THE WASHINGTON GROUP
ENVIRONMENTAL SERVICES LABORATORY

301 Chelsea Parkway
Boothwyn, Pa. 19061
(610) 497-8000

Report For:

Secor Int., Inc. (Sun Philly Refin)
Mr. Steve Baggett
102 Pickering Way, Suite 200
Exton PA 19341

Job Number

75702702

Summary Number

68562

June 05, 2002

Reviewed by Mary E. Pierce
Project Manager Mary Pierce

NJ ID# PA343	EPA ID# PA00078	PA ID# 23-272
CA ID# 02105CA	RI ID# 238	CT ID# PH0687
NY ID# 11345	MD ID# 286	MA ID# M-PA078

The Washington Group International
Environmental Services Laboratory Data Summary
Summary # 68562 Printed - 06/05/02 06:58:39

Log	Description	Code	Parameter	Result	Limit	Units	Sampled	Started	Complete	Analyst
284206A	HA-1 (1-1.5)	G01PA	Benzene	920000 D	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Ethylbenzene	80000 JD	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Isopropyl Benzene	1600000 D	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Methyl-t-butyl Ether	ND	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Naphthalene	650	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Toluene	1800000 D	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Xylenes-Meta&Para	310000 D	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206A	HA-1 (1-1.5)	G01PA	Xylenes-Ortho	71000 JD	240	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284206B	HA-1 (1-1.5)	S06	WATER BY EVAP	7.6		% as received	05/24/2002	05/28/2002	05/28/2002	MCH
284207A	HA-2 (1-1.5)	G01PA	Benzene	28000 D	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Ethylbenzene	850	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Isopropyl Benzene	17000 D	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Methyl-t-butyl Ether	ND	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Naphthalene	ND	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Toluene	11000 D	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Xylenes-Meta&Para	4500	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207A	HA-2 (1-1.5)	G01PA	Xylenes-Ortho	1400	260	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284207B	HA-2 (1-1.5)	S06	WATER BY EVAP	10.0		% as received	05/24/2002	05/28/2002	05/28/2002	MCH
284208A	HA-3 (1-1.5)	G01PA	Benzene	310000 D	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Ethylbenzene	37000 JD	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Isopropyl Benzene	1000000 D	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Methyl-t-butyl Ether	ND	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Naphthalene	410	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Toluene	920000 D	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Xylenes-Meta&Para	140000 D	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208A	HA-3 (1-1.5)	G01PA	Xylenes-Ortho	29000 JD	270	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284208B	HA-3 (1-1.5)	S06	WATER BY EVAP	9.6		% as received	05/24/2002	05/28/2002	05/28/2002	MCH

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Log	Description	Code	Parameter	Result	Limit	Units	Sampled	Started	Complete	Analyst
284209A	HA-3 (2)	G01PA	Benzene	170000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Ethylbenzene	8500	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Isopropyl Benzene	230000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Methyl-t-butyl Ether	ND	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Naphthalene	300	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Toluene	300000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Xylenes-Meta&Para	29000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209A	HA-3 (2)	G01PA	Xylenes-Ortho	7700	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284209B	HA-3 (2)	S06	WATER BY EVAP	8.8		% as received	05/24/2002	05/28/2002	05/28/2002	MCH
284210A	HA-4 (1-1.5)	G01PA	Benzene	190000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Ethylbenzene	55000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Isopropyl Benzene	950000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Methyl-t-butyl Ether	ND	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Naphthalene	290	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Toluene	660000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Xylenes-Meta&Para	210000 D	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210A	HA-4 (1-1.5)	G01PA	Xylenes-Ortho	50000 JD	250	ug/kg-dry	05/24/2002	05/29/2002	05/29/2002	PSS
284210B	HA-4 (1-1.5)	S06	WATER BY EVAP	11.5		% as received	05/24/2002	05/28/2002	05/28/2002	MCH
284211	Trip Blank	G01PA	Benzene	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Ethylbenzene	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Isopropyl Benzene	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Methyl-t-butyl Ether	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Naphthalene	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Toluene	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Xylenes-Meta&Para	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS
284211	Trip Blank	G01PA	Xylenes-Ortho	ND	250	ug/kg as rcvd	05/24/2002	05/29/2002	05/29/2002	PSS

Approved by: _____

Report Prep: K. Kester

THE WASHINGTON GROUP
ENVIRONMENTAL LABORATORY

Methods Used for Summary# 68562:

Code	Description
G01PA	SW-846 5035/8260B/PA UST VOCs - BTEX;Cumene;Naph.;EDB;EDC
S06	Water by evaporation/ EPA-600 Mtd 160.3

DATA QUALIFIERS

The following list shows data qualifiers that may appear in this report, and the meaning of each.

Qualifier	Meaning
B	Compound was detected in the associated blank.
D	Result was obtained from a different dilution than other analytes.
E	Result is estimated. Usually, this qualifier indeicates that the result is above the calibrated range of the instrument
J	Result is estimated. Usually this qualifier indicates the reported concentration is below the laboratory's reporting limit.
N	Indicates a Tentatively Identified Compound.
ND	Analyte was not detected.
U	Analyte was not detected (U and ND qualifiers are interchangable).

ABBREVIATIONS

The following list shows abbreviations that commonly occur in analytical reports.

Abbreviation	Meaning
DL	Dilution
LCS	Laboratory Control Sample
LCSS	Laboratory Control Sample (soil)
LCSW	Laboratory Control Sample (water)
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NR	No Recovery
PB	Preparation Blank
PS	Post-Digestion Spike
RE	Reanalysis
RPD	Relative Percent Difference
SR	Serial Dilution

Washington — Laboratory Chain Of Custody

Quote No:

Ship To:

Lab Job No: 75702707

Washington Group Laboratory
301 Chelsea Parkway
Boothwyn, PA 19061
Phone: 610-497-8000
Fax: 610-497-8005

Client/Office: SECOR INT. INC. Phone: 484 875 3075

Address: 102 PICKERING WAY, SUITE 200 EXTON PA 19341

Send report to: STEVE BAGGETT Fax: 484 875 9286

Send invoice to: SAME

Address:

P.O. No: 1012

Project Description: SUN PHILADELPHIA REFINERY

TAT (for data): Identify number of working days below);...or Date-->:

☐ Rush 1 2 3 4 5 days ☐ Firm(6-12) ____ ☒ Std.(~12) ____ ☐ Other ____

Lab Staffer confirming Rush/Firm: ____ Hardcopy TAT Date?: ____

Report Type: ☒ Results only ☐ Data +QC ☐ Reduced Deliv. ☐ Other: ____
☐ Regulatory Format (CLP like) ☐ Electronic/disk->(Format?) ____

Regulatory Samples? ☒ YES ☐ NO

If YES?: ☒ Act II ☐ UST ☐ RCRA ☐ NPDES ☐ Phase I/II ☐ ISRA ☐ Other: ____

Analytical Protocol: ☐ SW846 ☐ EPA600 ☐ Drinking H2O ☐ ASTM ☐ Other: ____

Analysis Required: SHORT LIST (PADEP UNLEADED GAS PARAMETERS - 5035/8260B (BTEX, CUMENE, MTBE & NAPHTHALENE)

Lab Use Only: Rev. 10/12/99 — Due Date: — Cooler Temp: 2 deg C — Custody Seal: Yes ☑ No ☐ No. — Summary No: 68562 — Lab Log No:

Sample Data (NJ HAZITE disk deliverable limits sample ID to 7 Characters)						Container Data																					
ID (NJ limit=7 characters)	date	time	matrix	grab	comp	type	no.	preservative	pH																		
HA-1 (1-1.5)	5/24/02	0940	SOIL	✓			2	METH		X																	15
HA-2 (1-1.5)	5/24/02	1050	↓	✓			2	↓		X																	16
HA-3 (1-1.5)	5/24/02	1130	↓	✓			2	↓		X																	17
HA-3 (2)	5/24/02	1140	↓	✓			2	↓		X																	18
HA-4 (1-1.5)	5/24/02	1210	↓	✓			2	↓		X																	19
TRIP BLANK			METH				1			X																	20

A+B

Comments/Special Handling/Storage/Disposal-->: A= Blue, 40g, meoH (1) B= All other, 40zg (4)

Sampled by: SERGIO MORESCALCHI

Phone no: 484 875 3075

Relinquished By:		Received By:		Method of Shipment
Name: [signature]	Date: 5/24/02	Name: [signature]	Date: 5/24/02	Airbill No.
Organization: SECOR	Time: 1400	Organization: TWG INT	Time: 1400	
Name:	Date:	Name:	Date:	
Organization:	Time:	Organization:	Time:	
Name:	Date:	Name:	Date:	
Organization:	Time:	Organization:	Time:	

Washington
Environmental Laboratory

SAMPLE RECEIVING CHECKLIST

Client/Site: Secor

Assigned Summary # 68562

Section 1. Laboratory Courier (omit if samples received directly from client or 3rd party)

1.1 Samples taken by lab personnel?	☐ Yes	☐ No	
Preserved in field?	☐ Yes	☐ No	☐ Not Req.
Stored on ice?	☐ Yes	☐ No	☐ Not Req.
Date/time last sample placed in cooler: _____			
1.2 Samples taken by customer or 3rd party?	☐ Yes	☐ No	
Received under refrigeration?	☐ Yes (cooler)	☐ Yes (refrig.)	☐ No
If yes, in Cooler sealed?	☐ Yes	☐ No	
If no, ice present?	☐ Yes	☐ No	
Ice added?	☐ Yes	☐ No	
If refrig. placed in cooler/iced	☐ Yes	☐ No	

Section 2. Laboratory

2.1 Delivered by	☒ Client	☐ Lab Pers	☐ Parcel Svc
2.2 Packaging	☒ Cooler	☐ Other/none	
Custody Seals	☐ Present	☒ Absent	☐ Broken
Ice	☒ Present	☐ Absent	☐ Melted
Temperature	6 °C		
2.3 Documentation			
Airbill Present	☐ Yes, # N/A		☐ No
COC	☒ Rec'd		☐ Prpd by Lab
2.4 Sample Containers			
Appropriate for specified analyses?	☒ Yes	☐ No*	
Intact?	☒ Yes	☐ No*	
Labeled, and labels legible?	☒ Yes	☐ No*	
Labels agree with COC?	☒ Yes	☐ No*	

2.5 Preservation (water samples only)				
Metals	pH<2	☐ Yes	☐ No*	☒ NA
Cyanides	pH >12	☐ Yes	☐ No*	☒ NA
Sulfides	pH >9	☐ Yes	☐ No*	☒ NA
BNA, Pest, PCB, CN, Phenols, NO_3	Cl_2 absent	☐ Yes	☐ No*	☒ NA
TOC, COD, Oil/Grease, Phenols, TPH	pH<2	☐ Yes	☐ No*	☒ NA
TOX, TKN, NH3, Tot. P.	pH<2	☐ Yes	☐ No*	☒ NA
Were preservatives added at lab?		☐ Yes*	☐ No	☒ N/A

Comments (note: any response marked "*" requires detailed explanation identify specific samples, what was wrong, and what was done)

Initials: DAG Date: 5/24/02

admin3/QA/IList/SR Checlist rev10/01