samples for Volatile Organic Compounds (VOCs) are stated to be collected at a depth of 1.5 to 2 feet bgs. This interval is assumed to be the B interval. In the next paragraph it is stated that TCE soil criterion was exceeded in the A interval. Please clarify what interval was sampled for TCE and exceeds criterion.

23. **Section 5.1.12 - Building 12 - North Drum Storage Area** - There is a boring log for SSNDS-11, but there is no mention of this boring, or the two samples collected from it, in the text. Please clarify.

24. **Section 5.1.12 - Building 12 - North Drum Storage Area, Last Paragraph, 2nd Sentence** - TCE was detected above criterion at SSAW-1 approximately 13 feet bgs. Please discuss CVOC found below 5 feet bgs (see Figures 11 and 12).

25. **Section 5.1.13 - Building 12 - Sump, 2nd Paragraph** - Vertical delineation of CVOCs and arsenic was not performed at this location. No horizontal delineation for arsenic was performed. Please provide a discussion on the occurrence of arsenic at this location and whether further delineation is necessary.

26. **Section 5.1.13 - Building 12 - Sump, 4th Paragraph** - Briefly summarize the major findings of this section.

27. **Section 5.2.2 - Building 13 - Underground Heating Oil Tanks** - Please clarify if the tanks have been located and provide a discussion on the history and status.

28. **Section 5.2.3 - Building 13 - Dry Well, 2nd Paragraph, 3rd Sentence** - The concentration detected in SSDW-1 as reported by the laboratory was 1.04 mg/kg, which is at, or slightly exceeding, the NJIGWSCC. Referring to Fig. 15 (cross-section C-C'), it may be appropriate to confirm/delineate the PCE contamination associated with the former dry well as if may extend vertically into the soil column.

29. **Section 5.2.8 - Building 13 - Pipe, 1st Paragraph** - Please state origin/purpose of pipe.

30. **Section 5.2.8 - Building 13 - Pipe, 2nd Paragraph** - Please discuss the historical use of the encountered UST.

31. **Section 5.2.8 - Building 13 - Pipe, 3rd and 4th Paragraphs** - Please state the detection limits for both soil and tank liquid samples. Please state what the liquid is, if known, including any speculation if not know. Further analysis of this liquid is recommended.

32. **Section 5.2.12 - Building 13 - Concrete Pad Area, Last Paragraph** - Please justify this statement.

33. **Section 5.2.13 - Building 13 - Fence Area, 4th Paragraph, 1st Sentence** - Table 24 includes the results of 3.72 mg/kg for soil sample SSFA-6A (1.5-2.0 ft.), presumably located in the fence area. This sample is not described in the text or shown in Figures 7, 14 or 15. Therefore, this soil sample needs to be identified and delineated. A boring log was not provided for SSFA-6A.

34. **Section 6.1 - Building 12 - 2nd Paragraph** - The analytical data presented in Section 5.1.6 of the report indicates that PCE was detected at 1.1 mg/kg in sample SSDP-1 (2.5-3.0 ft), which exceeds the NJIGWSCC. Based on this data, it appears that further remedial investigation is required in this area (i.e., the 'Degreaser Pit' should be removed from Section 6.1 Paragraph 2 and added to Section 6.1 Paragraph 3).

35. **Section 6.1 - Building 12 - 4th Paragraph -** The statements made in this paragraph are not correct. Based on data shown on Figure 12 the vertical extent of contamination is not defined in the vicinity of sample locations SSDSA-1, SSSP-1, SSSR-2, and SSAW-1, and there is a lack of horizontal delineation data between SSDSA-1 and SSNDS1-/C/D.

36. **Section 6.3 - Conclusion -** Based on the prior comment to Section 6.1, potential source area contamination to groundwater has not been defined vertically and horizontally for the Alleyway and Drum Storage Shed areas, and vertically for the scale room and Building 12 sump.

TABLES

1. Each table should refer to what specific attachment the detection/quantitation limits can be found in for each sample showing "ND", or the quantitation limits should be shown/listed on the Table.

2. Table 1B - Parameters are not listed for Drum Storage Shed in the Table, but Figure 11 shows results. Please make tables and figures consistent.

3. Define "Total Confident Conc." listed at bottom of some tables.

4. Table 20B - State the quantitation limits.

FIGURES

1. Isopleths should be prepared for soil gas sampling results.

2. Figure 11 - The red isoconcentration line should be similar to that seen for green line (one area-not two), since there are no Volatile Organic results for SSFS-4A & SSFS-5A presented.

3. Figure 12 - Consider extending the green isoconcentration line below 13 feet bgs in SSAW-1. It is not readily apparent what the basis for the green isoconcentration line position is below SSDSA-1. Please clarify.

4. Figure 13 - It appears that the red isoconcentration line should be deeper than the point shown in SSSP-1. Please evaluate. Please state the rationale for placing red and green isoconcentration lines where they are shown in SSSR-1, SSSP-1, SSSR-2 sampling locations and also, for placement of the green isoconcentration line in SSAW-12.

5. Figures 12 and 13 - It appears that the concentration of TCE shown in the shallow soils in boring SSWT-1 and SSWT-2 in the Alleyway are conflicting in Figures 12 and 13 (cross-sections A-A' and B-B', respectively); for example, TCE is shown to be greater than 23 mg/kg in Figure 13, but less than 23 mg/kg in Figure 12. If it is likely that the shallow TCE contamination in the Alleyway is greater than the New Jersey Residential Direct Contact Soil Cleanup Criteria (NJRDCSCC), 23 mg/kg, as shown in cross-section B-B', additional shallow soil characterization sampling in this area may be warranted.

6. Referring to Figure 12, it appears that additional soil sampling (5 to 10 ft. in depth) at boring locations SSDSA-a and SSAW-1 would confirm the vertical extent of TCE contamination in this area. Also, an additional shallow soil sample collected at boring location SSAW-15 would confirm the horizontal/southwestern extent of the TCE contamination associated with Building 12.

7. It should be noted that the isoconcentration lines shown in Figures 11, 12, and 13, and in other figures have been drawn by a rough approximation method (it does not appear that concentration gradients have been determined by triangulation between adjacent sampling points). Therefore, it appears that all isoconcentration lines as shown are interpretive and may require a more accurate method of plotting. Please evaluate a more precise method of plotting isoconcentration lines.

ATTACHMENT 23

PID CALIBRATION SHEETS

302911

PID

PID/FID CALIBRATION AND MAINTENANCE ~~LOG~~

INSTRUMENT MANUFACTURER/MODEL Microtip MP-100 (Photovac)
IDENTIFICATION NO.: NA900214
LAMP (Circle One) 9.5eV ~~10.2eV~~ 10.6 11.7eV 302912

DATE/ TIME	INITIALS	BATTERY CHECK	CALIBRATION STANDARD			SPAN POT. SETTING	COI
			SOURCE	TYPE	CONC.		
10/6/98	CC	✓	isobutene	Span	100ppm		OK
10/7/98	CC	✓	"	"	"		OK
10/8/98	CC	✓	"	"	"		OK
10/8/98	CC/MW	✓	"	"	"		OK
10/16/98	CC	✓	"	"	"		OK

PID Calibration

2-8-00 Calibrated 10:00am SK
Battery Being Charged
Span Gas 100 ppm ~~Butane~~ Isobutylene
Instrument Reading 99.6 ppm
Ambient → 0 ppm

2-15-00 Calibrated 9:15 am
Span Gas 95.5 ppm Isobutylene
Instrument Reading 95.5 ppm
Ambient → 0 ppm

8/16/00 Calibrated 9:45 am
Span Gas 100.0 Isobutylene
Instrument Reading - 99.8 ppm
Ambient → 0.2 ppm

302914

ATTACHMENT 24

DUPLICATE SAMPLES REVIEW

302915

ATTACHMENT 24

DUPLICATE SAMPLES REVIEW

This duplicate sample review is to amend the Data Validation presented in Volume 2. A review of the duplicate samples collected for soil sample analysis is presented below. An evaluation of the duplicates for the soil gas sampling activities is provided in Volume 2.

Duplicate samples were obtained to check for sampling and analytical reproducibility. At a minimum, one (1) duplicate was obtained per media. Duplicates were obtained by equally splitting the sample between the appropriate containers. The duplicates obtained during sampling are listed on Table 3B.

A summary of the sampling duplicates and blanks is presented in Table 3A. A comparison of the duplicate results is presented in Tables 28A to 28I. The comparison includes calculations of the Relative Percent Difference (RPD) for each duplicate pair. The duplicate results were evaluated in accordance with EPA SOP HW-6, Revision 12, March 2001: CLP Organics Data Review and Preliminary Review and SOP HW-2, Revision 11, January 1992: Evaluation of Metals Data for the CLP Program. SOP HW-6 requires that the duplicate results be compared for gross differences and any gross differences be detailed in the QA/QC review narrative. SOP HW-2 requires that the RPD be evaluated.

Duplicates were collected for the following parameters analyzed in the soil samples:

Analysis	Method Number
Purgeable Halocarbons (PHAL)	SW-846 8021B
TCL Volatile Organic Compounds + 10 (VO+10)	SW-846 8260B
TCL Base/Neutral Extractable Organic Compounds + 15 (BN+15)	SW 846 8270C
Petroleum Hydrocarbons (PHC)	EPA Method 418.1 modified for soil with soxhlet extraction
TAL Metals	SW-846 6010B
TAL Metals (Mercury)	SW-846 7471A
Cyanide	CLP SOW Methodology

PHAL

Eight duplicates were analyzed for PHAL. Three of the duplicates had RPDs greater than 100%. Of these, one duplicate (Samples SSNDS-5/SSNDS-D) involved the comparison of a low concentration of TCE against a non detect result. A second (Samples SSSR-1/SSSR-4) involved comparison two low concentrations of TCE. The RPDs for these two duplicates were calculated at just above 100% and the results are not considered grossly different.

The third duplicate (Sample SSFA-1/SSFA-D) had results of non-detect and 2.6 mg/kg of PCE. A third sample was collected from this location to further evaluate the difference and was non-detect. The difference in concentrations at this sample location is considered an anomaly given the additional sample results.

The sampling for PHAL involves collection of discreet samples from heterogeneous material. Therefore, the duplicate sample is not derived from a mixed more homogeneous sample. This can result in differences in concentrations for duplicates. The laboratory duplicates and validation data for the PHAL were acceptable. The PHAL data are considered valid.

VO+10

One duplicate was analyzed for VO+10. Both the sample (SSGT-1) and its duplicate (SSGT-3) were non-detect. The detection limits for the samples were consistent with each other. The laboratory duplicates and validation data for the VO+10 were acceptable. The VO+10 data are considered valid.

BN+15

One duplicate was analyzed for BN+15. A majority of the BNs were not detected or were potentially detected below the detection limit. The RPDs for nine of the BNs were above 100%. Of these nine, six involved the comparison of BNs with estimated concentrations detected below the detection limits against non detect results. These results are not considered grossly different.

Two of the BNs involved comparison of concentrations just above the detection limit against estimated concentrations below the detection limit. These results are just above an RPD of 100% and are not considered grossly different.

One BN, bis(2-Ethylhexyl)phthalate had a concentration difference of over an order of magnitude (0.26 mg/kg vs. 13 mg/kg). The difference in the results is likely due to the

heterogeneous nature of the material sampled. This BN was not detected at any location at concentrations near or above the NJDEP soil cleanup criteria and laboratory duplicates and validation data were acceptable.

The difference in concentrations in the BNs duplicates is likely due to the variability in the heterogeneous material sampled and/or comparison of concentrations below detection limits to detection limits or slightly above and below detection limits. The laboratory duplicates and validation data for the BNs were acceptable. Therefore, the BN data is considered valid.

PHC

One duplicate was analyzed for PHC. The RPD calculated was less than 100% and there was no gross difference in the duplicate concentrations. The laboratory duplicates and validation data for the PHC were acceptable. The PHC data is considered valid.

TAL Metals

One duplicate (Sample SSFS-1/SSFS-2) was collected for TAL Metals. The RPD calculations were above 100% for the metals, Barium, Copper and Lead. The RPDs for Barium and Copper were just above 100%. Barium and Copper were not detected at any location at concentrations near or above the NJDEP soil cleanup criteria and laboratory duplicates and validation data were acceptable.

The RPD for Lead for samples SSFS-1 and SSFS-2 was 148%. The Lead concentration in sample SSFS-1 just exceeded the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC). The RPD for two additional duplicates for Lead sampling conducted at two later sampling rounds were 119% and 26%. The Lead concentrations for both additional sampling round duplicates were low compared to the NJDEP soil cleanup criteria and the RPD for one was not significantly above 100%. The laboratory duplicates and validation data were acceptable.

The difference in concentrations in the Barium, Copper and Lead duplicates is likely due to the variability in the heterogeneous material sampled. The laboratory duplicates and validation data for the TAL Metals were acceptable. Therefore, the TAL Metals data are considered valid.

Cyanide

One duplicate was analyzed for Cyanide. Both the sample (SSDSA-1) and its duplicate (SSDSA-3) were non-detect. The detection limits for the samples were consistent with each other. The laboratory duplicates and validation data for Cyanide were acceptable. The CN data is considered valid.

The duplicate sample results indicate some variability in sample concentrations for the contaminants analyzed and is likely due to the heterogeneous nature of the material sampled and sampling methodology (i.e. discreet samples for Volatile Organic Compounds) rather than laboratory derived errors. As stated in Volume 2, the data is considered valid.

302920

ATTACHMENT 25

HAZARDS AND RISKS ASSOCIATED WITH SOIL EXPOSURE FROM THE KLOCKNER AND KLOCKNER PROPERTY IN ROCKAWAY BOROUGH, NEW JERSEY

302921

Hazards and Risks Associated with Soil Exposure from the Klockner and Klockner Property in Rockaway Borough, New Jersey

Rockaway Borough Well Field Site
Operable Unit #3
Klockner and Klockner
Rockaway Borough, New Jersey

December 2002

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION II
Emergency and Remedial Response Division
290 Broadway - 18th Floor
New York, NY 10007-1866

302922

Table of Contents

1.0 Introduction 1

2.0 Methods 2
2.1 Exposure Medium 2
2.2 Chemicals of Potential Concern 3
2.3 Exposure Pathways 3
2.4 Receptor Populations 3
2.4.1 Land Use 3
2.4.2 Exposure Assumptions 4

3.0 Results 5
3.1 Non-carcinogenic Hazard - Quantitative 5
3.1.1 Adult Worker - Current/Future 5
3.1.2 Adolescent Intermittent Visitor - Current/Future 5
3.1.3 Recreational Adult Park Visitor - Future 5
3.1.4 Recreational Child Park Visitor - Future 5
3.1.5 Adult Resident - Future 5
3.1.6 Child Resident - Future 5
3.1.7 Construction Worker - Future 5
3.2 Carcinogenic Risk - Quantitative 5
3.2.1 Adult Worker - Current/Future 5
3.2.2 Adolescent Intermittent Visitor - Current/Future 6
3.2.3 Recreational Adult Park Visitor - Future 6
3.2.4 Recreational Child Park Visitor - Future 6
3.2.5 Adult Resident - Future 6
3.2.6 Child Resident - Future 6
3.2.7 Construction Worker - Future 6
3.3 Qualitative Assessment of Lead 6

4.0 Uncertainty 7
4.1 Physical Setting 7
4.2 Toxicity Assumptions 7

5.0 Discussion 8

6.0 Summary 9

7.0 References 9

Appendix A - Response to Comments on the draft risk assessment

302923

Tables

Table 1 - Selection of Exposure Pathways
Table 2.1 - Occurrence, Distribution, and Selection of Chemicals of Potential Concern - Bldg. 12
Table 2.2 - Occurrence, Distribution and Selection of Chemicals of Potential Concern - Bldg. 13
Table 3 - Medium-Specific Exposure Point Concentration Summary
Table 4.1 - Values Used for Daily Intake Calculations - Adult Worker
Table 4.2 - Values Used for Daily Intake Calculations - Adolescent Intermittent Visitor
Table 4.3 - Values Used for Daily Intake Calculations - Adult Recreational Park Visitor
Table 4.4 - Values Used for Daily Intake Calculations - Child Recreational Park Visitor
Table 4.5 - Values Used for Daily Intake Calculations - Adult Resident
Table 4.6 - Values Used for Daily Intake Calculations - Child Resident
Table 4.7 - Values Used for Daily Intake Calculations - Construction Worker
Table 5.1 - Non-Cancer Toxicity Data - Oral/Dermal
Table 5.2 - Non-Cancer Toxicity Data - Inhalation
Table 6.1 - Cancer Toxicity Data - Oral/Dermal
Table 6.2 - Cancer Toxicity Data - Inhalation
Table 7.1 - Calculation of Non-Cancer Hazards - Adult Worker
Table 7.2 - Calculation of Non-Cancer Hazards - Adolescent Intermittent Visitor
Table 7.3 - Calculation of Non-Cancer Hazards - Adult Recreational Park Visitor
Table 7.4 - Calculation of Non-Cancer Hazards - Child Recreational Park Visitor
Table 7.5 - Calculation of Non-Cancer Hazards - Adult Resident
Table 7.6 - Calculation of Non-Cancer Hazards - Child Resident
Table 7.7 - Calculation of Non-Cancer Hazards - Construction Worker
Table 8.1 - Calculation of Cancer Risks - Adult Worker
Table 8.2 - Calculation of Cancer Risks - Adolescent Intermittent Visitor
Table 8.3 - Calculation of Cancer Risks - Adult Recreational Park Visitor
Table 8.4 - Calculation of Cancer Risks - Child Recreational Park Visitor
Table 8.5 - Calculation of Cancer Risks - Adult Resident
Table 8.6 - Calculation of Cancer Risks - Child Resident
Table 8.7 - Calculation of Cancer Risks - Construction Worker
Table 9.1 - Summary of Receptor Risks and Hazards for COPCs - Adult Worker
Table 9.2 - Summary of Receptor Risks and Hazards for COPCs - Adolescent Intermittent Visitor
Table 9.3 - Summary of Receptor Risks and Hazards for COPCs - Adult Recreational Park Visitor
Table 9.4 - Summary of Receptor Risks and Hazards for COPCs - Child Recreational Park Visitor
Table 9.5 - Summary of Receptor Risks and Hazards for COPCs - Adult Resident
Table 9.6 - Summary of Receptor Risks and Hazards for COPCs - Child Resident
Table 9.7 - Summary of Receptor Risks and Hazards for COPCs - Construction Worker
Table 10.1 - Risk Assessment Summary - Adult Worker
Table 10.2 - Risk Assessment Summary - Adolescent Intermittent Visitor
Table 10.3 - Risk Assessment Summary - Adult Recreational Park Visitor
Table 10.4 - Risk Assessment Summary - Child Recreational Park Visitor
Table 10.5 - Risk Assessment Summary - Adult Resident
Table 10.6 - Risk Assessment Summary - Child Resident
Table 10.7 - Risk Assessment Summary - Construction Worker

1.0 INTRODUCTION

In order to determine the hazards and risks associated with exposure to contaminated soil from the Klockner and Klockner properties, referred to as the Building 12 property and the Building 13 property, a risk assessment was performed.

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario: *Hazard Identification* - identifies the contaminants of concern at the site based on several factors such as toxicity, frequency of occurrence, and concentration. *Exposure Assessment* - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well water by which humans are potentially exposed). *Toxicity Assessment* - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks and hazards.

2.0 METHODS

The risk assessment was performed following guidance recommended by the United States Environmental Protection Agency (USEPA). Specific guidance is listed in the reference section of this report. Two time frames, current and future uses of the site, were considered in this risk assessment.

2.1 Exposure Medium

The focus of this risk assessment was contaminated soil. Thus, only the soil was considered as a potential medium for exposure. The results of the risk assessment will only address the potential hazards and risks from soil exposure. Additional hazards and risks may be present at the site from other exposure media.

It should be noted that the majority of contamination that was detected is currently not available for exposure due to the contaminated soil being covered by buildings and parking lots. These structures generally can be categorized as engineering controls, which mean that a physical barrier (i.e., cap) is present that prevents exposure to contaminated areas. Engineering controls that are generated as part of a remedial remedy are accompanied by detailed procedures for evaluating the effectiveness of the remedy. Engineering controls can also be associated with institutional controls which limit actions that can be taken at a site, such as digging or changing land use. Although the parking lots and buildings may act as a cap, for this assessment the current use scenario does not consider the presence of these caps as a factor in limiting exposure to the contamination on the site. The purpose of the risk assessment is to identify potential hazards and risks at the site assuming that no remedial action is undertaken. Since there are no controls in place to monitor the effectiveness of the pavement or to prevent the alteration of the existing parking lot or buildings, it is assumed that the current population on the site has the potential for exposure to the contamination detected in the surface soil (i.e., 0-2.5 feet in depth) on the site.

2.2 Chemicals of Potential Concern

The analytical data reported in the "Characterization Report for Rockaway Borough Well Field Site Operable Unit #3 for Property of Klockner and Klockner" (January 2001) was used to determine the chemicals of potential concern (COPCs) in the soil for the properties identified as Building 12 and Building 13. The maximum detected concentration from each property was compared to values from the USEPA Region 9 Preliminary Remediation Goals (PRGs) table. The maximum detected concentration for each chemical was compared to PRG values derived to represent a hazard quotient of 0.1 and a cancer risk of E-06. Chemicals that exceeded the PRG value were retained as COPCs. In addition, chemicals that are classified as a Class A carcinogen (i.e., known human carcinogen) and chemicals for which there were no PRG values were also retained as COPCs. If a chemical is detected at a concentration that is below a PRG value, then that specific chemical is determined to be at a concentration that is unlikely to cause adverse health effects.

There were 44 chemicals detected on the Building 12 property (Table 2.1) and two chemicals detected on the Building 13 property (Table 2.2). Nine of the 44 chemicals from the Building 12 property exceeded their respective screening values and were retained as COPCs for quantitative analysis (Table 3). In addition, lead, which does not have a PRG screening value, was retained for qualitative analysis. None of the chemicals detected from the Building 13 property exceeded their respective screening values. Thus, the potential hazards and risks from the Building 13 property were not calculated in the risk assessment. The toxicity data for the COPCs are summarized in Tables 5.1, 5.2, 6.1, and 6.2.

Exposure point concentrations (EPC) were calculated for each of the nine chemicals that exceeded their respective screening values for the Building 12 property. Exposure point concentrations were calculated for two soil profiles a 0-2 feet profile (i.e, samples from 0-2.5 feet depths) and a 0-13.5 feet profile (i.e., all sample depths). The 0-2 feet EPCs were used to calculate the hazards and risks for the current/future scenario which includes an adult worker and an adolescent intermittent visitor. The 0-13.5 feet profile, referred to as "all depths", was used for the remaining future scenarios. Exposure point concentrations were calculated in one of two ways. For chemicals which had a sample size of less than 10 samples, the maximum detected concentration was used as an EPC. For the remaining chemicals, which had sample sizes of greater than 10, a 95% upper confidence level (UCL) concentration was calculated. The 95% UCL is a statistical value calculated on the arithmetic average chemical concentration. If the analytical results indicated a non-detect for a chemical, then a value of ½ of the detection limit was used when calculating the 95% UCL for that chemical. If the maximum detected concentration was lower than the calculated 95% UCL, then the maximum detected concentration was used. The calculation of EPCs for two chemicals, trichloroethene and tetrachloroethene, required an additional level of analysis because the data sets for these chemicals had large standard deviations (i.e., > 3). For these two chemicals, separate EPCs were calculated for delineated areas with concentrations that were equal or greater than 1 mg/kg and for samples that were less than 1 mg/kg (see Figure 11 in the Characteriazation Report). The EPC values used to

302926

calculate the hazards and risks are in Table 3.

2.3 Exposure Pathways

There are four potential pathways associated with soil exposure, ingestion, dermal absorption, inhalation of dust, and inhalation of volatiles. For this assessment, the primary exposure pathways that were addressed were ingestion and dermal absorption. Inhalation of dust was also addressed for one future receptor population, adult construction worker. Exposure pathways can be found in Table 1.

2.4 Receptor Populations

In order to address the potential hazards and risks present at a site, the populations on or near the site must be characterized. For this assessment, the potential current and future receptor populations were chosen based upon a site visit, current land use, and reasonable future use of the site. Receptor populations are identified in Table 1. Two current receptor populations were identified at the site, an adult worker and an adolescent intermittent visitor. These two receptor populations were also identified as future receptor populations. In addition, five other future receptor populations were identified, adult and adolescent recreational park visitor, adult and child resident, and an adult construction worker. Specific guidance and information used to estimate future receptor populations are listed below.

2.4.1 Land use - For current land use characterization, Risk Assessment Guidance for Superfund (RAGS) Part A recommends performing a site visit to physically observe how the site is being used and what features are in the immediate vicinity. This was done to choose the current receptor populations. Characterizing future land use and associated receptor populations requires additional information, such as zoning maps, master plans, and established land use trends in the general area. In addition to RAGS Part A, a directive, titled "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive No. 9355.7-04), also provides guidance on selecting future land uses. The directive's two primary objectives are to promote inclusion of local land use planning information when evaluating future land use and to use that information to develop realistic assumptions regarding future land use. The directive also indicates that in addition to considering the reasonably anticipated future land use, it may be valuable to evaluate hazards and risks associated with other land uses to understand the implications of unexpected exposures. It further states that this can be accomplished by using several land use scenarios to estimate the impact on human health and the environment should the land use unexpectedly change.

For this assessment several local planning documents were utilized, specifically "Land Development" from the Code of the Borough of Rockaway (12/25/1996) and "Borough of Rockaway Master Plan 1995". Based upon the current land use and the information contained in the above referenced documents, three future land use scenarios were identified, industrial/commercial, recreational, and residential. Specific criteria used are discussed below:

302927

- **Industrial/commercial** - This is the anticipated future land use for the property. The property is currently zoned General Light Industrial and is located in an area on the Borough's eastern border with Denville Township along Sickle Avenue, Pine Street, Cobb Street, and Gill Avenue. The Borough of Rockaway Master Plan recommends that "the industrial zoning of this area be limited in the area to reflect the existing developed industrial tracts. As industrial buildings in these areas are vacated or proposed for change in use it is recommended that the replacement uses be light industrial in character. Such uses would include assembly, light manufacturing, and flex or warehouse type structures combined with office space." Thus the most likely future use for this property is industrial/commercial which would include future receptor populations that are consistent with the current receptor populations, namely adult workers and adolescent intermittent visitors.
- **Recreational** - Although the most likely future land use for the property is industrial/commercial, recreational land use is also being evaluated due to trends referenced in the Borough of Rockaway Master Plan. There are multiple references in the Master plan that indicate a desire to be more sensitive to environmental impacts and for long-range planning to include acquisition of open space and recreation sites to meet near-term community needs. The zone in which the Klockner and Klockner property is located abuts an area zoned for environmental conservation, which is identified as flood plain, wetlands, and open space. Given the proximity of the property to the river corridor, the railroad, and the apartment complex, one potential future use could include incorporation of the property as a recreational park. In many communities, railroad lines are being redeveloped as trails to connect open spaces and parks in the community. Thus, a recreational park scenario is included as a potential, but unlikely, future use. This future use would include an adult and child recreational park visitor as receptor populations.
- **Residential** - As indicated above, the most likely future use of the property is industrial/commercial, however, given the proximity of single-family residential homes and an apartment complex to the property, a potential future use could be residential. The Borough of Rockaway Master Plan indicates that one goal is to protect residential zones which abut commercial and industrial zones through appropriate measures including buffering, setbacks and transitional uses. Thus, a residential scenario is included as a potential, but unlikely, future use. This future use would include an adult and child resident as receptor populations.

2.4.2 Exposure Assumptions - The exposure assumptions used to model the potential hazards and risks associated with the site are located in Tables 4.1-4.7. References for the guidance used to choose the exposure assumptions are listed as footnotes in the tables referenced above. Reasonable maximum exposure (RME) and central tendency (CT) values were chosen for each receptor population. Only the RME hazards and risks were calculated. If the RME calculations result in an unacceptable hazard or risk, the calculations may also be done using the CT values to determine the likelihood of unacceptable hazards or risks to the average population. However, only the RME hazard and risk estimates are used for remedial purposes.

302928

3.0 RESULTS

The following section will discuss the results of the noncancer hazards (Tables 7.1-7.7) and cancer risks (Tables 8.1-8.7) for each population based on the assumptions identified in the previous sections. In addition, summary tables showing both the noncancer hazards and cancer risk are summarized in tables 9.1-9.7 and chemicals which exceed EPA's acceptable noncancer hazard level or are within or above EPA's acceptable cancer risk range are presented in tables 10.1-10.7.

3.1 Non-carcinogenic Hazard - Quantitative

3.1.1 Adult Worker - Current/Future - The hazard quotient (HQ) for each chemical for the adult worker scenario is below EPAs acceptable HQ of 1. In addition, the sum of the hazard quotients (i.e., Hazard Index (HI)) for the adult worker is 0.17 which is below EPA's acceptable HI of 1 (Table 7.1).

3.1.2 Adolescent Intermittent Visitor - Current/Future - The HQ for each chemical for the adolescent intermittent visitor scenario is below EPAs acceptable HQ of 1. In addition, the HI for the adolescent intermittent visitor worker is 0.043 which is below EPA's acceptable HI of 1 (Table 7.2).

3.1.3 Recreational Adult Park Visitor - Future - The HQ for each chemical for the recreational adult park visitor scenario is below EPAs acceptable HQ of 1. In addition, the HI for the recreational adult park visitor is 0.065 which is below EPA's acceptable HI of 1 (Table 7.3).

3.1.4 Recreational Adolescent Park Visitor - Future - The HQ for each chemical for the recreational adolescent park visitor scenario is below EPAs acceptable HQ of 1. In addition, the HI for the recreational adolescent park visitor is 0.1 which is below EPA's acceptable HI of 1 (Table 7.4).

3.1.5 Adult Resident - Future - The HQ for each chemical for the adult resident scenario is below EPAs acceptable HQ of 1. In addition, the HI for the adult resident is 0.41 which is below EPA's acceptable HI of 1 (Table 7.5).

3.1.6 Child Resident - Future - The HQ for all of the chemicals, except for iron and trichloroethene (> 1 mg/kg), for the child resident scenario are below EPAs acceptable HQ of 1. The HQs for soil ingestion for iron and trichloroethene (> 1 mg/kg) are 1.1 and 1.66, respectively, where are above EPA's acceptable HQ of 1. In addition, the HI for the child resident is 3.8 which is above EPA's acceptable HI of 1 (Table 7.6).

3.1.7 Construction Worker - Future - The HQ for each chemical for the construction worker scenario is below EPAs acceptable HQ of 1. In addition, the HI for the construction worker is 0.69 which is below EPA's acceptable HI of 1 (Table 7.7).

3.2 Carcinogenic Risk - Quantitative

3.2.1 Adult Worker - Current/Future - The cancer risks (CR) for each chemical for the adult worker are below or within EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.1). Arsenic has the highest CR of 2.6 E-6 (1.9 E-6 for ingestion + 7.5 E-7 for dermal), with ingestion being the most sensitive exposure pathway. The

302929

cumulative cancer risk (3.6 E-6) is within EPA's acceptable range.

3.2.2 Adolescent Intermittent Visitor - Current/Future - The cancer risks (CR) for each chemical for the adolescent intermittent visitor are below EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.2). The cumulative cancer risk (4.8 E-7) is also below EPA's acceptable range.

3.2.3 Recreational Adult Park Visitor - Future - The cancer risks (CR) for each chemical for the recreational adult park visitor are below EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.3). The cumulative cancer risk (1.2 E-6) is within EPA's acceptable range.

3.2.4 Recreational Adolescent Park Visitor - Future - The cancer risks (CR) for each chemical for the recreational child park visitor are below EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.4). The cumulative cancer risk (1.8 E-6) is within EPA's acceptable range.

3.2.5 Adult Resident - Future - The cancer risks (CR) for each chemical for the adult resident are below or within EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.5). Arsenic has the highest CR of 8.7 E-6 (7.7 E-6 for ingestion + 9.3 E-7 for dermal), with ingestion being the most sensitive exposure pathway. The cumulative cancer risk (1.0 E-5) is within EPA's acceptable range.

3.2.6 Child Resident - Future - The cancer risks (CR) for each chemical for the child resident are below or within EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.6). Arsenic has the highest CR of 2.0 E-5 (1.8 E-5 for ingestion + 1.5 E-6 for dermal), with ingestion being the most sensitive exposure pathway. The cumulative cancer risk (2.3 E-5) is within EPA's acceptable range.

3.2.7 Construction Worker - Future - The cancer risks (CR) for each chemical for the construction worker are below EPA's acceptable cancer risk range of E-4 to E-6 (Table 8.7). The cumulative cancer risk (6.9 E-7) is below EPA's acceptable range.

3.3 Qualitative Assessment of Lead

Lead was detected in every sample that was analyzed for lead. The highest concentration of lead detected on the site was 841 mg/kg, while the remaining samples had concentrations that were below 500 mg/kg. The average lead concentration was calculated as 174 mg/kg and the 95% UCL was calculated as 732 mg/kg. All of the values referenced above are below EPA's acceptable value of 1250 mg/kg for an industrial site. However, EPA's acceptable value for a residential area is 400 mg/kg, which was exceeded by two samples (SSFS-3A and SSFS-1 from the 0.0-0.5 feet soil profile). These sample are located on the eastern property boundary, near the Quonset hut. Although the future use of the site, as identified in the land use section, is likely to remain as light industrial, it should be noted that if a change in zoning (e.g., residential) or a change in receptor populations (e.g, day care) were to occur, lead concentration in the soil would need to be addressed as some of the detected concentrations and the calculated 95% UCL are above the residential value of 400 mg/kg. Also note that the removal of the two samples above 400 mg/kg still yields a 95% UCL of > 400 mg/kg.

302930

4.0 UNCERTAINTY

The risk measurements used in this risk assessment were not fully probabilistic estimates of risk, but conditional estimates given a considerable number of assumptions about exposure and toxicity. Thus, it is important to identify the uncertainties associated with the assumptions to place the risk estimates in proper perspective. The primary uncertainties associated with this exposure assessment include physical setting and toxicity assumptions.

4.1 Physical Setting

Future land use is often hard to identify with certainty as short-term planning and current land use in the near term (i.e., 1-5 years) may change substantially over time (i.e., 10-20 years). Based on the current master plan for Rockaway Borough, the site is forecasted to remain as light industrial in nature. The risk associated with this future use, which is similar to the current use, is within acceptable EPA values for noncancer hazards and cancer risks. However, there was an unacceptable noncancer hazard for a child resident population from soil ingestion that was driven by the concentration of trichloroethene in the soil. This should be taken into account when addressing potential remedial alternatives associated with removal activities or institutional controls (i.e., deed restrictions).

4.2 Toxicity Assumptions

Arsenic - The cancer risk associated with exposure to arsenic has been estimated to range from 3.5E-07 to 2.0E-05 for the different receptor populations analyzed, with the greatest risk for a child resident population. This risk may be overestimated because the arsenic detected on the site was assumed to be 100% inorganic arsenic, which is the most toxic form of arsenic. In addition, the arsenic detected on the site was assumed to be related to anthropogenic activities associated with past use of the site. Arsenic is a naturally occurring element and the assumption that the arsenic detected on the site was associated with site-related activities does not account for the potential contribution of background concentrations. Therefore, although a risk was calculated for arsenic exposure at the site, the calculated risk may be the same for soil exposure in the region if the arsenic concentrations detected are attributable to naturally occurring concentrations and thus not associated with site-related contamination. However, since background samples were not collected for comparison, the assumption of arsenic being site-related is the default assumption, even though it may introduce uncertainty and overestimate the potential hazards and risks.

Chromium - Chromium (Cr) was selected as a contaminant of potential concern (COPC) based on the detected concentration exceeding the screening value. The concentration that was detected was assumed to be 100% CrVI, which is the most toxic form. Chromium exists in the environment in a variety of valance states, with a ratio that is often 1:6 for CrVI:CrIII. Chromium III is less toxic and has a higher screening value, therefore inclusion of chromium as a COPC may be adding to an overestimation of the hazards and risks associated with the site. As the samples collected at the site were only analyzed for total chromium the default assumption that all of the Cr detected is CrIV is chosen as a

conservative assumption, even though it introduces uncertainty. Based on the calculated hazards and risks, Cr was not a primary risk driver in this assessment.

Iron - Iron was chosen as COPC because it exceeded the screening value. However, in addition to being a contaminant that has the potential for causing adverse health effects, iron is also an essential nutrient. The hazard associated with exposure to iron at the concentration detected at the site slightly exceeded the acceptable HQ value of 1 for the child resident population with an HQ of 1.1. The risk associated with iron exposure to an adult population would not be overestimated because the reference dose accounts for an adequate levels of iron to meet the nutritional requirements of adults and adolescents over a lifetime and thus would not be expected to cause adverse health effects. However, it does not supply the recommended dietary allowance (RDA) to those members of the population that have greater requirements for a short, less-than-lifetime duration such as infants (7-12 months) and pre-adolescent children (1-8 years), and pregnant women. Therefore since the hazard is associated with a child population, the uncertainty associated with the hazard for a child resident may be overestimated.

5.0 Discussion

The results of the hazard and risk calculations for the Klockner and Klockner property indicate that the current and future noncancer hazards and cancer risks for an adult worker and adolescent intermittent visitor from soil exposure are below or within EPA's acceptable values. This assessment only accounted for the hazards and risks associated with soil exposure, so the actual risk at the site may be higher if other contaminated media are included. As indicated earlier in the document, the current exposure to workers at the site are expected to be even lower than the exposures used in the calculations due to the contaminants being located under the parking lots and buildings.

The calculation of future hazards and risks associated with the site indicated acceptable hazards and risks for adult and child recreational park visitors and adult residents. However, an unacceptable noncancer hazard was calculated for a child resident due to trichloroethene and iron. These potential future uses of the site are unlikely given the current land use and projected future zoning of the area, however, the calculations indicate that the potential for unacceptable hazards are possible for a child resident. This should be taken into account when remedial actions and institutional controls for the site are considered.

Although the future use of the site is slated to remain as light-industrial, which under the current and future estimation of hazards and risks present acceptable hazards and risks, it should be noted that the concentrations of trichloroethene and tetrachloroethene detected in the soil exceed New Jersey's criteria for soil contamination due to potential to contaminate groundwater. Thus, even though the hazards and risks for soil exposure are below or within acceptable EPA values, a remedial action may still be warranted. In addition, the results for potential future uses of the site as a recreational park or residential area, although unlikely, should be taken into consideration when determining potential remedial actions and controls for the site.

6.0 SUMMARY

The results of the hazard and risk calculations for the Klockner and Klockner property indicate that the current noncancer hazards and cancer risks for an adult worker and adolescent intermittent visitor from soil exposure are below or within EPA's acceptable values. This assessment only accounted for the hazards and risks associated with soil exposure, so the actual risk at the site may be higher when other contaminated medium are included. The potential future uses of the site as a recreational park visitor yielded hazards and risks for an adult and child population for soil exposure that were below or within EPA's acceptable values. Another potential, although unlikely, future use as a residential area indicated that the hazards and risks for an adult resident were below or within EPA's acceptable values. However, the noncancer hazard for a child resident, driven by trichloroethene and iron, exceeded EPA's acceptable value. The concentrations of trichloroethene and tetrachloroethene detected in the soil exceed New Jersey's criteria for soil contamination due to potential to contaminate groundwater. Thus, even though the hazards and risks for soil exposure are below or within acceptable EPA values, a remedial action may still be warranted.

7.0 REFERENCES

Borough of Rockaway Master Plan. 1995. Pages 7-13 and Plate 4, Conceptual Land Use Plan.

Rockaway Borough Land Use Plan. December 25, 1996. Pages 17207-17208, 17260-17262, 17275, and Zoning map.

Metlitz, M. and I.L. Whitman. January 2001. Characterization Report for Rockaway Borough Well Field Site Operable Unit #3 for Property of Klockner and Klockner Rockaway Borough, New Jersey. Submitted to USEPA Region II, Emergency and Remedial Response Division, New York, NY.

United States Environmental Protection Agency. 1989. Risk Assessment Guidance for Superfund (RAGS). Volume I. Human Health Evaluation Manual Part A. OERR. EPA/540/1-89/002. December. Available at: http://www.epa.gov/superfund/programs/risk/ragsa/index.htm

United States Environmental Protection Agency. 1990. Risk Assessment Guidance for Superfund (RAGS). Volume I. Human Health Evaluation Manual Part B. OERR. EPA/540/R-92/003. Available at: http://www.epa.gov/superfund/programs/risk/ragsb/index.htm

United States Environmental Protection Agency. March 25, 1991. RAGS Volume I: Human Health Evaluation Manual Supplemental Guidance. Standard Default Exposure Factors. OSWER Directive 9285.6-03.

United States Environmental Protection Agency. May 25, 1995. Land Use in the CERCLA Remedy Selection Process. OSWER Directive No. 9355.7-04.

United States Environmental Protection Agency. Exposure Factors Handbook - Final. 1997.

302933

Office of Health and Environmental Assessment, Washington, DC. Available at: http://www.epa.gov/ncea/exposfac.htm

United States Environmental Protection Agency. 1998. Risk Assessment Guidance for Superfund (RAGS). Volume I. Human Health Evaluation Manual Part D. OERR. Interim Publication No. 9285.7-01D. Available at: http://www.epa.gov/superfund/programs/risk/ragsd/index.htm

United States Environmental Protection Agency. 1999. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual: Part E, Supplemental Guidance for Dermal Risk Assessment. Interim Guidance, OSWER Directive 9282.7-10.

United States Environmental Protection Agency. 2001. Region 9 Preliminary Remediation Goals. Available at: http://www.epa.gov/region09/waste/sfund/prg/index.htm

302934

TABLE 7.6.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Resident
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.00E+004	mg/kg			1.00E+004	1.37E-002	mg/kg-day	1.00E+000	mg/kg-day			1.4E-002
	Arsenic	1.10E+001	mg/kg			1.10E+001	1.51E-005	mg/kg-day	3.00E-004	mg/kg-day			5.0E-002
	Chromium	4.00E+001	mg/kg			4.00E+001	5.48E-005	mg/kg-day	3.00E-003	mg/kg-day			1.8E-002
	Iron	2.50E+004	mg/kg			2.50E+004	3.42E-002	mg/kg-day	3.00E-001	mg/kg-day			1.1E-001
	Manganese	4.20E+002	mg/kg			4.20E+002	5.75E-004	mg/kg-day	2.40E-002	mg/kg-day			2.4E-002
	cis-1,2-dichloroethene	1.30E-001	mg/kg			1.30E-001	1.78E-007	mg/kg-day	1.00E-001	mg/kg-day			1.8E-006
	Trichloroethene > 1 mg/kg	3.9E+001	mg/kg			3.90E+001	5.34E-005	mg/kg-day	3.00E-004	mg/kg-day			1.78E-001
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	9.73E-007	mg/kg-day	3.00E-004	mg/kg-day			3.24E-003
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	3.25E-005	mg/kg-day	1.00E-002	mg/kg-day			3.25E-003
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.60E-003	4.93E-009	mg/kg-day	1.00E-002	mg/kg-day			4.93E-007
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	1.80E-006	mg/kg-day	3.00E-004	mg/kg-day			6.01E-003
										Total Hazard Index Across All Exposure Routes/Pathways			4.1E-001

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302935

TABLE 7.4.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.00E+004	mg/kg			1.00E+004	3.31E-003	mg/kg-day	1.00E+000	mg/kg-day			3.3E-003
	Arsenic	1.10E+001	mg/kg			1.10E+001	3.64E-006	mg/kg-day	3.00E-004	mg/kg-day			1.2E-002
	Chromium	4.00E+001	mg/kg			4.00E+001	1.33E-005	mg/kg-day	3.00E-003	mg/kg-day			4.4E-003
	Iron	2.50E+004	mg/kg			2.50E+004	8.28E-003	mg/kg-day	3.00E-001	mg/kg-day			2.8E-002
	Manganese	4.20E+002	mg/kg			4.20E+002	1.39E-004	mg/kg-day	2.40E-002	mg/kg-day			5.8E-003
	cis-1,2-dichloroethene	1.30E-001	mg/kg			1.30E-001	4.31E-008	mg/kg-day	1.00E-001	mg/kg-day			4.3E-007
	Trichloroethene > 1 mg/kg	3.9E+001	mg/kg			3.90E+001	1.29E-005	mg/kg-day	3.00E-004	mg/kg-day			4.31E-002
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	2.35E-007	mg/kg-day	3.00E-004	mg/kg-day			7.84E-004
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	7.85E-006	mg/kg-day	1.00E-002	mg/kg-day			7.85E-004
	Tetrachloroethene < 1 mg/kg	3.60E-004	mg/kg			3.60E-004	1.19E-010	mg/kg-day	1.00E-002	mg/kg-day			1.19E-008
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	1.87E-006	mg/kg-day	3.00E-004	mg/kg-day			6.24E-003
												Total Hazard Index Across All Exposure Routes/Pathways	1.0E-001

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302936

TABLE 7.3.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.00E+004	mg/kg			1.00E+004	2.04E-003	mg/kg-day	1.00E+000	mg/kg-day			2.0E-003
	Arsenic	1.10E+001	mg/kg			1.10E+001	2.24E-006	mg/kg-day	3.00E-004	mg/kg-day			7.5E-003
	Chromium	4.00E+001	mg/kg			4.00E+001	8.14E-006	mg/kg-day	3.00E-003	mg/kg-day			2.7E-003
	Iron	2.50E+004	mg/kg			2.50E+004	5.09E-003	mg/kg-day	3.00E-001	mg/kg-day			1.7E-002
	Manganese	4.20E+002	mg/kg			4.20E+002	8.55E-005	mg/kg-day	2.40E-002	mg/kg-day			3.6E-003
	cis-1,2-dichloroethene	1.30E-001	mg/kg			1.30E-001	2.65E-008	mg/kg-day	1.00E-001	mg/kg-day			2.6E-007
	Trichloroethene > 1 mg/kg	3.9E+001	mg/kg			3.90E+001	7.94E-006	mg/kg-day	3.00E-004	mg/kg-day			2.65E-002
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	1.45E-007	mg/kg-day	3.00E-004	mg/kg-day			4.82E-004
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	4.82E-006	mg/kg-day	1.00E-002	mg/kg-day			4.82E-004
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.6E-003	7.33E-010	mg/kg-day	1.00E-002	mg/kg-day			7.33E-008
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	1.53E-006	mg/kg-day	3.00E-004	mg/kg-day			5.10E-003
												Total Hazard Index Across All Exposure Routes/Pathways	6.5E-002

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302937

TABLE 7.2.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.1E+004	mg/kg			1.1E+004	1.37E-003	mg/kg-day	1.00E+000	mg/kg-day			1.4E-003
	Arsenic	7.20E+000	mg/kg			7.20E+000	8.95E-007	mg/kg-day	3.00E-004	mg/kg-day			3.0E-003
	Chromium	4.60E+001	mg/kg			4.60E+001	5.72E-006	mg/kg-day	3.00E-003	mg/kg-day			1.9E-003
	Iron	3.10E+004	mg/kg			3.1E+004	3.85E-003	mg/kg-day	3.00E-001	mg/kg-day			1.3E-002
	Manganese	4.20E+002	mg/kg			4.2E+002	5.22E-005	mg/kg-day	2.40E-002	mg/kg-day			2.2E-003
	cis-1,2-dichloroethene	3.10E+000	mg/kg			3.10E+000	3.85E-007	mg/kg-day	1.00E-001	mg/kg-day			3.9E-006
	Trichloroethene > 1 mg/kg	4.8E+001	mg/kg			4.78E+001	5.94E-006	mg/kg-day	3.00E-004	mg/kg-day			2.0E-002
	Trichloroethene < 1 mg/kg	4.80E-001	mg/kg			4.80E-001	5.96E-008	mg/kg-day	3.00E-004	mg/kg-day			2.0E-004
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	2.94E-006	mg/kg-day	1.00E-002	mg/kg-day			2.9E-004
	Tetrachloroethene < 1 mg/kg	2.00E-002	mg/kg			2.00E-002	2.48E-009	mg/kg-day	1.00E-002	mg/kg-day			2.5E-007
Dermal	Arsenic	7.20E+000	mg/kg			7.20E+000	4.60E-007	mg/kg-day	3.00E-004	mg/kg-day			1.5E-003
										Total Hazard Index Across All Exposure Routes/Pathways			4.3E-002

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302938

TABLE 7.1.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Worker
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.1E+004	mg/kg			1.10E+004	5.38E-003	mg/kg-day	1.00E+000	mg/kg-day			5.4E-003
	Arsenic	7.20E+000	mg/kg			7.20E+000	3.52E-006	mg/kg-day	3.00E-004	mg/kg-day			1.2E-002
	Chromium	4.60E+001	mg/kg			4.60E+001	2.25E-005	mg/kg-day	3.00E-003	mg/kg-day			7.5E-003
	Iron	3.10E+004	mg/kg			3.10E+004	1.52E-002	mg/kg-day	3.00E-001	mg/kg-day			5.1E-002
	Manganese	4.20E+002	mg/kg			4.20E+002	2.05E-004	mg/kg-day	2.40E-002	mg/kg-day			8.6E-003
	cis-1,2-dichloroethene	3.10E+000	mg/kg			3.10E+000	1.52E-006	mg/kg-day	1.00E-001	mg/kg-day			1.5E-005
	Trichloroethene > 1 mg/kg	4.78E+001	mg/kg			4.78E+001	2.34E-005	mg/kg-day	3.00E-004	mg/kg-day			7.8E-002
	Trichloroethene < 1 mg/kg	4.80E-001	mg/kg			4.80E-001	2.35E-007	mg/kg-day	3.00E-004	mg/kg-day			7.8E-004
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	1.16E-005	mg/kg-day	1.00E-002	mg/kg-day			1.2E-003
	Tetrachloroethene < 1 mg/kg	2.00E-002	mg/kg			2.00E-002	9.79E-009	mg/kg-day	1.00E-002	mg/kg-day			9.8E-007
Dermal	Arsenic	7.20E+000	mg/kg			7.20E+000	1.39E-006	mg/kg-day	3.00E-004	mg/kg-day			4.6E-003
										Total Hazard Index Across All Exposure Routes/Pathways			1.7E-001

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302939

TABLE 6.2
CANCER TOXICITY DATA – INHALATION
Rockaway Borough - Klockner and Klockner Property

Chemical of Potential Concern	Unit Risk	Units	Adjustment	Inhalation Cancer Slope Factor	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date (1) (MM/DD/YY)
Arsenic	4.3E+000	mg/m3		1.51E+001	mg/kg-day	A	IRIS	12/10/2001
Chromium	1.2E+001	mg/m3		4.20E+001	mg/kg-day	A	IRIS	12/10/2001
Trichloroethene	1.1E-001	ug/m3		3.85E-001	mg/kg-day	B2/C	NCEA	12/10/2001
Tetrachloroethene	3.5E-006	ug/m3		1.23E-005	mg/kg-day	B2/C	NCEA	12/10/2001

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

Weight of Evidence:

Known/Likely

Cannot be Determined

Not Likely

(1) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide the date of the article provided by NCEA.

EPA Group:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen

E - Evidence of noncarcinogenicity

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Rockaway Borough - Klockner and Klockner Property

Chemical of Potential Concern	Oral Cancer Slope Factor	Oral to Dermal Adjustment Factor	Adjusted Dermal Cancer Slope Factor (1)	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date (2) (MM/DD/YY)
Arsenic	1.5E+000	n/a	n/a	mg/kg-d	A	IRIS	11/27/01
Trichloroethene	1.1E-002	n/a	n/a	mg/kg-d	B2-C	NCEA	11/27/01
Tetrachloroethene	5.2E-002	n/a	n/a	mg/kg-d	B2-C	NCEA	11/27/01
Benzo[a]pyrene	7.3E+000	n/a	n/a	mg/kg-d	B2	IRIS	11/27/01

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

(1) Provide equation for derivation in text.

(2) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide the date of article provided by NCEA.

EPA Group:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen

E - Evidence of noncarcinogenicity

Weight of Evidence:

Known/Likely

Cannot be Determined

Not Likely

TABLE 5.2
NON-CANCER TOXICITY DATA -- INHALATION
Rockaway Borough - Klockner and Klockner Property

Chemical of Potential Concern	Chronic/ Subchronic	Value Inhalation RfC	Units	Adjusted Inhalation RfD (1)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfC:RfD: Target Organ	Dates (2) (MM/DD/YY)
Chromium	Chronic	1.00E-004	mg/m3	2.9E-005	mg/kg/day	Lungs	300	IRIS	08/01/2001
Trichloroethene	Chronic	4.00E-002	mg/m3	1.1E-002	mg/kg/day	CNS	1000	NCEA	12/10/2001
Tetrachlorethene	Chronic	2.00E-001	mg/m3	5.71E-002	mg/kg/day	Renal tubular cell karyomegaly	100	NCEA	12/10/2001

N/A = Not Applicable

(1) Provide equation used for derivation in text.

(2) For IRIS values, provide the date IRIS was searched.

For HEAST values, provide the date of HEAST.

For NCEA values, provide the date of the article provided by NCEA.

TABLE 5.1

NON-CANCER TOXICITY DATA – ORAL/DERMAL

Rockaway Borough - Klockner and Klockner Property

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD	Dates of RfD (3) (MM/DD/YY)
Aluminum	Chronic	1.00E+000	mg/kg-d	n/a	n/a	mg/kg-d	CNS effects		NCEA	11/27/01
Arsenic	Chronic	3.00E-004	mg/kg-d	n/a	n/a	mg/kg-d	Skin	3	IRIS	11/27/01
Chromium	Chronic	3.00E-003	mg/kg-d	2.5%	8E-005	mg/kg-d	n/a	900	IRIS	11/27/01
Iron	Chronic	3.00E-001	mg/kg-d	n/a	n/a	mg/kg-d	Gastrointestine	1	NCEA	11/27/01
Lead	Chronic	n/a	mg/kg-d	n/a	n/a	mg/kg-d	n/a	n/a	IRIS	11/27/01
Manganese	Chronic	2.4E-002	mg/kg-d	4%	1E-003	mg/kg-d	CNS effects	1	IRIS	11/27/01
cis-1,2-dichloroethene	Chronic	1.00E-001	mg/kg-d	n/a	n/a	mg/kg-d	Blood	300	Heast	11/27/01
Trichloroethene	Chronic	3.00E-004	mg/kg-d	n/a	n/a	mg/kg-d	Hepato, kidney, development	n/a	NCEA	11/27/01
Tetrachloroethene	Chronic	1.00E-002	mg/kg-d	n/a	n/a	mg/kg-d	Hepatotoxicity	1000	IRIS	11/27/01

n/a = Not Applicable

(1) Refer to RAGS, Part E, Supplemental for Dermal Risk Assessment

(2) Provide equation used for derivation.

(3) For IRIS values, provide the date IRIS was searched.
For HEAST values, provide the date of HEAST.
For NCEA values, provide the date of the article provided by NCEA.

IRIS = Integrated Risk Information System

HEAST= Health Effects Assessment Summary Tables

NCEA = National Center for Environmental Assessment

TABLE 4.7
VALUES USED FOR DAILY INTAKE CALCULATIONS
Rockaway Borough - Kbckner and Kbckner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Construction worker
Receptor Age:	Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3			Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	330	(1)			
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–			Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)			
	EF	Exposure frequency	days/years	180	(1)			
	ED	Exposure duration	years	1	(1)			
	BW	Body weight	kg	70	(1)			
	AT-NC	Averaging time - noncarcinogen	days	365	(1)			
	AT-C	Averaging time - carcinogen	days	25,550	(1)			
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3			Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–			
	SA	Skin surface area	cm2/event	3,300	(2)			Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)			
	ABS	Absorption factor	unitless	see below	(3)			
	EF	Exposure frequency	days/years	180	(1)			
	ED	Exposure duration	years	1	(1)			
	BW	Body weight	kg	70	(1)			
	AT-NC	Averaging time - noncarcinogens	days	365	(1)			
	AT-C	Averaging time - carcinogens	days	25,550	(1)			
Inhalation of dust	CA	Chemical concentration in dust	mg/kg	See Table 3	See Table 3			Chronic Daily Intake - Noncancer (mg/kg-day) = CA x IR x EF x ED x 1/PEF/BW x ATnc
	IR	Inhalation rate	m3/d	20	(4)			
	EF	Exposure frequency	days/year	180	(4)			Chronic Daily Intake - Cancer (mg/kg-day) = CA x IR x EF x ED x 1/PEF/BW x ATc
	ED	Exposure duration	years	1	(4)			
	PEF	Particulate Emission Factor	m3/kg	4.63E+009	(5)			
	BW	Body weight	kg	70	(1)			
	AT-NC	Averaging time - noncarcinogens	days	365	(1)			
	AT-C	Averaging time - carcinogens	days	25,550	(1)			

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorption fraction from soil. Arsenic = 0.03 and Benzo(a)pyrene = 0.13, dermal not calculated for other COPCs.

(4) USEPA, 2001. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites.

(5) USEPA 1991. Human Health Evaluation Manual (HHEM), Part B: Development of Risk-based Preliminary Remediation Goals.

CT values were not included for this exposure pathway due to data not being available to support central tendency values.

302944

TABLE 4.8

VALUES USED FOR DAILY INTAKE CALCULATIONS

Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Resident
Receptor Age:	Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	200	(1)	100	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–	1.00E-006	–	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	350	(1)	350	(1)	
	ED	Exposure duration	years	6	(1)	3	(4)	
	BW	Body weight	kg	15	(1)	15	(1)	
	AT-NC	Averaging time - noncarcinogen	days	2,190	(1)	1,095	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–	1.00E-006	–	
	SA	Skin surface area	cm2/event	2,800	(2)	2,800	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)	0.04	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	350	(1)	350	(1)	
	ED	Exposure duration	years	6	(1)	3	(4)	
	BW	Body weight	kg	15	(1)	15	(1)	
	AT-NC	Averaging time - noncarcinogens	days	2,190	(1)	1,095	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorption fraction from soil. Arsenic = 0.03 and Benzo(a)pyrene = 0.13, dermal not calculated for other COPCs.

(4) Personal communication with USEPA Region 2 Risk Assessor

TABLE 4.5

VALUES USED FOR DAILY INTAKE CALCULATIONS

Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Resident
Receptor Age:	Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	100	(1)	50	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	350	(1)	350	(1)	
	ED	Exposure duration	years	24	(1)	6	(1)	
	BW	Body weight	kg	70	(1)	70	(1)	
	AT-NC	Averaging time - noncarcinogen	days	8,760	(1)	2,190	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	
	SA	Skin surface area	cm2/event	5,700	(2)	5,700	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.07	(2)	0.01	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	350	(1)	350	(1)	
	ED	Exposure duration	years	24	(1)	6	(1)	
	BW	Body weight	kg	70	(1)	70	(1)	
	AT-NC	Averaging time - noncarcinogens	days	8,760	(1)	2,190	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorbtion fraction from soil. Arsenic = 0.03 and Benzo[a]pyrene = 0.13, dermal not calculated for other COPCs.

TABLE 4.4
VALUES USED FOR DAILY INTAKE CALCULATIONS
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	50	(1)	50	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	104	(1)	52	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	43	(1)	49	(1,4)	
	AT-NC	Averaging time - noncarcinogen	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	
	SA	Skin surface area	cm2/event	4,283	(2)	4,283	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)	0.04	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	104	(1)	52	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	43	(1)	49	(1,4)	
	AT-NC	Averaging time - noncarcinogens	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorption fraction from soil. Arsenic = 0.03 and Benzo(a)pyrene = 0.13, dermal not calculated for other COPCs

(4) USEPA, 1997. Exposure Factors Handbook.

Adolescent for RME - age 6-18 - on-site 3 days for 13 weeks/year; CT - age 11-18 - on-site 1.5 x days for 13 weeks/year

302947

TABLE 4.3
VALUES USED FOR DAILY INTAKE CALCULATIONS
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	50	(1)	50	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–	1.00E-006	–	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	104	(1)	52	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	70	(1)	70	(1,4)	
	AT-NC	Averaging time - noncarcinogen	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	–	1.00E-006	–	
	SA	Skin surface area	cm2/event	5,700	(2)	5,700	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)	0.04	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	104	(1)	52	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	70	(1)	70	(1,4)	
	AT-NC	Averaging time - noncarcinogens	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorbtion fraction from soil. Arsenic = 0.03 and Benzo[a]pyrene = 0.13, dermal not calculated for other COPCs.

(4) USEPA, 1997. Exposure Factors Handbook.

302948

TABLE 4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	50	(1)	50	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	39	(1)	20	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	43	(1)	49	(1,4)	
	AT-NC	Averaging time - noncarcinogen	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	
	SA	Skin surface area	cm2/event	4,283	(2)	4,283	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)	0.04	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	39	(1)	20	(1)	
	ED	Exposure duration	years	12	(1)	9	(1)	
	BW	Body weight	kg	43	(1)	49	(1,4)	
	AT-NC	Averaging time - noncarcinogens	days	4,380	(1)	3,285	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), Supplemental Guidance: Standard Default Exposure Factors

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorbtion fraction from soil. Arsenic = 0.03 and Benzo(a)pyrene = 0.13, dermal not calculated for other COPCs.

(4) USEPA, 1997. Exposure Factors Handbook.

Adolescent for RME - age 6-18 - on-site 3 days for 13 weeks/year; CT - age 11-18 - on-site 1.5 x days for 13 weeks/year

TABLE 4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Worker
Receptor Age:	Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical concentration	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATnc
	IR	Ingestion rate	mg soil/day	50	(1)	50	(1)	
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	Chronic Daily Intake - Cancer (mg/kg-day) = CS x IR x CF x FI x EF x ED/BW x ATc
	FI	Fraction ingested from contaminated source	unitless	1	(1)	1	(1)	
	EF	Exposure frequency	days/years	250	(1)	219	(1)	
	ED	Exposure duration	years	25	(1)	6.6	(1)	
	BW	Body weight	kg	70	(1)	70	(1)	
	AT-NC	Averaging time - noncarcinogen	days	9,125	(1)	2,409	(1)	
	AT-C	Averaging time - carcinogen	days	25,550	(1)	25,550	(1)	
Dermal	CS	Chemical concentration in soil	mg/kg	See Table 3	See Table 3	See Table 3	See Table 3	Chronic Daily Intake - Noncancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATnc
	CF	Conversion factor	10-6 kg/mg	1.00E-006	--	1.00E-006	--	
	SA	Skin surface area	cm2/event	3,300	(2)	3,300	(2)	Chronic Daily Intake - Cancer (mg/kg-day) = CD x CF x SA x AF x EF x ED/BW x ATc
	AF	Soil to skin adherence factor	mg/cm2	0.2	(2)	0.02	(2)	
	ABS	Absorption factor	unitless	see below	(3)	see below	(3)	
	EF	Exposure frequency	days/years	250	(1)	219	(1)	
	ED	Exposure duration	years	25	(1)	6.6	(1)	
	BW	Body weight	kg	70	(1)	70	(1)	
	AT-NC	Averaging time - noncarcinogens	days	9,125	(1)	2,409	(1)	
	AT-C	Averaging time - carcinogens	days	25,550	(1)	25,550	(1)	

RME = Reasonable Maximum Exposure

CT = Central Tendency

(1) USEPA, 1991. Human Health Evaluation Manual (HHEM), *Supplemental Guidance: Standard Default Exposure Factors*

(2) USEPA, 1999. RAGS Part E. Exhibit 3.5, recommended RME and CT values for residential and industrial

(3) USEPA, 1999. RAGS Part E. Exhibit 3.4, recommended dermal absorbtion fraction from soil. Arsenic = 0.03 and Benzo(a)pyrene = 0.13, dermal not calculated for other COPCs.

TABLE 3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	Building 12

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Exposure Point Concentration		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
0-2 feet									
Aluminum	mg/kg	8.7E+003	n/a	1.1E+004		mg/kg	1.1E+004	Max	n = 6, which is < 10
Arsenic	mg/kg	4.1E+000	n/a	7.2E+000		mg/kg	7.2E+000	Max	n = 6, which is < 10
Chromium	mg/kg	3.0E+001	n/a	4.6E+001		mg/kg	4.6E+001	Max	n = 6, which is < 10
Iron	mg/kg	2.2E+004	n/a	3.1E+004		mg/kg	3.1E+004	Max	n = 6, which is < 10
Lead	mg/kg	2.1E+002	n/a	8.4E+002		mg/kg	6.3E+002	Max	95% Chebyshev (MVUE) UCL
Manganese	mg/kg	3.0E+002	n/a	4.2E+002		mg/kg	4.2E+002	Max	n = 6, which is < 10
Trichloroethylene > 1 mg/kg	mg/kg	2.2E+001	n/a	9.0E+001		mg/kg	4.8E+001	95% UCL-T	95% Chebyshev (MVUE) UCL
Trichloroethylene < 1 mg/kg	mg/kg	1.6E-001	n/a	4.8E-001		mg/kg	4.8E-001	Max.	Max. > 95% UCL
Tetrachloroethylene > 1mg/kg	mg/kg	9.8E+000	n/a	2.4E+001		mg/kg	2.4E+001	Max.	n = 4, which is < 10
Tetrachloroethylene < 1mg/kg	mg/kg	3.2E-002	n/a	2.4E+001		mg/kg	2.0E-002	95% UCL-T	95% Chebyshev (MVUE) UCL
cis-1,2-dichloroethene	mg/kg	8.3E-001	n/a	3.1E+000		mg/kg	3.1E+000	95% UCL-T	95% Chebyshev (Mean, Std)
Benzo[a]pyrene	mg/kg	1.1E-001	n/a	1.8E-001		mg/kg	1.8E-001	Max	n = 5, which is < 10
All depths									
Aluminum	mg/kg	7.7E+003	n/a	1.1E+004		mg/kg	1.0E+004	95% UCL-T	95% H-UCL
Arsenic	mg/kg	5.5E+000	n/a	2.1E+001		mg/kg	1.1E+001	95% UCL-T	95% H-UCL
Chromium	mg/kg	2.2E+001	n/a	4.6E+001		mg/kg	4.0E+001	95% UCL-T	95% H-UCL
Iron	mg/kg	2.1E+004	n/a	3.1E+004		mg/kg	2.5E+004	95% UCL-T	95% H-UCL
Lead	mg/kg	1.7E+002	n/a	8.4E+002		mg/kg	7.3E+002	95% Cheb	95% Chebychev UCL
Manganese	mg/kg	2.9E+002	n/a	4.5E+002		mg/kg	4.2E+002	95% UCL-T	95% H-UCL
Trichloroethylene > 1 mg/kg	mg/kg	9.8E+000	n/a	9.0E+001		mg/kg	3.9E+001	95% UCL-T	95% H-UCL
Trichloroethylene < 1 mg/kg	mg/kg	3.2E-002	n/a	9.0E+001		mg/kg	7.1E-001	Max.	Max. > 95% UCL
Tetrachloroethylene > 1mg/kg	mg/kg	6.6E+000	n/a	2.4E+001		mg/kg	2.4E+001	Max.	Max. > 95% UCL
Tetrachloroethylene < 1mg/kg	mg/kg	1.6E-002	n/a	2.4E+001		mg/kg	3.6E-003	95% UCL-T	95% H-UCL
cis-1,2-dichloroethene	mg/kg	4.8E-001	n/a	1.6E+001		mg/kg	1.3E-001	95% UCL-T	95% H-UCL
Benzo[a]pyrene	mg/kg	1.1E-001	n/a	1.8E-001		mg/kg	1.8E-001	Max	n = 5, which is < 10

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); 95% Chebychev UCL (95% Cheb); Land's H statistic (95% H-UCL) Mean of Normal Data (Mean-N)

302951

TABLE 2-2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	Building 13

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (mg/kg)***	Concentration Used for Screening	Background Value (1)	Screening Toxicity Value (2)	Potential ARAR/TBC Value (3)	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
7429905	1,1,1-trichloroethane	7.25		7.25		mg/kg	SSOSS-1	1/22	0.005	7.25	n/a	63	50	Impact to GW	No	BSL
127184	Tetrachloroethylene (PCE)	0.154		4.28		mg/kg	SSFA-4	9/22	0.001	4.28	n/a	5.7	1	Impact to GW	No	BSL

*** Range of Detection Limits - values represent Practical Quantitation Limit (PQL)

(1) n/a - Background values are not available for this site.

(2) USEPA Region 9 Preliminary Remediation Goals (PRGs) for soil. http://www.epa.gov/region9/waste/sfund/prg/

(3) New Jersey Residential Direct Contact Soil Cleanup Criteria or New Jersey Impact to Ground Water Soil Cleanup Criteria

(4)

Deletion Reason:

- Infrequent Detection but Associated Historically (HIST)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:

- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- COPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic

TABLE 3-1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
Rockaway Borough - Kleckner and Kleckner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil
Exposure Point:	Building 12

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits (mg/kg)***	Concentration Used for Screening	Background Value (1)	Screening (2) Toxicity Value	Potential ARAR/TBC Value (3)	Potential ARAR/TBC Basis	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
7429905	Aluminum	2,040		11,200		mg/kg	SSNDB-1A	10/10	40	11,200	n/a	7,800	n/a		Yes	ASL
7440382	Arsenic	1.1		21.1		mg/kg	SSSP-1	10/10	1	21.1	n/a	0.39	20	NJDEP SCC	Yes	ASL
7440393	Barium	15.7		252		mg/kg	SSFB-1	10/10	40	252	n/a	5,400	700	NJDEP SCC	No	BSL
7440417	Beryllium	0.39		0.63		mg/kg	SSDNB-1A	10/10	0.4	0.63	n/a	15	2	NJDEP SCC	No	BSL
7440439	Cadmium	0.15		1		mg/kg	SSFA-2	7/10	1	1	n/a	37	30	NJDEP SCC	No	BSL
7440702	Calcium	0.15		102,000		mg/kg	SSLP-1	10/10	1000	102,000	n/a	n/a	n/a	-	No	NUT
18540299	Chromium	0.1		49.6		mg/kg	SSDSA-1	10/10	2	49.6	n/a	30	120,000	NJDEP SCC	Yes	ASL
7440484	Cobalt	4.1		16.6		mg/kg	SSFB-2	10/10	10	16.6	n/a	4,700	n/a		No	BSL
7440508	Copper	12		215		mg/kg	SSFB-1	10/10	8	215	n/a	290	600	NJDEP SCC	No	BSL
7439896	Iron	14,200		31,300		mg/kg	SSNDB-1A	10/10	30	31,300	n/a	4,700	n/a		Yes	ASL
7439921	Lead	2.6		841.0		mg/kg	SSFB-3A	21/21	10	841	n/a	400	400	NJDEP SCC	Yes	ASL
7439954	Magnesium	1,620		50,000		mg/kg	SSLP-1	10/10	1000	50,000	n/a	n/a	n/a		No	NUT
7439965	Manganese	84.5		446		mg/kg	SSDP-1	10/10	3	446	n/a	180	n/a		Yes	ASL
7487947	Mercury	0.06		1.9		mg/kg	SSSP-1	8/10	0.033	1.9	n/a	2.3	14	NJDEP SCC	No	BSL
7440020	Nickel	0.6		34.0		mg/kg	SSDSA-1	10/10	5	34.0	n/a	160	200	NJDEP SCC	No	BSL
7440097	Potassium	328		1,660		mg/kg	SSFB-2	10/10	1000	1,660	n/a	n/a	n/a		No	NUT
7440224	Silver	0.4		0.72		mg/kg	SSFB-1	8/10	2	0.72	n/a	39	110	NJDEP SCC	No	BSL
7440236	Sodium	138		257		mg/kg	SSSP-1	3/10	1000	257	n/a	n/a	n/a		No	NUT
7440622	Vanadium	0.9		53.0		mg/kg	SSCB-1	10/10	10	53.0	n/a	58	370	NJDEP SCC	No	BSL
7440666	Zinc	30.2		406		mg/kg	SSDSA-2	10/10	6	406	n/a	2,300	1000	NJDEP SCC	No	BSL
156592	cis-1,2-dichloroethene	0.003	J	16.4		mg/kg	SSAW-5	9/74	0.005	16.4	n/a	4.3	1	Impact GW	Yes	ASL
78875	1,2-dichloropropane	0.71		0.71		mg/kg	SSFB-3B	1/74	0.001	0.71	n/a	0.38	10	NJDEP SCC	No	FD
79016	Trichloroethylene (TCE)	0.144		80		mg/kg	SSNDB-1A	43/74	0.001	80	n/a	2.8	1	Impact GW	Yes	ASL
127184	Tetrachloroethylene (PCE)	0.13		22.7		mg/kg	SSAW-6	19/74	0.001	22.7	n/a	5.7	1	Impact GW	Yes	ASL
91576	2-Methylnaphthalene	0.012	J	0.012	J	mg/kg	SSCB-1	1/6	0.3	0.012	n/a	313**	n/a		No	BSL
91203	Naphthalene	0.0003	J	0.0003	J	mg/kg	SSCB-1	1/6	0.33	0.0003	n/a	5.6	100	Impact GW	No	BSL
208968	Acenaphthylene	0.010	J	0.046	J	mg/kg	SSFB-1	4/6	0.33	0.046	n/a	230*	n/a		No	BSL
83329	Acenaphthene	0.0001	J	0.0001	J	mg/kg	SSFB-1	1/6	0.33	0.0001	n/a	370	100	Impact GW	No	BSL
132649	Dibenzofuran	0.0006	J	0.0006	J	mg/kg	SSCB-1	1/6	0.33	0.0006	n/a	29	n/a		No	BSL
86818	Phenanthrene	0.043	J	0.13	J	mg/kg	SSFB-1/SSNDB-1A	5/6	0.33	0.13	n/a	230*	n/a		No	BSL
120127	Anthracene	0.015	J	0.047	J	mg/kg	SSFB-1	4/6	0.33	0.047	n/a	220	100	Impact GW	No	BSL
86748	Carbazole	0.009	J	0.012	J	mg/kg	SSFB-1	3/6	0.33	0.012	n/a	24	n/a		No	BSL
86737	Fluorene	0.014	J	0.014	J	mg/kg	SSFB-1	1/6	0.33	0.014	n/a	280	100	Impact GW	No	BSL
206440	Fluoranthene	0.12	J	0.29	J	mg/kg	SSFB-1	5/6	0.33	0.29	n/a	230	100	Impact GW	No	BSL
129000	Pyrene	0.13	J	0.30	J	mg/kg	SSFB-1	5/6	0.33	0.30	n/a	230	100	Impact GW	No	BSL
85687	Butylbenzylphthalate	0.08	J	1		mg/kg	SSFB-1	3/6	0.33	1	n/a	120	100	Impact GW	No	BSL
56553	Benz(a)anthracene	0.005	J	0.17		mg/kg	SSFB-1	5/6	0.033	0.17	n/a	0.62	500	Impact GW	No	BSL
218019	Chrysene	0.003	J	0.22	J	mg/kg	SSFB-1	5/6	0.33	0.22	n/a	62	100	Impact GW	No	BSL
117817	bis(2-ethylhexyl)phthalate	0.023	J	13		mg/kg	SSFB-2	4/6	0.33	13	n/a	35	100	Impact GW	No	BSL
205992	Benzo(b)fluoranthene	0.1		0.16		mg/kg	SSNDB-1A	5/6	0.033	0.16	n/a	0.62	50	Impact GW	No	BSL
205099	Benzo(k)fluoranthene	0.039	J	0.12		mg/kg	SSFB-1	5/6	0.033	0.12	n/a	6.2	500	Impact GW	No	BSL
50328	Benzo(a)pyrene	0.071		0.16		mg/kg	SSFB-1	5/6	0.033	0.16	n/a	0.062	100	Impact GW	Yes	ASL
193395	Indeno(1,2,3-cd)pyrene	0.034	J	0.074		mg/kg	SSFB-1	5/6	0.033	0.074	n/a	0.62	500	Impact GW	No	BSL
191242	Benzo(g,h,i)perylene	0.027	J	0.059	J	mg/kg	SSFB-1/SSNDB-1B	5/6	0.33	0.059	n/a	230*	n/a		No	BSL

* Screening value for pyrene used as a surrogate

** Screening value calculated using data from NCEA

*** Range of Detection Limits - Value Indicative Practical Quantitation Limit (PQL)

(1) n/a - Background values are not available for this site.

(2) USEPA Region 9 Preliminary Remediation Goals (PRGs) for soil. http://www.epa.gov/region09/waste/sfund/prg/

(3) New Jersey Residential Direct Contact Soil Cleanup Criteria or New Jersey Impact to Ground Water Soil Cleanup Criteria

(4)

Deletion Reason:
- Infrequent Detection but Associated Historically (FHIT)
- Frequent Detection (FD)
- Toxicity Information Available (TX)
- Above Screening Levels (ASL)
- Infrequent Detection (IFD)
- Background Levels (BKG)
- No Toxicity Information (NTX)
- Essential Nutrient (NUT)
- Below Screening Level (BSL)

Definitions:
- N/A = Not Applicable
- SQL = Sample Quantitation Limit
- COPC = Chemical of Potential Concern
- ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
- MCL = Federal Maximum Contaminant Level
- SMCL = Secondary Maximum Contaminant Level
- J = Estimated Value
- C = Carcinogenic
- N = Non-Carcinogenic

302953

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Soil 0-2.5 feet in depth	Building 12 and 13 Property	Worker (a)	Adult	Ingestion	On-site	Quantitative	Site is currently operated as a business and workers are present on the site.
						Dermal	On-site	Quantitative	Site is currently operated as a business and workers are present on the site.
				Intermittent visitor (a)	Adolescent	Ingestion	On-site	Quantitative	Site is surrounded by residential homes. The potential for people, especially children, being on the site warrants assessing potential risk to this receptor population.
						Dermal	On-site	Quantitative	Site is surrounded by residential homes. The potential for people, especially children, being on the site warrants assessing potential risk to this receptor population.
Future	Soil	Soil - All depths (1)	Building 12 and 13 Property	Recreational Park Visitor (b)	Adult	Ingestion	On-site	Quantitative	The site is within a zoning area that abuts an area that is zoned for environmental conservation. Although the site proper does not abut the conservation zone, given the proximity to the river corridor, future use could potentially include open space (i.e., park).
						Dermal	On-site	Quantitative	The site is within a zoning area that abuts an area that is zoned for environmental conservation. Although the site proper does not abut the conservation zone, given the proximity to the river corridor, future use could potentially include open space (i.e., park).
					Adolescent	Ingestion	On-site	Quantitative	The site is within a zoning area that abuts an area that is zoned for environmental conservation. Although the site proper does not abut the conservation zone, given the proximity to the river corridor, future use could potentially include open space (i.e., park).
						Dermal	On-site	Quantitative	The site is within a zoning area that abuts an area that is zoned for environmental conservation. Although the site proper does not abut the conservation zone, given the proximity to the river corridor, future use could potentially include open space (i.e., park).
				Resident (c)	Adult	Ingestion	On-site	Quantitative	The site is located within a residential area and the property could potentially be developed as residential.
						Dermal	On-site	Quantitative	The site is located within a residential area and the property could potentially be developed as residential.
					Child	Ingestion	On-site	Quantitative	The site is located within a residential area and the property could potentially be developed as residential.
						Dermal	On-site	Quantitative	The site is located within a residential area and the property could potentially be developed as residential.
				Construction worker (b,c)	Adult	Ingestion	On-site	Quantitative	There is potential for construction activities at the site. These activities could be associated with remediation or for redevelopment of the property.
						Dermal	On-site	Quantitative	There is potential for construction activities at the site. These activities could be associated with remediation or for redevelopment of the property.
						Inhalation of dust	On-site	Quantitative	There is potential for construction activities at the site. These activities could be associated with remediation or for redevelopment of the property.

(1) Soil exposure assumes that future use, with exception of scenario (a), could potentially lead to exposure to all soil depths. Note that the majority of samples and detects were in shallow soil <5 feet in depth.

(a) Assumes site remains as is, and current uses preside. This is the most likely scenario.

(b) Assumes redevelopment as a park and that soil would be disturbed during building demolishion. Refer to text for explaination.

(c) Assumes redevelopment as a residential area and that soil would be disturbed during redevelopment. Refer to text for explaination.

302954

TABLE 7.6.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Resident
Receptor Age:	Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	0.00E+000	mg/kg			1.00E+004	1.28E-001	mg/kg-day	1.00E+000	mg/kg-day			1.3E-001
	Arsenic	0.00E+000	mg/kg			1.10E+001	1.41E-004	mg/kg-day	3.00E-004	mg/kg-day			4.7E-001
	Chromium	0.00E+000	mg/kg			4.00E+001	5.11E-004	mg/kg-day	3.00E-003	mg/kg-day			1.7E-001
	Iron	0.00E+000	mg/kg			2.50E+004	3.20E-001	mg/kg-day	3.00E-001	mg/kg-day			1.1E+000
	Manganese	0.00E+000	mg/kg			4.20E+002	5.37E-003	mg/kg-day	2.40E-002	mg/kg-day			2.2E-001
	cis-1,2-dichloroethene	0.00E+000	mg/kg			3.10E+000	3.96E-005	mg/kg-day	1.00E-001	mg/kg-day			4.0E-004
	Trichloroethene > 1 mg/kg	0.0E+000	mg/kg			3.90E+001	4.99E-004	mg/kg-day	3.00E-004	mg/kg-day			1.66E+000
	Trichloroethene < 1 mg/kg	0.00E+000	mg/kg			7.10E-001	9.08E-006	mg/kg-day	3.00E-004	mg/kg-day			3.03E-002
	Tetrachloroethene > 1 mg/kg	0.00E+000	mg/kg			2.37E+001	3.03E-004	mg/kg-day	1.00E-002	mg/kg-day			3.03E-002
	Tetrachloroethene < 1 mg/kg	0.00E+000	mg/kg			3.60E-003	4.60E-008	mg/kg-day	1.00E-002	mg/kg-day			4.60E-006
Dermal	Arsenic	0.00E+000	mg/kg			1.10E+001	1.18E-005	mg/kg-day	3.00E-004	mg/kg-day			3.94E-002
										Total Hazard Index Across All Exposure Routes/Pathways			3.8E+000

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302955

TABLE 7.7.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Construction worker
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	Aluminum	1.00E+004	mg/kg			1.00E+004	2.32E-002	mg/kg-day	1.00E+000	mg/kg-day			2.3E-002
	Arsenic	1.10E+001	mg/kg			1.10E+001	2.56E-005	mg/kg-day	3.00E-004	mg/kg-day			8.5E-002
	Chromium	4.00E+001	mg/kg			4.00E+001	9.30E-005	mg/kg-day	3.00E-003	mg/kg-day			3.1E-002
	Iron	2.50E+004	mg/kg			2.50E+004	5.81E-002	mg/kg-day	3.00E-001	mg/kg-day			1.9E-001
	Manganese	4.20E+002	mg/kg			4.20E+002	9.76E-004	mg/kg-day	2.40E-002	mg/kg-day			4.1E-002
	cis-1,2-dichloroethene	3.10E+000	mg/kg			3.10E+000	7.21E-006	mg/kg-day	1.00E-001	mg/kg-day			7.2E-005
	Trichloroethene > 1 mg/kg	3.90E+001	mg/kg			3.90E+001	9.07E-005	mg/kg-day	3.00E-004	mg/kg-day			3.0E-001
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	1.65E-006	mg/kg-day	3.00E-004	mg/kg-day			5.5E-003
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	5.51E-005	mg/kg-day	1.00E-002	mg/kg-day			5.5E-003
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.60E-003	8.37E-009	mg/kg-day	1.00E-002	mg/kg-day			8.4E-007
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	1.53E-006	mg/kg-day	3.00E-004	mg/kg-day			5.1E-003
Inhalation	Chromium	4.00E+001	mg/kg			4.00E+001	1.22E-009	mg/kg-day	2.9E-005	mg/kg-day			4.20E-005
	Trichloroethene > 1 mg/kg	3.90E+001	mg/kg			3.90E+001	1.19E-009	mg/kg-day	1.1E-002	mg/kg-day			1.08E-007
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	2.16E-011	mg/kg-day	1.1E-002	mg/kg-day			1.96E-009
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	7.21E-010	mg/kg-day	5.7E-002	mg/kg-day			1.26E-008
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.60E-003	1.10E-013	mg/kg-day	5.71E-002	mg/kg-day			1.92E-012
										Total Hazard Index Across All Exposure Routes/Pathways			6.9E-001

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for hazard calculation.

(2) Specify if subchronic.

302956

TABLE 8.1.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Worker
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	7.20E+000	mg/kg			7.20E+000	1.26E-008	mg/kg-day	1.50E+000	mg/kg-d	1.9E-008
	Trichloroethene > 1 mg/kg	4.78E+001	mg/kg			4.78E+001	8.35E-008	mg/kg-day	1.10E-002	mg/kg-d	9.2E-008
	Trichloroethene < 1 mg/kg	4.80E-001	mg/kg			4.80E-001	8.39E-008	mg/kg-day	1.10E-002	mg/kg-d	9.2E-010
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	4.14E-008	mg/kg-day	5.20E-002	mg/kg-d	2.2E-007
	Tetrachloroethene < 1 mg/kg	2.00E-002	mg/kg			2.00E-002	3.49E-009	mg/kg-day	5.20E-002	mg/kg-d	1.8E-010
	Benzo(a)pyrene	1.80E-001	mg/kg			1.80E-001	3.15E-008	mg/kg-day	7.30E+000	mg/kg-d	2.3E-007
Dermal	Arsenic	7.20E+000	mg/kg			7.20E+000	4.98E-007	mg/kg-day	1.50E+000	mg/kg-d	7.5E-007
	Benzo(a)pyrene	1.80E-001	mg/kg			1.80E-001	5.40E-008	mg/kg-day	7.30E+000	mg/kg-d	3.9E-007
										Total Risk Across All Exposure Routes/Pathways	3.6E-006

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

302957

TABLE 6.2.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Soil (0-2 feet)
Exposure Point:	Building 12
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	7.20E+000	mg/kg			7.20E+000	1.53E-007	mg/kg-day	1.50E+000	mg/kg-d	2.3E-007
	Trichloroethene > 1 mg/kg	4.78E+001	mg/kg			4.78E+001	1.02E-006	mg/kg-day	1.1E-002	mg/kg-d	1.1E-008
	Trichloroethene < 1 mg/kg	4.80E-001	mg/kg			4.80E-001	1.02E-008	mg/kg-day	1.1E-002	mg/kg-d	1.1E-010
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	5.05E-007	mg/kg-day	5.20E-002	mg/kg-d	2.6E-008
	Tetrachloroethene < 1 mg/kg	2.00E-001	mg/kg			2.00E-001	4.26E-009	mg/kg-day	5.2E-002	mg/kg-d	2.2E-010
	Benzo(a)pyrene	1.80E-001	mg/kg			1.80E-001	3.83E-009	mg/kg-day	7.30E+000	mg/kg-d	2.8E-008
Dermal	Arsenic	7.20E+000	mg/kg			7.20E+000	7.88E-008	mg/kg-day	1.50E+000	mg/kg-d	1.2E-007
	Benzo(a)pyrene	1.8E-001	mg/kg			1.80E-001	8.54E-009	mg/kg-day	7.30E+000	mg/kg-d	6.23E-008
										Total Risk Across All Exposure Routes/Pathways	4.6E-007

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

302958

TABLE 8.3.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	1.10E+001	mg/kg			1.10E+001	3.84E-007		1.50E+000	mg/kg-d	5.8E-007
	Trichloroethene > 1 mg/kg	3.90E+001	mg/kg			3.90E+001	1.36E-006		1.1E-002	mg/kg-d	1.5E-008
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	2.48E-008		1.1E-002	mg/kg-d	2.7E-010
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	8.27E-007		5.20E-002	mg/kg-d	4.3E-008
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.6E-003	1.26E-010		5.2E-002	mg/kg-e	6.5E-012
	Benzo(a)pyrene	1.60E-001	mg/kg			1.60E-001	6.28E-009		7.30E+000	mg/kg-d	4.6E-008
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	2.63E-007		1.50E+000	mg/kg-d	3.9E-007
	Benzo(a)pyrene	1.6E-001	mg/kg			1.60E-001	1.86E-008		7.30E+000	mg/kg-d	1.36E-007
										Total Risk Across All Exposure Routes/Pathways	1.2E-006

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

302959

TABLE 6.4.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	1.10E+001	mg/kg			1.10E+001	6.25E-007	mg/kg-day	1.50E+000	mg/kg-d	9.4E-007
	Trichloroethene > 1 mg/kg	3.90E+001	mg/kg			3.90E+001	2.22E-006	mg/kg-day	1.1E-002	mg/kg-d	2.4E-008
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	4.03E-008	mg/kg-day	1.1E-002	mg/kg-d	4.4E-010
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	1.35E-006	mg/kg-day	5.2E-002	mg/kg-d	7.0E-008
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.6E-003	2.04E-010	mg/kg-day	5.2E-002	mg/kg-d	1.1E-011
	Benzo(a)pyrene	1.80E-001	mg/kg			1.80E-001	1.02E-006	mg/kg-day	7.30E+000	mg/kg-d	7.5E-006
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	3.21E-007	mg/kg-day	1.50E+000	mg/kg-d	4.8E-007
	Benzo(a)pyrene	1.8E-001	mg/kg			1.80E-001	2.26E-006	mg/kg-day	7.30E+000	mg/kg-d	1.66E-007
										Total Risk Across All Exposure Routes/Pathways	1.8E-005

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

302960

TABLE 8.5.RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Medium:	Soil
Exposure Medium:	Soil (All depths)
Exposure Point:	Building 12
Receptor Population:	Resident
Receptor Age:	Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Arsenic	1.10E+001	mg/kg			1.10E+001	5.17E-006	mg/kg-day	1.50E+000	mg/kg-d	7.7E-006
	Trichloroethene > 1 mg/kg	3.90E+001	mg/kg			3.90E+001	1.83E-005	mg/kg-day	1.10E-002	mg/kg-d	2.0E-007
	Trichloroethene < 1 mg/kg	7.10E-001	mg/kg			7.10E-001	3.33E-007	mg/kg-day	1.10E-002	mg/kg-d	3.7E-009
	Tetrachloroethene > 1 mg/kg	2.37E+001	mg/kg			2.37E+001	1.11E-005	mg/kg-day	5.20E-002	mg/kg-e	5.8E-007
	Tetrachloroethene < 1 mg/kg	3.60E-003	mg/kg			3.60E-003	1.69E-009	mg/kg-day	5.20E-002	mg/kg-d	8.8E-011
	Benzo(a)pyrene	1.80E-001	mg/kg			1.80E-001	8.45E-008	mg/kg-day	7.30E+000	mg/kg-d	6.2E-007
Dermal	Arsenic	1.10E+001	mg/kg			1.10E+001	6.18E-007	mg/kg-day	1.50E+000	mg/kg-d	9.3E-007
	Benzo(a)pyrene	1.8E-001	mg/kg			1.80E-001	4.39E-008	mg/kg-day	7.30E+000	mg/kg-d	3.20E-007
										Total Risk Across All Exposure Routes/Pathways	1.0E-005

(1) Specify Medium-Specific (M) or Route-Specific (R) EPC selected for risk calculation.

302961

TABLE 9.1.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Receptor Population:	Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (0-2 feet)	Building 12	Arsenic	1.9E-006		7.5E-007	2.6E-006
			Trichloroethene > 1 mg/kg	9.2E-008			9.2E-008
			Trichloroethene < 1 mg/kg	9.2E-010			9.2E-010
			Tetrachloroethene > 1 mg/kg	2.2E-007			2.2E-007
			Tetrachloroethene < 1 mg/kg	1.8E-010			1.8E-010
			Benzo[a]pyrene	2.3E-007		3.9E-007	6.2E-007
						Total Risk Across[Medium]	3.6E-006
						Total Risk Across All Media and All Exposure Routes	3.6E-006

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Aluminum	CNS effects	5.4E-003			5.4E-003
Arsenic	Skin	1.2E-002		4.6E-003	1.6E-002
Chromium	Not reported	7.5E-003			7.5E-003
Iron	Gastrointestine	5.1E-002			5.1E-002
Manganese	CNS effects	8.6E-003			8.6E-003
cis-1,2-dichloroethene	Blood	1.5E-005			1.5E-005
Trichloroethene > 1 mg/kg	Hepato, kidney, development	7.8E-002			7.8E-002
Trichloroethene < 1 mg/kg	Hepato, kidney, development	7.8E-004			7.8E-004
Tetrachloroethene > 1 mg/kg	Hepatotoxicity	1.2E-003			1.2E-003
Tetrachloroethene < 1 mg/kg	Hepatotoxicity	9.8E-007			9.8E-007
				Total Hazard Index Across All Media and All Exposure Routes	1.7E-001

Total [Liver] HI =	8.0E-002
Total [Organ] HI =	
Total [Organ] HI =	

302962

TABLE 9.2.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (0-2 feet)	Building 12	Arsenic	2.3E-007		1.2E-007	3.5E-007
			Trichloroethene > 1 mg/kg	1.1E-008			1.1E-008
			Trichloroethene < 1 mg/kg	1.1E-010			1.1E-010
			Tetrachloroethene > 1 mg/kg	2.6E-008			2.6E-008
			Tetrachloroethene < 1 mg/kg	2.2E-010			2.2E-010
			Benzo[a]pyrene	2.8E-008		6.2E-008	9.0E-008
			Total Risk Across[Medium]				
			Total Risk Across All Media and All Exposure Routes				4.8E-007

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Aluminum	CNS effects	1.4E-003			1.4E-003
Arsenic	Skin	3.0E-003		1.5E-003	4.5E-003
Chromium	Not reported	1.9E-003			1.9E-003
Iron	Gastrointestine	1.3E-002			1.3E-002
Manganese	CNS effects	2.2E-003			2.2E-003
cis-1,2-dichloroethene	Blood	3.9E-006			3.9E-006
Trichloroethene > 1 mg/kg	Hepato, kidney, development	2.0E-002			2.0E-002
Trichloroethene < 1 mg/kg	Hepato, kidney, development	2.0E-004			2.0E-004
Tetrachloroethene > 1 mg/kg	Hepatotoxicity	2.9E-004			2.9E-004
Tetrachloroethene < 1 mg/kg	Hepatotoxicity	2.5E-007			2.5E-007
Total Hazard Index Across All Media and All Exposure Routes					4.3E-002

Total [Liver] HI =	2.0E-002
Total [Organ] HI =	
Total [Organ] HI =	

302963

TABLE 9.5.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	7.7E-006		9.3E-007	8.7E-006
			Trichloroethene > 1 mg/kg	2.0E-007			2.0E-007
			Trichloroethene < 1 mg/kg	3.7E-009			3.7E-009
			Tetrachloroethene > 1 mg/kg	5.8E-007			5.8E-007
			Tetrachloroethene < 1 mg/kg	8.8E-011			8.8E-011
			Benzo[a]pyrene	6.2E-007		3.2E-007	9.4E-007
			Total Risk Across[Medium]				1.0E-005
			Total Risk Across All Media and All Exposure Routes				1.0E-005

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Aluminum	CNS effects	1.4E-002			1.4E-002
Arsenic	Skin	5.0E-002		6.0E-003	5.6E-002
Chromium	Not reported	1.8E-002			1.8E-002
Iron	Gastrointestine	1.1E-001			1.1E-001
Manganese	CNS effects	2.4E-002			2.4E-002
cis-1,2-dichloroethene	Blood	1.8E-006			1.8E-006
Trichloroethene > 1 mg/kg	Hepato, kidney, development	1.8E-001			1.8E-001
Trichloroethene < 1 mg/kg	Hepato, kidney, development	3.2E-003			3.2E-003
Tetrachloroethene > 1 mg/kg	Hepatotoxicity	3.2E-003			3.2E-003
Tetrachloroethene < 1 mg/kg	Hepatotoxicity	4.9E-007			4.9E-007
Total Hazard Index Across All Media and All Exposure Routes					4.1E-001

Total [Liver] HI =	1.8E-001
Total [Organ] HI =	
Total [Organ] HI =	

302964

TABLE 9.6.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	1.8E-005		1.5E-006	2.0E-005
			Trichloroethene > 1 mg/kg	4.7E-007			4.7E-007
			Trichloroethene < 1 mg/kg	8.6E-009			8.6E-009
			Tetrachloroethene > 1 mg/k	1.4E-006			1.4E-006
			Tetrachloroethene < 1 mg/k	2.1E-010			2.1E-010
			Benzo(a)pyrene	1.4E-006		5.2E-007	2.0E-006
						Total Risk Across[Medium]	2.3E-005
						Total Risk Across All Media and All Exposure Routes	2.3E-005

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Aluminum	CNS effects	1.3E-001			1.3E-001
Arsenic	Skin	4.7E-001		3.9E-002	5.1E-001
Chromium	Not reported	1.7E-001			1.7E-001
Iron	Gastrointestine	1.1E+000			1.1E+000
Manganese	CNS effects	2.2E-001			2.2E-001
cis-1,2-dichloroethene	Blood	4.0E-004			4.0E-004
Trichloroethene > 1 mg/kg	Hepato, kidney, development	1.7E+000			1.7E+000
Trichloroethene < 1 mg/kg	Hepato, kidney, development	3.0E-002			3.0E-002
Tetrachloroethene > 1 mg/kg	Hepatoxicity	3.0E-002			3.0E-002
Tetrachloroethene < 1 mg/kg	Hepatoxicity	4.6E-006			4.6E-006
				Total Hazard Index Across All Media and All Exposure Routes	3.6E+000

Total [Liver] HI =	1.7E+000
Total [Organ] HI =	
Total [Organ] HI =	

302965

TABLE 9.7.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Construction worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	5.5E-007	7.2E-011	3.3E-008	5.8E-007
			Trichloroethene > 1 mg/kg	1.4E-008	6.5E-012		1.4E-008
			Trichloroethene < 1 mg/kg	2.6E-010	1.2E-013		2.6E-010
			Tetrachloroethene > 1 mg/kg	4.1E-008	1.3E-016		4.1E-008
			Tetrachloroethene < 1 mg/kg	6.2E-012	1.9E-020		6.2E-012
			Benzo(a)pyrene	4.4E-008		1.1E-008	5.5E-008
			Chromium		7.3E-010		7.3E-010
						Total Risk Across[Medium]	6.9E-007
						Total Risk Across All Media and All Exposure Routes	6.4E-007

Chemical	Non-Carcinogenic Hazard Quotient				
	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Aluminum	CNS effects	2.3E-002			2.3E-002
Arsenic	Skin	8.5E-002		5.1E-003	9.0E-002
Chromium	Not reported	3.1E-002			3.1E-002
Iron	Gastrointestine	1.9E-001			1.9E-001
Manganese	CNS effects	4.1E-002			4.1E-002
cis-1,2-dichloroethene	Blood	7.2E-005			7.2E-005
Trichlorbethene > 1 mg/kg	Hepato, kidney, development	3.0E-001			3.0E-001
Trichloroethene < 1 mg/kg	Hepato, kidney, development	5.5E-003			5.5E-003
Tetrachloroethene > 1 mg/kg	Hepatotoxicity	5.5E-003			5.5E-003
Tetrachloroethene < 1 mg/kg	Hepatotoxicity	8.4E-007			8.4E-007
				Total Hazard Index Across All Media and All Exposure Routes	6.9E-001

Total [Liver] HI =	3.1E-001
Total [Organ] HI =	
Total [Organ] HI =	

302966

TABLE 10.1.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Receptor Population:	Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (0-2 feet)	Building 12	Arsenic	1.9E-006		7.5E-007	2.6E-006						
						Total Risk Across [Medium]	3.6E-006					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	3.6E-006						

Total [Organ] HI =
Total [Organ] HI =

302967

TABLE 10.2.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (0-2 feet)	Building 12											
						Total Risk Across [Medium]						Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes							
												Total [Organ] HI =	
												Total [Organ] HI =	

302968

TABLE 10.3.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	5.8E-007		3.9E-007	9.7E-007						
			Trichloroethene > 1 mg/kg	1.5E-008			1.5E-008						
			Trichloroethene < 1 mg/kg	2.7E-010			2.7E-010						
			Tetrachloroethene > 1 mg/kg	4.3E-008			4.3E-008						
			Tetrachloroethene < 1 mg/kg	6.5E-012			6.5E-012						
			Benzo(a)pyrene	4.6E-008		1.4E-007	1.8E-007						
						Total Risk Across [Medium]	1.2E-006					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.2E-006						
												Total [Organ] HI =	
												Total [Organ] HI =	

* The risk for a single chemical did no exceed E-06, however the cumulative risk for all chemicals exceeds E-06

302969

TABLE 10.4.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	9.4E-007		4.8E-007	1.4E-006						
						Total Risk Across [Medium]	1.6E-006					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.6E-006						

Total [Organ] HI =
Total [Organ] HI =

302970

TABLE 10.5.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	7.7E-006		9.3E-007	8.7E-006						
			Trichloroethene > 1 mg/kg	2.0E-007			2.0E-007						
			Trichloroethene < 1 mg/kg	3.7E-009			3.7E-009						
			Tetrachloroethene > 1 mg/kg	5.8E-007			5.8E-007						
			Tetrachloroethene < 1 mg/kg	8.8E-011			8.8E-011						
			Benzo(a)pyrene	6.2E-007		3.2E-007	9.4E-007						
						Total Risk Across [Medium]	1.0E-005					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.0E-005						

Total [Organ] HI =
Total [Organ] HI =

302971

TABLE 10.2.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Current/Future
Receptor Population:	Intermittent visitor
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (0-2 feet)	Building 12											
						Total Risk Across [Medium]						Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes							

Total [Organ] HI =
Total [Organ] HI =

302972

TABLE 10.3.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	5.8E-007		3.9E-007	9.7E-007						
			Trichloroethene > 1 mg/kg	1.5E-008			1.5E-008						
			Trichloroethene < 1 mg/kg	2.7E-010			2.7E-010						
			Tetrachloroethene > 1 mg/kg	4.3E-008			4.3E-008						
			Tetrachloroethene < 1 mg/kg	6.5E-012			6.5E-012						
			Benzo[a]pyrene	4.6E-008		1.4E-007	1.8E-007						
						Total Risk Across [Medium]	1.2E-006					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.2E-006						

Total [Organ] HI =
Total [Organ] HI =

* The risk for a single chemical did no exceed E-06, however the cumulative risk for all chemicals exceeds E-06

302973

TABLE 10.4.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Recreational Park Visitor
Receptor Age:	Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	9.4E-007		4.8E-007	1.4E-006						
						Total Risk Across [Medium]	1.8E-006					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.8E-006						

Total [Organ] HI =
Total [Organ] HI =

302974

TABLE 10.5.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Cardinogenic Risk				Chemical	Non-Cardinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	7.7E-006		9.3E-007	8.7E-006						
			Trichloroethene > 1 mg/kg	2.0E-007			2.0E-007						
			Trichloroethene < 1 mg/kg	3.7E-009			3.7E-009						
			Tetrachloroethene > 1 mg/kg	5.8E-007			5.8E-007						
			Tetrachloroethene < 1 mg/kg	8.8E-011			8.8E-011						
			Benzo(a)pyrene	6.2E-007		3.2E-007	9.4E-007						
						Total Risk Across [Medium]	1.0E-005					Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes	1.0E-005						

Total [Organ] HI =
Total [Organ] HI =

302975

TABLE 10.6.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Resident
Receptor Age:	Child

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12	Arsenic	1.8E-005		1.5E-006	2.0E-005	Iron	Gastrointestine	1.1E+000			1.1E+000
			Tetrachloroethene > 1 mg/kg	1.4E-006			1.4E-006	Trichloroethene > 1 mg/kg	Hepato, kidney, development	1.7E+000			1.7E+000
			Benzo(a)pyrene	1.4E-006		5.2E-007	2.0E-006						
						Total Risk Across [Medium]	2.3E-005					Total Hazard Index Across All Media and All Exposure Routes	2.7E+000
						Total Risk Across All Media and All Exposure Routes	2.3E-005						

Total [Liver] HI =	1.7E+000
Total [Organ] HI =	

302976

TABLE 10.7.RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
Rockaway Borough - Klockner and Klockner Property

Scenario Timeframe:	Future
Receptor Population:	Construction worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Soil (All depths)	Building 12											
						Total Risk Across [Medium]						Total Hazard Index Across All Media and All Exposure Routes	
						Total Risk Across All Media and All Exposure Routes							
												Total [Organ] HI =	
												Total [Organ] HI =	

302977

Appendix A

This appendix contains the EPA's response to the comments submitted to EPA on August 15, 2002 from the office of Riker, Danzig, Scherer, Hyland and Perretti. The comments submitted are appended at the end of this appendix, as well as comments submitted from the NJDEP.

Potential Risks Under Hypothetical Future Land Use

There was a comment regarding the use of RME to calculate the hazards and risks which stated "HQ values estimated using CT assumptions would be lower, but were not calculated by EPA Region II". As indicated on page 4, only the RME hazards and risks were calculated because it is the result of the RME calculations that are used to base remedial actions. The statement made in the comments is accurate, as CT parameters are derived to estimate average exposure, however, the RME values are used to direct remedial actions.

There were four additional comments in this section that focus on chemical specific issues. The first comment questions the delineation and calculation of hazards and risks for TCE at < 1 mg/kg and > 1 mg/kg. It is recommended that either exposure time should be weighted for the two delineated areas or that a separate HQ value should be calculated for the two areas. The first suggested approach cannot be accepted because the likelihood of underestimating the hazards and risks would be increased. The second approach that the was suggested to be used, was in fact used in the risk assessment. In each case when the hazards and risks are discussed the specific delineated area is referenced (i.e., > 1 mg/kg or < 1 mg/kg). For example on page 5, section 3.1.6, it is indicated that the HQ for TCE >1 mg/kg is 1.7. As the potentially responsible party indicates in their comments that this is an acceptable method, no changes or further discussions will be added to the risk assessment.

The second comment questions the inclusion of iron in the overall HI for the resident child. The comment indicates that the hazard is overestimated. This is addressed in the uncertainty section of the risk assessment on page 8, thus no changes or further discussions will be added to the risk assessment. An additional note that relates to this comment and to several others that follow, is that all chemicals that exceed the screening values are included in the risk assessment and are included in the cumulative assessment of hazards and risks. The uncertainty section describes any over- or under-estimation of the estimated hazards and risks associated with the site. It is in the risk management phase (i.e., remedial decisions) where the items discussed in the uncertainty section may be used to shift the focus from chemicals which may or may not present additional hazards and risk. The risk assessment is not the venue to eliminate chemicals based on uncertainty factors.

The third comment questions the inclusion of arsenic in the risk assessment since it possibly could be attributed to naturally occurring arsenic in the soil. Again, please see the uncertainty section where this is discussed in detail (page 7). No further discussion will be added to the risk assessment.

302978

The fourth comment raises two concerns, (1) that the results for the non-cancer hazards are segregated by effect and mechanism of action are not discussed in the text and (2), that the maximum segregated HI of 1.7 for TCE is overestimated due to counting both the > 1 mg/kg and < 1 mg/kg areas. Although the text does not describe the segregation process, for this assessment each COPC had a different non-cancer mode of action and therefore the segregation did not indicate any specific target organ that may be affected by multiple contaminants. The comment that the HI for liver effects is overestimated is not correct. The HI for TCE of 1.7 for the child resident is a combination of the HQ from the >1 mg/kg area (1.7) and the HQ from the <1 mg/kg area (0.03). As HIs are reported to one significant figure, in this case 1.7, the estimated hazard can be attributed to the >1 mg/kg area, which is indicated in Table 10.6.

The summation of the comments from this section conclude that:

1) *the HI should be 0.5 by weighting the two areas with TCE contamination and eliminating iron and arsenic from the HI.* - For reasons identified above, EPA does not accept this method for calculating hazards and risks because the approach adds uncertainty which may underestimate the potential hazards and risks, and thus may not be protective of public health.

2) *that TCE concentrations >1 mg/kg result in a maximum HQ of 1.7 for 0.35 acres of the site.* - The risk assessment supports this statement and concludes that the >1 mg/kg area presents a hazard greater than EPA's acceptable value of 1. Note that the area (i.e., the size of the area of contamination) is not a factor in determining the hazards and risks. However, the area is important when designing remedial alternatives. Thus, by using the approach of estimating hazards and risks for >1 mg/kg and < 1 mg/kg areas is beneficial for directing remedial actions, although the reason for using this approach was statistically driven and if the approach was not used the exposure point concentration that would have been used would have been the maximum detected concentration of 90 mg/kg for the entire site.

3) *that only a small area contains lead concentrations above the residential value of 400 mg/kg and all samples are below the industrial value of 1250 mg/kg.* - This is discussed on page 6, section 3.3, which indicates the same conclusions, but also adds additional comments regarding any potential change in land use.

Potential Migration of Chemicals from Soil

The comments in this section pertain to exceeding the New Jersey IGWSCC values and the interpretation of their meaning. The risk assessment identifies ARARs and TBCs in Table 2, of which the IGWSCC for TCE and PCE are the lowest for these chemicals. Based upon comments from the NJDEP (attached), not only are the IGWSCCs applicable, but the Residential Direct Contact SCCs (RDCSCC) and the Non-Resident Direct Contact SCC (NRDCSCC) are also applicable. In addition to TCE and PCE, which exceeded both the IGWSCC, the RDCSCC and the NRDCSCC, lead, arsenic and cis-1,2-DCE also exceeded the RDCSCCs and NRDCSCCs. The comments from NJDEP state that exceedance of any of the SCC requires remediation pursuant to NJDEP rules and regulations.

Also, as indicated in the risk assessment, only the potential hazards and risks for soil were evaluated because the groundwater pathway was previously addressed. As there is currently a remedial action for TCE in the groundwater, soil concentrations that exceed values which indicate a potential for migration to groundwater should be further evaluated to determine the potential impact on the groundwater remedy.

The comments also describes the sampling results that are included in the Characterization Report and conclude that the general trend indicates that TCE and PCE are not migrating in the soil column. As the sampling represents multiple soil profiles at one point in time, no conclusion can be made the migration of TCE and PCE in the soil column over time. The chemical properties of these chemicals indicate that at a concentration of >1 mg/kg in soil, that the potential for migration is possible. Thus, the explanation provided in the comments cannot be supported.

Potential for Migration of Vapors from the Subsurface into Buildings

It is recommended that the vapor intrusion pathway should be evaluated and addressed as part of the Feasibility Study (FS). This is acceptable to the risk assessor for the site provided that the evaluation for the FS includes a quantitative estimate of the hazards and risks using RAGS guidance, and supplemented with the Johnson and Ettinger Model and the draft EPA Vapor Intrusion guidance.

302980

State of New Jersey
Department of Environmental Protection

James E. McGreevey
Governor

Bradley M. Campbell
Commissioner

Brian Quinn, Project Manager
NJ Remedial Branch
USEPA, Region II
290 Broadway, 19th Floor
New York, NY 10007-1866

OCT 16 2002

Re: Rockaway Borough Wellfield Superfund Site
Rockaway Borough, Morris County
Draft – Hazards and Risks Associated with Soil Exposure from the Klockner & Klockner Property (Operable Unit #3)

Dear Mr. Quinn:

The New Jersey Department of Environmental Protection (NJDEP) is in receipt of the draft report titled *Hazards and Risks Associated with Soil Exposure from the Klockner & Klockner Property* dated February 2002 (Draft Soil RA). The Draft Soil RA was developed by the United States Environmental Protection Agency (USEPA) to address Operable Unit No. 3 of the Rockaway Borough Wellfield Superfund Site. Please note that NJDEP did not receive the Draft Soil RA until August 7, 2002.

The summary of the Draft Soil RA states that the concentrations of trichloroethene (TCE) and tetrachloroethene (PCE) exceed NJDEP's Impact to Groundwater Soil Cleanup Criteria (IGWSCC) and hence remedial action may be necessary. This statement does not fully reflect the situation. As indicated in Comment No. 1, below, the maximum concentrations of several contaminants in the soil, including TCA and PCE, also exceed the Residential Direct Contact SCC (Residential SCC), and some exceed both the Residential SCC and the Non-Residential Direct Contact SCC (Non-Residential SCC). Exceedance of any of the SCC requires remediation pursuant to NJDEP rules and regulations.

The SCC were developed pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B et. seq., which set more stringent risk requirements (i.e., less than $1x10^{-6}$ and a Hazard Index not to exceed 1.0 for individual contaminants) than CERCLA (i.e., within the risk range of $1x10^{-4}$ to $1x10^{-6}$ and a Hazard Index not to exceed 1.0 for total contaminants). Thus, even though the risks and hazards from the chemical contaminants are acceptable under the CERCLA definition, they are not acceptable to NJDEP.

It is for this reason that NJDEP does not use baseline risk assessments to determine whether remediation is needed on a site. However, for the Rockaway Borough Wellfield Site, NJDEP has reviewed the Draft Soil RA in accordance with standard EPA guidance, including USEPA's Risk Assessment Guidance for Superfund, Vol. I, 1989 (RAGS).

302981

Therefore, while NJDEP provides the following comments on the Draft Soil RA, NJDEP does not require such an assessment, and all comments are based on the mandate to satisfy Superfund requirements.

Specific Comments

1. In addition, to TCE and PCE, lead, arsenic and cis-1,2-dichloroethene exceed the SCC, as indicated in Table 2-1 and Table 3, as summarized in the following table. Any exceedance of the SCC requires remediation pursuant to NJDEP rules and regulations.

Contaminant	Maximum Concentration Detected	Residential Direct Contact SCC	Non-Residential Direct Contact SCC	Impact to Ground Water SCC
Trichloroethene	90	23	54	1
Tetracholoroethene	23.7	4	6	1
Cis-1,2-Dichloroethene	3.1	79	1000	1
Lead	841	400	600	--
Arsenic	21	20	20	--

2. The Draft Soil RA assesses the potential for exposure to contamination detected at 0-2.5 feet in depth. Please note that NJDEP policy does not distinguish between exposure from surficial soil versus subsurface soil. Therefore, all concentrations of contaminants that exceed the NJDEP SCC must be listed and addressed, regardless of their depth or location under buildings.

3. Due to the uncertainties inherent in the dermal pathway, NJDEP does not currently evaluate the risks associated with this pathway, and therefore defers to USEPA for the acceptability of the various values assigned to its exposure parameters. These parameters include the dermal absorption factor, the soil to skin adherence factor, the permeability coefficients and the skin surface area. The proposed values are acceptable to NJDEP as long as they conform to the USEPA's latest values, and are acceptable to USEPA Region II.

4. The inhalation pathway was not evaluated, even for the volatile compounds, for any receptor except adult construction worker. The reason for this is unclear, but the acceptability of this omission is deferred to USEPA. It is possible that the evaluation and quantification of this pathway would increase cumulative risk and individual risk, especially if the chromium detected is in hexavalent form.

5. The following exposure values used in the Draft Soil RA either differ from those used by NJDEP, or have no counterpart in NJDEP. Since the associated scenarios are being developed to satisfy Superfund requirements, not NJDEP mandates, NJDEP defers the acceptability of these values to USEPA, Region II.

a) Exposure duration of 1 year for construction worker.

b) Ingestion rate of 330 mg/day for construction worker and 50 mg/day for adult, resident.
c) Exposure frequency of 104 days for adolescent and adult recreational park visitors, 180 days for construction workers.

6. A separate toxicity section is necessary to discuss the toxicity hierarchy used by USEPA for the Site. NJDEP's toxicity hierarchy is as follows: A-280, IRIS, HEAST, NCEA. However, please be advised that for contaminants on the A-280 list, NJDEP may develop toxicity that differ from the above USEPA databases, leading to SCC that differ from USEPA criteria even when the latter uses a one in a million risk or a Hazard Index of 1.0. Again, all contaminants present in concentrations above NJDEP SCC must be addressed, no matter what the results of the risk assessment.

Currently, of the listed Contaminants of Potential Concern at least 2 contaminants, TCE and PCE, are A-280 contaminants.

7. In Section 4.2, Toxicity Assumptions for Chromium, it is stated that all chromium detected was assumed to be in hexavalent form. Based on this assumption, the NRDCSCC of 20 ppm for hexavalent chromium appears to be exceeded. Hence, it is critical that the form of chromium either be determined or all samples that exceed 20 ppm of chromium be addressed in the remedial decision.

If you have any questions regarding this letter, please contact me at (609) 633-1494.

Sincerely,

Donna L Gaffigan

Donna L. Gaffigan, Case Manager
Bureau of Case Management

C: Kathleen Kunze, BEERA
Swati Toppin, BEERA/ETRA

302983

RIKER, DANZIG, SCHERER, HYLAND & PERRETTI LLP

HEADQUARTERS PLAZA
ONE SPEEDWELL AVENUE
PO BOX 1981
MORRISTOWN, NEW JERSEY 07962-1981
(973) 538-0800
FAX (973) 538-1984

50 WEST STATE STREET
SUITE 1010
TRENTON, NEW JERSEY 08608-1220
(609) 396-2121
FAX (609) 396-4578

JRVING RIKER (1921-1969)
CHARLES DANZIG (1934-1992)

GERALD A. LILOIA
JOHN P. SHERIDAN, JR.
VINCENT J. SHARKEY, JR.
DENNIS J. O'GRADY
MICHAEL K. FUREY
GARY E. WALSH
EDWARD K. DeHOPE
SHAWN L. KELLY
MARK S. RATTNER
DENNIS J. KRUMHOLZ
GLENN A. CLARK
ROBERT J. SCHOENBERG

MARYANN P. KICENUIK
SAMUEL P. HOULTHROP
VICTORIA A. MORRISON
ANDREW J. STAMELMAN
KENNETH M. VAN DEVENTER
JAN L. BERNSTEIN
SIGRID S. FRANZBLAU
ANNE M. PATTERSON
JOHN M. PELLECCHIA
ANTHONY J. SYLVESTER
GLENN D. CURVING
ROBERT J. GILSON
JEFFREY B. WAGENBACH
WARREN J. MARTIN JR.
SANDRA BROWN SHERMAN

NICHOLAS RACIOPPI, JR.
ROBERT C. DALEO
JAMES C. MEYER
BRIAN E. O'DONNELL
JULIAN W. WELLS
STUART M. LEDERMAN
MARILYNN R. GREENBERG
MICHAEL R. O'DONNELL
ANTHONY J. ZARILLO, JR.
WILLIAM G. CONNOLLY
MARY KATHRYN ROBERTS
SCOTT A. OHNEGIAN
HAROLD S. ATLAS
JOSEPH L. SCHWARTZ
J. ALEX KRESS
JAMES L. LOTT, JR.
EDWIN F. CHOCHEY, JR.

EVERETT M. SCHERER
WILLIAM F. HYLAND
PETER H. PERRETTI, JR.
WILLIAM C. CONNELLY
EDWARD A. ZUNZ, JR.
PETER L. BERKLEY
BENJAMIN P. MICHEL
SIDNEY H. SCHREIBER
STEWART G. POLLOCK
WILLIAM J. HUGHES
PETER F. ELD
OF COUNSEL

CHARLES F. WASKEVICH, JR.
LINDA H. PRENTISS
JAMES A. HARKNESS
JAMES A. RABORN
BRUCE A. HARRIS
MARY ELLEN SCALERA
HAROLD L. HOFMAN
RONALD D. PUHALA
COUNSEL

NANCY STEWART
STEPHANIE D. EDELSON
LAURA MASSAIA SMITH
CATHLEEN H. GIULIANA
CRAIG L. STEINFELD
THOMAS J. PERRY
JAMES A. MOHONEY
KELLY STRANGE CRAWFORD
DAVID L. ISABEL
LANCE J. KALIK
MARY ELLEN BURKE
FRANCINE HALUSHKA KATZ
LISA SANTAPIETRO
KATHERINE H. WIGNESS
MARC D'ANGIOLILLO
ALEXA RICHMAN-LA LONDE
BRETT M. REINA
CRAIG H. FELDMAN
STEVEN T. SENIOR

KEVIN J. O'CONNOR
TERRI JANE FREEDMAN
BETH ANN BOLGER
MICHAEL P. O'HULLAN
DEBRA D. TEDESCO
DAVID R. HAUSMANN
MATTHEW H. LEWIS
CRAIG S. DEMARESKI
BRAD H. KAPLAN
DAHESH D. PATEL
BRIAN J. SLATTERY
RICHARD E. HAMILTON
ANDREW H. CONTRERAS
MAHA F. MUNAYYER
KEITH D. BARRACK
ERIC BLUMENFELD
ROBERT L. LEHANE
THOMAS J. CASTANO
DAVID M. STEINER

KATHERINE INGRASSIA
JENNIFER LAZOR
HANY A. MAWLA
JEFFREY M. SPONDER
BRYAN J. NG
MICHAEL A. SCHMERLING
CAROLINE BRIZZOLARA
SCOTT G. COLLINS
CURTIS M. PLAZA
JASON R. RITTIE
TERRI R. SOARES
LISA M. CURRY
MARK E. HALL
CHRISTIAN D. HUNTER
ANTHONY J. BORRELLI
CHRISTINA L. DENEKA
JILL A. FARBMAN
KHALED JOHN KLELE
BENJAMIN D. LIGHT

THOMAS G. PHILLIPS
ANTHONY E. VALENTINO
BRADLEY J. FIORENZO
SARA B. GARVEY
GENA DIACOMANOLIS
RICHARD C. KIELBANIA
BRETT S. MOORE
JENNIFER ANN SCHETTINO
JOHN R. VALES
JOSHUA S. BRATSPIES
MARC C. GROVES
HEIDI HANSEN
MICHAEL MICELI
CRAIG T. MORAN
MARK T. PASKO
SHARON RUBIN
JENNIFER A. SERAFYN
JOHN C. STEWART

August 15, 2002

VIA FEDERAL EXPRESS

Chief, New Jersey Superfund Branch I
Emergency & Remedial Response Division
U.S. Environmental Protection Agency, Region II
290 Broadway, Floor 19
New York, New York 10007

Attention: Brian Quinn, Project Manager

Re: Klockner & Klockner ("Klockner")
Rockaway Borough Wellfield Superfund Site
Administrative Order on Consent ("AOC")
Index No. II - CERCLA - 95 - 0104

Dear Mr. Quinn:

As agreed at the August 6, 2002 meeting, enclosed please find a copy of the Comments on the Draft Hazards and Risks Associated with Soil Exposure from the Klockner and Klockner Property in Rockaway Borough, New Jersey.

Should you have any questions, please call me or Stephen Washburn of Environ.

Very truly yours,

David L. Isabel

DLI/ji
Enclosure
cc: Donna Gaffigan (w/encl. regular mail)

302984

3181339.01

Comments on the
Draft *Hazards and Risks Associated with Soil Exposure from the Klockner and Klockner Property in Rockaway Borough, New Jersey*

These comments have been prepared on behalf of Klockner and Klockner ("Klockner") with respect to the February 2002 Draft *Hazards and Risks Associated with Soil Exposure from the Klockner and Klockner Property in Rockaway Borough, New Jersey* (the "Risk Assessment"), prepared by the U.S. Environmental Protection Agency, Region II ("EPA Region II"). The Risk Assessment addresses chemicals detected in soils on the Building 12 and Building 13 properties at the Klockner and Klockner facility in Rockaway Borough.

Klockner's initial comments on the Risk Assessment were discussed with EPA Region II staff during a meeting on August 6, 2002. Klockner appreciates the opportunity to submit these written comments, in accordance with Section 33 of the September 27, 1995 Administrative Order on Consent.

Summary of Risk Assessment Results

Building 13 Property. An initial evaluation performed by EPA Region II concluded that no chemicals were detected above risk-based screening levels in soil at the Building 13 property (p.2). As a result, potential exposures to soils at the Building 13 property would not be expected to pose noncancer hazards or cancer risks above EPA's acceptable values, under commercial/industrial, recreational, or even future residential land use scenarios. Thus, the Risk Assessment focuses on potential current and future exposures at the Building 12 property.

Building 12 Property. With respect to Building 12 property, the conclusions of the Risk Assessment included the following:

- Current noncancer hazards and cancer risks for an adult worker and adolescent intermittent visitor from soil exposure are below or within EPA's acceptable values.
- Future noncancer hazards and cancer risks from soil exposure under industrial/commercial and recreational land use scenarios are below or within EPA's acceptable values.
- Future residential development of the Building 12 property scenario is considered a potential, but unlikely, future use. For the hypothetical future adult resident, noncancer hazards and cancer risks from soil exposure are below or within EPA's acceptable values. For the hypothetical future child resident, cancer risks from soil exposure are within EPA's acceptable values,

302985

but the Risk Assessment found that the noncancer hazard exceeded EPA's acceptable value (i.e., a Hazard Index, or HI, of 1).

- All lead concentrations detected in soil are below EPA's acceptable value of 1250 milligram per kilogram (mg/kg) for industrial sites (p. 6). However, two samples are above EPA's acceptable value of 400 mg/kg. Specifically, according to the January 2001 Characterization Report for the Klockner property, lead was detected at concentrations of 841 mg/kg and 471 mg/kg at two locations approximately 10 feet of one another, just to the northeast of the "Quonset Hut" area.
- Concentrations of trichloroethene (TCE) and tetrachloroethene (PCE) over a portion of the Building 12 property exceed the New Jersey generic "Impact to Groundwater Soil Cleanup Criteria" (IGWSCC). The IGWSCC is 1 mg/kg, for both TCE and PCE. Based on the January 2001 Characterization Report, Klockner estimates the area over which either TCE or PCE concentrations in soil exceed the generic IGWSCC is about 0.35 acres.

Klockner has reviewed the Risk Assessment in light of the conclusions summarized above. Overall comments are provided below.

Potential Risks under Hypothetical Future Land Use (Building 12)

As indicated above, the Risk Assessment concludes that noncancer hazards from soil exposure at the Building 12 property exceed EPA's acceptable HI value of 1 only for a future residential scenario involving exposure of a child. Specifically, EPA Region II calculated an HI of 3.8 for a child, with the primary contributors being TCE, iron, and arsenic, which have Hazard Quotient (HQ) values of approximately 1.7, 1.1, and 0.5, respectively (Table 7.6). It is noted that these HQ values were calculated using EPA Region II's standard "reasonable maximum exposure" (RME) assumptions. HQ values estimated using "central tendency" (CT) assumptions would be lower, but were not calculated by EPA Region II.

Klockner believes that the HI value of 3.8 presented in the Risk Assessment overstates the potential RME noncancer hazard for the Building 12 property under a future residential scenario for several reasons, including the following:

- For TCE, the Risk Assessment sums the HQ values for the "< 1 mg/kg" and ">1 mg/kg" areas. (The "< 1 mg/kg" and ">1 mg/kg" areas are distinct, and cover approximately 1 acre and 0.35 acre, respectively). By using this approach, EPA Region II assumed that the future child resident would be exposed to each distinct area simultaneously. Such double counting of exposure for the future resident child is inappropriate. To resolve this issue, EPA Region II should either: 1) calculate an HQ for TCE by weighting the exposure time between the "< 1 mg/kg" and ">1 mg/kg" areas; or 2) calculate separate HQ and HI values for the "< 1 mg/kg" and ">1 mg/kg" areas. If the first approach is used, and the exposure time is weighted according to the relative sizes of the two areas (i.e., 1 acre and 0.35 acre) then the overall HQ for TCE drops from approximately 1.7 to about

302986

0.5. If the second approach is used, then the Risk Assessment should explicitly recognize that the HQ of 1.7 for TCE corresponds to only a relatively small portion of the Building 12 property (i.e., about 0.35 acre). Either of these two recommended approaches would more accurately reflect potential risks for a hypothetical future child resident at the Building 12 property.

- For iron, the Risk Assessment correctly notes that the noncancer "Reference Dose" (RfD) for iron is actually lower than the "Recommended Dietary Allowance" (RDA) of iron for pre-adolescent children. Thus, while a theoretical HQ value of 1.1 is calculated for residential child exposure to soil at the Building 12 property, it is not expected that such exposures would actually have the potential to cause adverse health effects. However, the Risk Assessment still includes the iron HQ of 1.1 in calculating the overall child HI of 3.8 under a future residential scenario. By including the HQ for iron, the calculated HI of 3.8 overstates the site-related hazard.

- For arsenic, the estimated 95% Upper Confidence Limit (UCL) on the mean concentration detected in soil is only 11 mg/kg (all depths), with an arithmetic mean of 5.5 mg/kg (all depths). These concentrations are consistent with the range of "background" levels of arsenic in surface soil in the region. As noted in the Risk Assessment, however, "since background samples were not collected for comparison, the assumption of arsenic being site-related is the default assumption, even though it may introduce uncertainty and overestimate the potential hazards and risks" (p.7). By including the HQ for arsenic, the calculated HI of 3.8 overstates the site-related hazard.

- As discussed in EPA's Risk Assessment Guidance for Superfund (RAGS), if the HI is greater than 1, then it may be appropriate to segregate the chemicals by effect and mechanism of action and to derive separate HI values for each group. It appears from Tables 9.1 through 10.7 that such segregation was performed in the Risk Assessment, but the results are not discussed in the text. According to Table 5.1 of the Risk Assessment, the primary contributors to the overall child HI of 3.8 under a future residential scenario have different primary target organs (TCE - hepato, kidney, development; Iron – gastrointestinal; Arsenic – skin). If the overall HI of 3.8 presented in the Risk Assessment text is segregated by these primary target organs then the maximum segregated HI is only about 1.7, as shown on Tables 9.6 and 10.6. The maximum segregated HI of 1.7 shown on Tables 9.6 and 10.6 is due entirely to TCE, and is overestimated because it is based on the sum of the HQ values for the "< 1 mg/kg" and ">1 mg/kg" areas, an approach that double-counts potential exposure under the future child resident scenario.

For the reasons summarized above, Klockner believes that the HI value of 3.8 presented in the Risk Assessment overstates the potential noncancer hazard for the Building 12 property under the future "reasonable maximum" child resident scenario. By

302987

appropriately addressing the two separate TCE areas (i.e., the "< 1 mg/kg" and ">1 mg/kg" areas), it can instead be concluded that:

1) The segregated HI for the overall Building 12 property is approximately 0.5 for the future child resident (based on a weighted average exposure between the "< 1 mg/kg" and ">1 mg/kg" areas, discounting the calculated HQ for iron, and segregating the HI by toxic effect).

2) The maximum segregated HI for the relatively small (i.e., about 0.35 acre) portion of the Building 12 property where the TCE concentrations are greater than 1 mg/kg is approximately 1.7, using "reasonable" maximum exposure assumptions.

3) Only a very small area immediately to the northeast of the Quonset Hut exhibits lead concentrations above EPA's target for residential property; all lead concentrations are well below EPA's target for industrial property, which is the current and likely future use of the Klockner property.

Potential Migration of Chemicals from Soil to Groundwater (Building 12)

As discussed in the Risk Assessment, concentrations over a portion of the Building 12 property exceed the New Jersey generic IGWSCC of 1 mg/kg. Based on the January 2001 Characterization Report, the area over which the IGWSCC is exceeded by either TCE or PCE is about 0.35 acre. For this reason, the Risk Assessment concludes that "Thus, even though the hazards and risks for soil exposure are below or within acceptable EPA values, a remedial action may be warranted" (p.9).

Klockner does not believe that simply exceeding the New Jersey generic IGWSCC for TCE and PCE indicates the need for remedial action. The IGWSCC are not promulgated standards in New Jersey, and current NJDEP guidance emphasizes that the IGWSCC criteria "are subject to change based on site-specific factors". The Risk Assessment does not evaluate whether or not the assumptions used in developing the IGWSCC accurately reflect conditions at the Klockner property. In fact, an examination of site-specific data for the Building 12 property suggest that the TCE and PCE concentrations in soil above the IGWSCC are not causing significant migration to groundwater.

Figure 11 of the January 2001 Characterization Report shows TCE and PCE concentrations detected in soil at different depths below ground surface (bgs) on the Building 12 property. According to the January 2001 Characterization Report, the measured depth to shallow groundwater across the property ranges from about 11 ft bgs to 14 ft bgs, and the deeper soil samples were collected from a 6 inch interval above the shallow groundwater. At the sample locations where TCE has been detected at the highest concentrations above the IGWSCC, a deeper soil sample exhibits "non-detect" levels of TCE. For example, the highest TCE concentration (90 mg/kg) is reported from a 1 to 1.5 ft. bgs interval at sample location SSNDS-1. However, TCE is reported at "non-detect" levels in samples from 4.5 to 5 ft. bgs and 12 to 12.5 ft. bgs intervals at the

same location. The same general trend is reported for TCE at sample locations SSFS –1, SSNDS-2, SSAW-2, SSAW-3, SSAW-4, SSAW-5, SSAW-6, and SSAW-9, and for PCE at SSAW-5 and SSAW-6. Thus, the data presented in the January 2001 Characterization Report do not indicate that TCE and PCE in soil at the Building 12 property represent a significant potential to contaminate groundwater.

Potential Migration of Vapors from the Subsurface into Buildings

Consistent with the Interim Deliverable and Site Conceptual Model provided to Klockner by EPA Region II in December 2001, the Risk Assessment does not include a quantitative evaluation of the potential migration of vapors from the subsurface (i.e., groundwater and soils). However, at the August 6, 2002 meeting, EPA Region II indicated that it might be necessary to assess this pathway of potential exposure prior to identifying the need for further action at the Building 12 property. In order to prevent further delay, Klockner believes that it is appropriate to address this pathway as part of the Feasibility Study (FS), where alternatives for addressing contamination at the Building 12 property will be evaluated.

302989

ATTACHMENT 26

PREVIOUS INVESTIGATION

302991

2.6 Previous Investigations

302992

2.6.1 Investigation of the Site

In 1985, a Borough of Rockaway Well Field Site RI/FS for OU1 (SAIC, 1986) was conducted for the New Jersey Department of Environmental Protection (NJDEP). The RI/FS for OU1 concluded that the groundwater contamination at the Site was derived from multiple locations in the Borough of Rockaway. One of the locations identified was the Klockner Property.

An RI/FS for OU2 (ICF, 1991a and 1991b) was conducted for the EPA. The RI/FS for OU2 concluded that groundwater in the northeast portion of Rockaway Borough is contaminated with Volatile Organic Compounds (VOCs) and inorganic compounds. The primary contaminants are TCE, PCE and metals. The Klockner Property was identified as a source of the VOCs groundwater contamination that impacted the Borough of Rockaway Well Field, particularly supply well #6.

The remediation of the plume of groundwater contamination originating from the Klockner Property area is being addressed by Thiokol through a Consent Decree with EPA. Thiokol is currently conducting activities necessary to design the remedial treatment system for the remediation of the plume of groundwater contamination originating from the Klockner Property area.

2.6.2 Investigation Under the New Jersey Environmental Cleanup Responsibility Act (ECRA) - Building 12 Property

In August 1985, ECRA was triggered by the pending sale of the Building 12 Property. The operations of two tenants, Service Metal Fabricating (ECRA Case #85552) and Masden Industries/Multiform Metals (ECRA Case #85551) were subject to ECRA. As a result of the ECRA trigger, a comprehensive environmental investigation of the Building 12 Property ensued, under NJDEP review and oversight.

In November 1985, the ECRA Site Evaluation Submission (SES) for Masden Industries was submitted to NJDEP. The SES included a Sampling and Analysis Plan for the Building 12 Property. The report identified areas of potential environmental concern, including three underground heating oil tanks. The tanks are identified as Tanks #1, #2, and #3. Tanks #1 and #2 were 1,000 gallons in capacity, and tank #3 was 5,000 gallons in capacity. Soil sampling around each of the tanks was proposed. The Sampling and

Analysis Plan was revised on December 3, 1985 based on NJDEP comments issued on November 21, 1985.

On December 23, 1985, the Service Metal Fabricating facility was inspected by the NJDEP ECRA case manager (Ground/Water Technology, Inc. [GTI], 1986 Appendix B). No deficiencies were noted. The presence of chromium solutions was indicated. All that remained to close the Service Metal Fabrication ECRA Case was the submittal of a Negative Declaration. The Masden Industries facility was also inspected on December 23, 1985. Eleven deficiencies and actions to be taken were noted (NJDEP, 1985) (Attachment 1).

Two additional areas of potential environmental concern were identified prior to the commencement of the Sampling and Analysis Plan. These areas were the storm sewer catch basins on the north side of the facility and the 1,000 gallon underground waste oil tank. The catch basin was identified due to the presence of drum storage in this vicinity as noted in the December 23, 1985 NJDEP Site Inspection Report. The waste oil tank contents were sampled and analysis indicated the presence of TCE at 92%.

The three underground heating oil tanks and the waste oil tank were removed in April 1986. Post-excavation soil samples were collected from the excavations by GTI and delivered to ICM Laboratory (ICM) (New Jersey Certified Laboratory #14116) for the appropriate analysis. The sediments were removed from the catch basins. A sample of the sediment was delivered to ICM for appropriate analysis.

On May 22, 1986, additional soil excavation was conducted at two of the heating oil tank locations and the waste oil tank location based on the April 1986 post-excavation sample results. All of the excavated contaminated soils were properly disposed off-site. Post-excavation soil samples were collected from the excavations by GTI and delivered to ICM Laboratory for the appropriate analysis.

The analytical results for the sampling activities were submitted to NJDEP on June 25, 1986. On September 11, 1986, NJDEP issued comments recommending the installation of both shallow and deep monitoring wells to investigate the potential impact of the waste oil tank on groundwater quality.

The results of the April and May 1986 sampling activities and a proposal for further sampling activities were submitted to NJDEP in the November 1986 Sampling Plan (Revised) (GTI, 1986). No further actions were proposed for the three heating oil tank excavations. An integrity test was proposed for the storm sewer system followed by

excavation if the system leaked. The investigation of groundwater was proposed based on the results of the waste oil tank excavation activities.

The November 1986 revised Sampling Plan was approved by NJDEP in a letter dated March 5, 1987. The storm sewer was integrity tested and found to leak. A fifth underground storage tank was found and subsequently excavated during August 1987. The tank contained gasoline and had a capacity of 550 gallons. Post-excavation samples were collected and indicated no further action was necessary for this area. Groundwater monitoring wells were installed in April and June 1987 by Moretrench Environmental Services (MES). The wells were sampled during the period of June 30 to July 2, 1987. A second round of groundwater sampling was conducted on August 7 and August 10, 1987. The analytical results indicated the presence of VOCs, primarily TCE and USEPA Priority Pollutant Metals (Metals).

The results of the approved November 1986 revised Sampling Plan activities and a proposal for further sampling activities were reported to NJDEP in the October 1987 Sampling Plan Results (MES, 1987). No further action was proposed for the gasoline tank excavation. The further investigation of groundwater contamination and soil sampling at the storm sewer system were proposed.

During October 1987, a fourth deep monitoring well was installed. Soil samples for laboratory analysis were collected from the well boring to determine the vertical distribution of VOCs contamination in soil below the water table. The monitoring well was sampled for laboratory analysis on November 25, 1987.

In November 1987, an engineering construction drawing for a degreaser pit located in Building 12 was found. The pit was located and field head space samples were analyzed from the sub-base below the pit with a portable gas chromatograph. The results were inconclusive.

On December 14, 1987, a former leaching pit was uncovered and soil samples were collected for laboratory analysis. The leaching pit was located at the southwest corner of the Building 12 Property.

On April 15, 1988, NJDEP issued comments concerning the October 1987 Sampling Plan Results. NJDEP required the installation of additional monitoring wells to further delineate groundwater contamination. In August 1988, an ECRA Sampling Plan Addendum was submitted to NJDEP by First Environment on behalf of Klockner & Klockner in response to NJDEP's April 15, 1988 comments.

On October 26, 1988, the storm sewer system was exposed and investigatory soil samples were collected for laboratory analysis.

During November 1988, a fifth and sixth shallow monitoring wells were installed. All of the on-site shallow monitoring wells were sampled for laboratory analysis in December 1988.

On June 8, 1989, a conditional approval of the August 1988 ECRA Sampling Plan Addendum was issued by NJDEP.

During February 1989, contaminated soils detected at the former leaching pit and one of the storm sewer catch basins were excavated. **The quantity of soil excavated from the storm sewer catch basin excavation was approximately 53 cubic yards. The quantity of soil excavated from the leach pit is estimated at 10 cubic yards.** Post-excavation soil samples were collected and the soils were properly disposed off-site.

During August 1989, a Sampling Results report and At Risk Sampling results report (First Environment [FE], 1989a & b) were submitted to NJDEP by First Environment on behalf of Klockner & Klockner. The results of the remediation of the storm sewer system and leaching pit were provided. No further actions were proposed for these two areas. The further investigation of the degreaser pit area was proposed. The results of the groundwater investigation and proposal for a groundwater pump test were provided.

On September 18, 1989, a response to NJDEP's June 8, 1989 comment letter was submitted to NJDEP by First Environment on behalf of Klockner & Klockner.

On September 21, 1989, soil samples were collected from the soil beneath the degreaser pit for VOCs laboratory analysis. No contamination was detected.

During August and September 1989, four additional monitoring wells (2 shallow and 2 deep) and two shallow piezometers were installed. The monitoring wells were sampled on September 25 and September 27, 1989 for VOCs laboratory analysis. A pump test of the shallow aquifer beneath the Building 12 Property was conducted from October 26, 1989 to November 7, 1989.

On November 13, 1989, NJDEP issued a letter requesting submittal of an ECRA withdrawal affidavit as there no longer existed an ECRA trigger at the Building 12 Property, due to the termination of negotiations for the sale of the Building 12 Property.

In December 1989, a Sampling Results report (FE, 1989c) was prepared by First Environment for Klockner & Klockner. It was indicated that the former use of the degreaser pit had not impacted underlying soils. The results of the September 1989 groundwater sampling the October/November 1989 shallow aquifer pump test were presented. First Environment concluded that the principal source of TCE groundwater contamination appeared to be the alleyway where the waste oil tank had been located. First Environment concluded that the principal source of PCE contamination was from an off-site source located south of the Building 12 Property.

On January 12, 1990, NJDEP issued a letter requesting submittal of the groundwater sampling results (Attachment 2). The letter also provided a conditional approval of the August 1989 Sampling Plan Addendum. The conditions included a requirement to resample the gasoline tank excavation for VOCs analysis by EPA Method 624 and remediate PHC contaminated soil at catch basin #2 of the storm sewer system.

2.6.3 Investigation Following Withdrawal from the New Jersey Environmental Cleanup Responsibility Act (ECRA) - Building 12 Property

Klockner & Klockner continued the investigation of sources of TCE contamination after withdrawing from ECRA. The activities conducted were directed toward identifying and delineating potential TCE and PCE source areas. The areas investigated included the degreaser pit area, the alleyway between the quonset hut and the Masden Industries leasehold, the quonset hut and the southwest loading dock area. A majority of the sampling activities involved the use of field screening for VOCs vapors with a Photovac 10S50 or 10S70 portable gas chromatograph (GC). Field screening was conducted in accordance with NJDEP's "Field Delineation of Volatile Contamination Using Ambient Temperature Head Space Analysis." The investigation was conducted by First Environment.

On July 24, 1990, soil samples for laboratory analysis were collected from the scale room and alleyway. Metal chips were observed in the alleyway and sampled to identify the composition of the chips. The chips were identified as aluminum.

During December 1991 and January 1992, several rounds of soil vapor field sampling and soil samples for laboratory analysis were collected from the degreaser pit area, the alleyway, the quonset hut and scale room.

302996

2.6.4 Building 13 Property

Sampling has been conducted at the Building 13 Property as part of the 1986 and 1991 RI/FS's conducted for the Site and by NJDEP during tank removal activities conducted by F.G. Clover.

A soil gas survey was conducted by Tracer Research Corporation during October 1985 as part of the Phase I RI/FS for the Site (SAIC, 1986). One of the sixty-two locations sampled included the Building 13 Property. The results indicated that the Building 13 Property was a potential source of the PCE groundwater contamination.

A deep monitoring well (SAI-07) was installed on Lot 8 of the Building 13 Property as part of the Phase I RI/FS for the Site. The well has been sampled several times as part of the Phase I and Phase II RI/FS activities for the Site. The contaminant of concern identified in this well was TCE. A shallow monitoring well (FG-1) was installed on the Building 13 Property by F.G. Clover. Sampling of this well was conducted as part of the Phase II RI/FS. Both PCE and TCE were detected in FG-1.

During October 1986, F.G. Clover removed two underground heating oil tanks. The tanks had capacities of 500 and 1,000 gallons. NJDEP personnel visited the site on October 9, 1986 (NJDEP, 1986a). A 1,000 gallon dry well, which had been installed by F.G. Clover for its waste process water, was identified during the site visit. Process waste water was discharged to the dry well. NJDEP collected a sample from the dry well and from one of the excavated tanks for laboratory analysis. The analytical results indicated the presence of organic compounds, but no TCE or PCE was detected. The dry well was subsequently removed from service by F.G. Clover. **The discharge to the dry well was routed to the Borough's sanitary sewer system and the dry well was filled with sand during May 1987.** Monitoring well FG-1 was installed to investigate this area under NJDEP oversight. Mr. Iverson indicated that based on groundwater sample results, NJDEP did not require any further remedial activities. **However, Mr. Iverson has no documentation of NJDEP's approval of this activity. NJDEP was contacted concerning the status of the case associated with the dry well. NJDEP personnel indicated that the case was referred from NJDEP's Bureau of Field Operations to the Bureau of Federal Case Management (BFCM), approximately 4½ years ago. Donna Gaffigan of BFCM was contacted. Ms. Gaffigan indicated that the status of the case associated with the dry well was not readily available. However, Ms. Gaffigan will forward to us any related information that she locates in the future.**

302997