NPDES Compliance Sampling Inspection Report

Palo Seco Power Plant

Levittown, Puerto Rico

PR0001031

September 12-13, 2022

Report Prepared by:

ROBERT MORRELL

Digitally signed by ROBERT MORRELL
Date: 2022.11.03 13:07:02 -04'00'

Robert Morrell, Geologist
Monitoring Operations Section

Date: _____

Report Approved by:

PHILIP COCUZZA

Digitally signed by PHILIP COCUZZA
Date: 2022.11.01 14:09:42 -04'00'

Phil Cocuzza, Chief
Monitoring Operations Section

Date: _____

1.0 OBJECTIVE

On September 12-13, 2022, at the request of the Caribbean Environmental Protection Division, a National Pollutant Discharge Elimination System (NPDES) Compliance Sampling Inspection (CSI) was conducted at the Palo Seco Power Plant in Levittown, Puerto Rico. The objective of the CSI was to gather information necessary to determine compliance with the requirements and limitations of NPDES Permit No. PR0001031, specifically Outfalls 001C and 001-C1.

2.0 KEY PARTICIPANTS

Listed below are key inspection participants and contact information, grouped by organization.

U.S. Environmental Protection Agency
Robert Morrell, Geologist, Lead Inspector
Morrell.robert@epa.gov, 848-229-5054
Jaime Lopez, Senior Enforcement Officer / Physical Scientist
Lopez.jaime@epa.gov, 787-390-3403
Jose Rivera, Team Leader, Clean Water Act Team
Rivera.jose@epa.gov, 787-402-0987

Puerto Rico Electric Power Authority
Indira Mohip Colon, Environmental Protection and QA Division Head
Indira.mohip@prepa.com, 939-227-5574
Yvonne Roman Sandor, Program Officer, Environmental Protection Division
Yvonne.roman@prepa.com
Abraham Rivera, Mechanical Supervisor and NPDES Compliance Officer
Abraham.rivera@prepa.com
Luis E. Carrillo, Senior Chemical Supervisor
Luis.carrillo@prepa.com, 787-521-7029

3.0 FACILITY DESCRIPTION

3.1 General Information

The Palo Seco Power Plant is located at km. 3.8 on State Road No. 165 in Levittown, Puerto Rico. The facility, which is owned and operated by the Puerto Rico Electric Power Authority (PREPA), began operations in 1960. The facility is engaged in the generation, transmission, and distribution of electricity and is categorized as Standard Industrial Classification (SIC) 4911. The Palo Seco Power Plant employs 120 personnel and operates 24 hours per day, 7 days per week.

3.2 Process Information

The Palo Seco Power Plant consists of four oil-fired units and six gas turbines. Units 1 and 2 each have a capacity of 100 megawatts (MW). Units 3 and 4 each have a capacity of 200 MW. Each gas turbine has a capacity of 22 MW.

Process water and potable water are provided by a municipal water supply and an on-site desalinization plant. A seawater intake provides non-contact cooling water.

Industrial wastewater is conveyed to the wastewater treatment plant. Industrial wastewater consists of boiler wash water, ion exchange wastes, and air preheater cleanings. The wastewater flows into a collection basin and is pumped to Equalization Tank No. 2, where the pH is adjusted. The sludge from Equalization Tank No. 2 is pumped to the South Pond. The wastewater then flows into Equalization Tank No. 1. The wastewater is directed to one of two Nautilus units, where a polymer is added. Sediment from the Nautilus units is pumped to the South Pond. The wastewater then flows into a collection sump, where the pH is adjusted again. The wastewater is pumped through the gravel filters and is conveyed to a post treatment tank. The treated wastewater is then batch-discharged through internal Outfall 001-C1. The treated wastewater from Outfall 001-C1 combines with storm water runoff, equipment drains, and boiler blowdown. The combined flow is discharged through Outfall 001C to the old Bayamon River Bed.

3.3 Facility Self-Monitoring Information

Samples are collected and analyzed by Environmental Quality Laboratories in San Juan, Puerto Rico. Flow is measured continuously with a V-notch weir and ultrasonic meter.

4.0 EPA SAMPLING/INSPECTION ACTIVITIES

4.1 Sampling Activities

On the first day of the sampling inspection, September 12, 2022, there was no discharge at internal Outfall 001-C1, as the post treatment tank was not full. The batch discharge was scheduled for the following day, September 13, 2022. There was also no stormwater runoff observed at Outfall 002. As a result, there were no samples collected on September 12, 2022.

On September 13, 2022, an automatic composite sampler was set up at the discharge location for Outfall 001C. The sampler was programmed to collect an aliquot of the effluent wastewater every 15 minutes for 6 hours. The composite sample container was packed in ice. After 6 hours, the batch discharge from the wastewater treatment plant was completed and the automatic sampler was shut off. The composite sample was collected for the analyses of total suspended solids (TSS) and 5-day biochemical oxygen demand (BOD_5).

A grab sample was collected at Outfall 001C using a rod and clamp. This grab sample was analyzed for metals (arsenic, cadmium, copper, mercury, nickel, silver, and thallium), color, free cyanide, oil and grease, pentachlorophenol, PCB's, sulfates, sulfide, turbidity, nitrate +

nitrite, and ammonia. Dissolved oxygen, pH, settleable solids, temperature, and total residual chlorine were analyzed in the field and recorded in the field notebook. Flow measurement data were provided by facility personnel.

A manual composite sample was collected at Outfall 001-C1. Four aliquots were collected from a tap on the discharge line during the batch discharge. This composite sample was analyzed for TSS and metals (copper and iron).

A grab sample was collected at Outfall 001-C1 by directly filling the sample containers from a tap on the discharge pipe. This grab sample was analyzed for oil and grease, and metals (chromium and zinc). The pH was analyzed in the field and recorded in the field notebook. The flow measurement was provided by facility personnel.

All sample containers, preservation techniques and holding times were in accordance with US EPA requirements specified in 40 CFR Part 136.

Split samples were collected and given to the facility representative.

4.2 Inspection Activities

A walk-through inspection of Outfall 001C, Outfall 001-C1, and Outfall 002 was conducted on September 12, 2022. There was no flow at Outfall 001C and Outfall 002. There was minimal flow at Outfall 001C. On September 13, 2022, the batch discharge of the wastewater treatment plant effluent was started and samples were collected at Outfall 001C and Outfall 001-C1.

4.3 Deviations and/or Environmental Conditions

Samples were not collected at Outfall 002 because there was no stormwater runoff.

5.0 ANALYTICAL RESULTS

Palo Seco Power Plant
Outfall 001-C1

Parameter	Units	Permit Limit	EPA Result
Flow	MGD	0.74	0.155931
TSS	mg/l	--	Not detected
TSS	kg/day	170.4	Not detected
Iron	mg/l	--	0.0652
Iron	kg/day	1.7	0.038
Copper	mg/l	--	Not detected
Copper	kg/day	1.7	Not detected
Chromium	mg/l	0.2	Not detected
Zinc	mg/l	1.0	Not detected
Oil and Grease	mg/l	34.1	Not detected
pH	su	6.0 – 9.0	7.89

Palo Seco Power Plant
Outfall 001C

Parameter	Units	Permit Limit	EPA Result
TSS	mg/l	--	Not detected
BOD_5	mg/l	30.0	6.47
Arsenic	ug/l	36.0	Not detected
Cadmium	ug/l	Monitor only	Not detected
Copper	ug/l	3.73	Not detected
Mercury	ug/l	0.051	Not detected
Nickel	ug/l	8.28	Not detected
Silver	ug/l	2.24	Not detected
Thallium	ug/l	0.47	Not detected
Color	Pt-Co units	Shall not be altered	5.00
Free Cyanide	ug/l	1.0	Not detected
Oil and Grease	mg/l	20	Not detected
Pentachlorophenol	ug/l	Monitor only	Not detected
PCB's	ug/l	Monitor only	Not detected
Sulfates	mg/l	2800	3570
Sulfide	ug/l	2	22.6 L
Turbidity	NTU	10	0.773
Nitrate + Nitrite	mg/l	Monitor only	1.18 L
Ammonia	mg/l	Monitor only	0.115
Dissolved Oxygen	mg/l	4.0 minimum	6.7
pH	su	7.3 – 8.5	8.11
Settleable Solids	ml/l	Shall not cause deposition	0.0
Temperature	°C	32.2	31.0
Total Residual Chlorine	mg/l	--	0.02

L = the reported value may be biased low.

6.0 FINDINGS

6.1 Sampling Result Findings

The EPA analytical results obtained during this inspection show the following parameter(s) as being outside of the acceptable limits:

Sulfates (Outfall 001C)
Sulfide (Outfall 001C)

6.2 Inspection Findings

In addition to the sampling, an inspection of the facility outfalls was conducted as discussed in Section 4.2 above. The following observation was noted at Outfall 001C:

The primary flow measuring device was off-center and not located immediately upstream of the weir crest.

7.0 ATTACHMENTS

Photographs (#1 - #4)
Chain of Custody / Field Data Forms
Laboratory Data Report

Photo #1: Outfall 001-C1.

Photo #2: View of sample tap for Outfall 001-C1.

Photo #3: Outfall 001C.

Photo #4: View of Outfall 001C where samples were collected.

US EPA REGION 2 LABORATORY
CHAIN OF CUSTODY/ FIELD DATA FORM

Page 1 of 2 pages

SURVEY NAME & LOCALITY Palo Seco Power Plant — SITE ID — OPERABLE UNIT — PROJECT LEADER Bob Morrell
PROGRAM: SF ☐ : RCRA ☐ RCRA ENF ☐ NPDES ☑ SDWA ☐ AM ☐ CAA ☐ — PROGRAM RESULTS CODE TSCA ☐ OD ☐ FIFRA ☐ CRIMINAL ENF ☐
Decision Unit Code Y206 D210 D307 B304 C215 B224 A305 L306 B253 6.3

Permit # PR0001031

LAB ID/ FIELD ID	MATRIX	# OF CONT'ERS	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS.	Res CL Checked	Preservative (circle)	Collection Time (24hr clock) Begin	End	Collection Date mm/dd/yy
Outfall 001C-Grab	W	16	☑	1 250-ml Plastic for Metals (As, Cd, Cu, Hg, Ni, Ag, Tl)	☐	0 1 2 3 4 5 6 7 8 9 10	1235		09/13/22
		☑		1 125-ml plastic for Color	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		1 125-ml plastic for Free Cyanide	☑	0 1 2 3 4 5 6 7 8 9 10			
		☑		3 1-Liter glasses for 0.1 µ Organics	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		3 1-Liter amber glass jars for Pentachlorophenol	☑	0 1 2 3 4 5 6 7 8 9 10			
		☑		3 1-Liter amber glass jars for PCBs	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		1 125-ml plastic jar for Sulfates	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		1 125-ml plastic jar for Sulfide (unpreserved H2S)	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		1 250-ml plastic jar for Turbidity	☐	0 1 2 3 4 5 6 7 8 9 10			
		☑		1 250-ml plastic jar for Nitrate+Nitrite, Ammonia	☐	0 1 2 3 4 5 6 7 8 9 10			

COMMENTS & SPECIAL REQUIREMENTS:

Matrix:
A=aqueous, B=aqueous (chlorinated), C=soil, D=sediment, E=sludge, F=multiphasic, G=solvent, H=biota, I=oil, J=other

Relinquished By: Robert A. Morrell — Received By: — Person Assuming Responsibility for Sample(s): Robert A. Morrell — Time 1430 — Date 9/13/22

Relinquished By: — Received By: — Time — Date

Relinquished By: — Received By: — Time — Date

Survey Complete? Y ☑ N ☐

Preservative Added & Checked
0=ice, 1=H2SO4 pH<2, 2=HNO3 pH<2, 3=HCl pH<2, 4=Na2S2O3, 5=NaOH pH>9, 6=Ascorbic Acid, 7=FAS, 8=ZnAc, 9=NaOH pH>12, 10=NH4Cl

revised 10/25/2004

US EPA REGION 2 LABORATORY
CHAIN OF CUSTODY/ FIELD DATA FORM

Page 2 of 2 pages

SURVEY NAME & LOCALITY: Palo Seco Power Plant
PROGRAM: SF ☐ : RCRA ☐ RCRA ENF ☐ NPDES ☑ SDWA ☐ AM ☐ CAA ☐ TSCA ☐ OD ☐ FIFRA ☐ CRIMINAL ENF ☐
Decision Unit Code: Y206 D210 D307 B304 C215 B224 A305 L306 B253
SITE ID: ____ OPERABLE UNIT: ____
PROJECT LEADER: Rob Morrell
PROGRAM RESULTS CODE: ____

Permit #PR0001031	LAB ID/ FIELD ID	# OF CONT'ERS	MATRIX	CHECK IF SPLIT SAMPLE	DESCRIPTION & INSTRUCTIONS INCLUDING LOCATION, ESTIMATED CONCENTRATIONS, SPECIAL REPORTING LIMITS.	Res Cl. Checked	Preservative (circle)	Collection Time (24hr clock) ////////// Begin ; End	Collection Date mm/dd/yy
	Outfall 001-C1-Comp 1	2	A	☑	1 350-ml plastic jar for Metals (Cu, Fe)	☐	0 1 2 3 4 5 6 7 8 9 10	0905	09/13/22
				☑	1 250-ml plastic jar for T.S.S	☐	0 1 2 3 4 5 6 7 8 9 10	1410	09/13/22
	Outfall 001-C1-Comp 2	2	A	☑	1 1-liter glass jar for Oil & Grease	☐	0 1 2 3 4 5 6 7 8 9 10	1046	09/13/22
				☑	1 350-ml plastic jar for Metals (Cu, Zn)	☐	0 1 2 3 4 5 6 7 8 9 10		
	Outfall 001C Comp #1	3	A	☑	2 1-liter plastic jars for BOD5	☐	0 1 2 3 4 5 6 7 8 9 10	0843	09/13/22
				☑	1 500-ml plastic jar for T.S.S	☐	0 1 2 3 4 5 6 7 8 9 10	1430	09/13/22
				☐		☐	0 1 2 3 4 5 6 7 8 9 10		
				☐		☐	0 1 2 3 4 5 6 7 8 9 10		
				☐		☐	0 1 2 3 4 5 6 7 8 9 10		
				☐		☐	0 1 2 3 4 5 6 7 8 9 10		

COMMENTS & SPECIAL REQUIREMENTS:

Person Assuming Responsibility for Sample(s): Robert A. Morrell

	Relinquished By:	Received By:	Time	Date
	Robert A. Morrell		1430	9/13/22
	Relinquished By:	Received By:		
	Relinquished By:	Received By:		

Survey Complete? Y ☑ N ☐

Matrix: A=aqueous, B=aqueous (chlorinated), C=soil, D=sediment, E=sludge, F=multiphasic, G=solvent, H=biota, I=oil, J=other

Preservative Added & Checked: 0=ice, 1=H2SO4 pH<2, 2=HNO3 pH<2, 3=HCl pH<2, 4=Na2S2O3, 5=NaOH pH>9, 6=Ascorbic Acid, 7=FAS, 8=ZnAc, 9=NaOH pH>12, 10=NH4Cl

revised 10/25/2004

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory
2890 Woodbridge Avenue
Edison , New Jersey 08837
732-906-6886 Phone
732-906-6165 Fax

October 03, 2022

Philip Cocuzza
Monitoring & Assessment Branch
LSASD/MAB
Edison, NJ 08837

RE: PREPA Palo Seco Power Plant - 2209014

Enclosed are the results of analyses for samples received by the laboratory on 09/14/2022. The signature below reflects the laboratory's approval of the reported results. If you have any questions concerning this report, please refer to Project Number 2209014 and contact the laboratory.

Sincerely,

John R. Bourbon
Chief, LSASD/LB

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Project Narrative:

The National Environmental Laboratory Accreditation Conference Institute (TNI) is a voluntary environmental laboratory accreditation association of State and Federal agencies. TNI established and promoted a National Environmental Laboratory Accreditation Program (NELAP) that provides a uniform set of standards for the generation of environmental data that are of known and defensible quality. The EPA Region 2 Laboratory is NELAP accredited. The Laboratory tests that are accredited have met all the requirements established under the TNI Standards.

Condition Comments

None

Comment(s):

The "Sample Analysis Date and Time" is included in the results section for any analyte with a prescribed holding time of 72 hours or less.

The results for Color are reported as "Apparent Color". The pH of the sample was confrimed between 4 and 8, therfore no pH adjustments necessary prior to Color measurement.

Note: For this project, only MS was extracted and analyzed because, the MSD sample bottle was broken during shipment and no extra sample was available to replace.

Data Qualifier(s):

U- The analyte was not detected at or above the Reporting Limit.
J- The identification of the analyte is acceptable; the reported value is an estimate.
K- The identification of the analyte is acceptable; the reported value may be biased high.
L- The identification of the analyte is acceptable; the reported value may be biased low.
NJ- There is presumptive evidence that the analyte is present; the analyte is reported as a tentative identification. The reported value is an estimate.

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Reporting Limit(s):

The Laboratory was able to achieve the standard laboratory reporting limits, where applicable, for each analyte requested except for the following analyte(s):

NVOA GCMS

The reporting level of 5.00 ug/L was raised to 30 ug/L for the following analyte(s):
4,6-Dinitro-2-Methylphenol, Pentachlorophenol
for the following samples:
2209014-01
The reporting level of 5.00 ug/L was raised to 50 ug/L for the following analyte(s):
2,4-Dinitrophenol
for the following samples:
2209014-01

SUMMARY REPORT FOR SAMPLES

Field ID	Laboratory ID	Matrix	Date Sampled	Date Received
Outfall 001C-Grab	2209014-01	Aqueous	09/13/2022 12:35	09/14/2022 10:50
Outfall 001-C1-Composite	2209014-02	Aqueous	09/13/2022 14:10	09/14/2022 10:50
Outfall 001-C1-Grab	2209014-03	Aqueous	09/13/2022 10:46	09/14/2022 10:50
Outfall 001C-Composite	2209014-04	Aqueous	09/13/2022 14:30	09/14/2022 10:50

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

SUMMARY REPORT FOR METHODS

Analysis	Method	Certification	Matrix
608.3 PCB Aroclors NPDES	EPA 608.3 SOP C-91 Rev 4.3	NELAP	Aqueous
625.1 SVOA NPDES	EPA 625.1 SOP C-90 Rev 3.8	NELAP	Aqueous
Ammonia [As N]	EPA 350.1 SOP C-80 Rev 2.7	NELAP	Aqueous
Biochemical Oxygen Demand	SM 5210B SOP C-21 Rev 2.7	NELAP	Aqueous
Color	SM 2120 SOP C-47 Rev 3.6	NELAP	Aqueous
Weak Acid Dissociable [Free] Cyanide	EPA 335.4 SOP C-28 Rev 2.7		Aqueous
Mercury	EPA 245.1 SOP C-110 Rev 2.7	NELAP	Aqueous
Metals ICP TAL NPDES/DW	EPA 200.7 SOP C-109 Rev 3.6	NELAP	Aqueous
Nitrate + Nitrite [As N]	EPA 353.2 SOP C-79 Rev 3.6	NELAP	Aqueous
Oil & Grease	EPA 1664A SOP C-126 Rev 1.6	NELAP	Aqueous
Sulfate	EPA 300.0 SOP C-94 Rev 2.7	NELAP	Aqueous
Sulfide	SM 4500 S2 D SOP C-115 Rev 2.7	NELAP	Aqueous
Residue, Non-Filterable	SM 2540D SOP C-33 Rev 3.7	NELAP	Aqueous
Turbidity	EPA 180.1 SOP C-81 Rev 2.7	NELAP	Aqueous

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001C-Grab			**Sample ID: 2209014-01**			
NVOA GCMS						
Acenaphthene	---	U	5.10	ug/L	B209096	
Acenaphthylene	---	U	5.10	ug/L	B209096	
Anthracene	---	U	5.10	ug/L	B209096	
Benzo(A)Anthracene	---	U	5.10	ug/L	B209096	
Benzo(A)Pyrene	---	U	5.10	ug/L	B209096	
Benzo(B)Fluoranthene	---	U	5.10	ug/L	B209096	
Benzo(G,H,I)Perylene	---	U	5.10	ug/L	B209096	
Benzo(K)Fluoranthene	---	U	5.10	ug/L	B209096	
Chrysene	---	U	5.10	ug/L	B209096	
Dibenzo(A,H)Anthracene	---	U	5.10	ug/L	B209096	
Fluoranthene	---	U	5.10	ug/L	B209096	
Fluorene	---	U	5.10	ug/L	B209096	
Indeno(1,2,3-Cd)Pyrene	---	U	5.10	ug/L	B209096	
Naphthalene	---	U	5.10	ug/L	B209096	
Phenanthrene	---	U	5.10	ug/L	B209096	
1,2,4-Trichlorobenzene	---	U	5.10	ug/L	B209096	
2,4,6-Trichlorophenol	---	U L	5.10	ug/L	B209096	
2,4-Dichlorophenol	---	U L	5.10	ug/L	B209096	
2,4-Dimethylphenol	---	U L	5.10	ug/L	B209096	
2,4-Dinitrotoluene	---	U	5.10	ug/L	B209096	
2,6-Dinitrotoluene	---	U	5.10	ug/L	B209096	
2,4-Dinitrophenol	---	U	51.0	ug/L	B209096	
2-Chloronaphthalene	---	U	5.10	ug/L	B209096	
2-Chlorophenol	---	U L	5.10	ug/L	B209096	
2-Nitrophenol	---	U L	5.10	ug/L	B209096	
3,3'- Dichlorobenzidine	---	U	5.10	ug/L	B209096	
4,6-Dinitro-2-Methylphenol	---	U	30.6	ug/L	B209096	
4-Bromophenyl-Phenylether	---	U	5.10	ug/L	B209096	
4-Chloro-3-Methylphenol	---	U L	5.10	ug/L	B209096	

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001C-Grab			**Sample ID: 2209014-01**			
NVOA GCMS						
4-Chlorophenyl-Phenylether	---	U	5.10	ug/L	B209096	
4-Nitrophenol	---	U	5.10	ug/L	B209096	
Bis(-2-Chloroethoxy)Methane	---	U L	5.10	ug/L	B209096	
Bis(2-Chloroethyl)Ether	---	U L	5.10	ug/L	B209096	
Bis(2-Chloroisopropyl)Ether	---	U L	5.10	ug/L	B209096	
Bis(2-Ethylhexyl)Phthalate	---	U	5.10	ug/L	B209096	
Butylbenzylphthalate	---	U	5.10	ug/L	B209096	
Azobenzene	---	U	5.10	ug/L	B209096	
Diethylphthalate	---	U	5.10	ug/L	B209096	
Dimethyl Phthalate	---	U L	5.10	ug/L	B209096	
Di-N-Butyl Phthalate	---	U	5.10	ug/L	B209096	
Di-N-Octyl Phthalate	---	U	5.10	ug/L	B209096	
Hexachlorobenzene	---	U	5.10	ug/L	B209096	
Hexachlorobutadiene	---	U	5.10	ug/L	B209096	
Hexachlorocyclopentadiene	---	U J	5.10	ug/L	B209096	
Hexachloroethane	---	U L	5.10	ug/L	B209096	
Isophorone	---	U L	5.10	ug/L	B209096	
Nitrobenzene	---	U L	5.10	ug/L	B209096	
N-Nitrosodimethylamine	---	U J	5.10	ug/L	B209096	
N-Nitroso-Di-N-Propylamine	---	U L	5.10	ug/L	B209096	
N-Nitrosodiphenylamine	---	U	5.10	ug/L	B209096	
Pentachlorophenol	---	U	30.6	ug/L	B209096	
Phenol	---	U L	5.10	ug/L	B209096	
Pyrene	---	U	5.10	ug/L	B209096	

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001C-Grab			**Sample ID: 2209014-01**			
PCB Aroclors GC						
Aroclor 1016	---	U	0.031	ug/L	B209085	
Aroclor 1221	---	U	0.062	ug/L	B209085	
Aroclor 1232	---	U	0.031	ug/L	B209085	
Aroclor 1242	---	U	0.031	ug/L	B209085	
Aroclor 1248	---	U	0.031	ug/L	B209085	
Aroclor 1254	---	U	0.031	ug/L	B209085	
Aroclor 1260	---	U	0.031	ug/L	B209085	
GC - Sanitary						
Oil & Grease	---	U	6.50	mg/L	B209121	
Metals ICP						
Arsenic	---	U	8.00	ug/L	B209117	
Cadmium	---	U	3.00	ug/L	B209117	
Copper	---	U	10.0	ug/L	B209117	
Nickel	---	U	20.0	ug/L	B209117	
Silver	---	U	5.00	ug/L	B209117	
Thallium	---	U J	20.0	ug/L	B209117	
Mercury CVAA						
Mercury	---	U	0.050	ug/L	B209111	
Sanitary						
Ammonia [As N]	0.115		0.100	mg/L	B209079	
Color	5.00		5.00	Color Units	B209078	09/14/2022 11:55
Weak Acid Dissociable [Free] Cyanide	---	U	10.0	ug/L	B209088	
Nitrate + Nitrite [As N]	1.18	L	0.0500	mg/L	B209114	
Sulfate	3570		100	mg/L	B209109	
Sulfide	0.0226	L	0.0100	mg/L	B209089	
Turbidity	0.773		0.100	NTU	B209081	09/14/2022 13:50
Field ID: Outfall 001-C1-Composite			**Sample ID: 2209014-02**			
Metals ICP						
Copper	---	U	10.0	ug/L	B209117	

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Analyte	Result	Qualifier	Reporting Limit	Units	Batch	Date and Time of Analysis*
Field ID: Outfall 001-C1-Composite			**Sample ID: 2209014-02**			
Metals ICP						
Iron	65.2		50.0	ug/L	B209117	
Sanitary						
Total Suspended Solids	---	U	10.0	mg/L	B209083	
Field ID: Outfall 001-C1-Grab			**Sample ID: 2209014-03**			
GC - Sanitary						
Oil & Grease	---	U	6.00	mg/L	B209121	
Metals ICP						
Chromium	---	U	5.00	ug/L	B209117	
Zinc	---	U	20.0	ug/L	B209117	
Field ID: Outfall 001C-Composite			**Sample ID: 2209014-04**			
Sanitary						
Biochemical Oxygen Demand	6.47		2.00	mg/L	B209080	09/20/2022 08:10
Total Suspended Solids	---	U	10.0	mg/L	B209083	

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Blank (B209096-BLK1)									
Acenaphthene	--- U	5.00	ug/L						
Acenaphthylene	--- U	5.00	ug/L						
Anthracene	--- U	5.00	ug/L						
Benzo(A)Anthracene	--- U	5.00	ug/L						
Benzo(A)Pyrene	--- U	5.00	ug/L						
Benzo(B)Fluoranthene	--- U	5.00	ug/L						
Benzo(G,H,I)Perylene	--- U	5.00	ug/L						
Benzo(K)Fluoranthene	--- U	5.00	ug/L						
Chrysene	--- U	5.00	ug/L						
Dibenzo(A,H)Anthracene	--- U	5.00	ug/L						
Fluoranthene	--- U	5.00	ug/L						
Fluorene	--- U	5.00	ug/L						
Indeno(1,2,3-Cd)Pyrene	--- U	5.00	ug/L						
Naphthalene	--- U	5.00	ug/L						
Phenanthrene	--- U	5.00	ug/L						
1,2,4-Trichlorobenzene	--- U	5.00	ug/L						
2,4,6-Trichlorophenol	--- U	5.00	ug/L						
2,4-Dichlorophenol	--- U	5.00	ug/L						
2,4-Dimethylphenol	--- U	5.00	ug/L						
2,4-Dinitrotoluene	--- U	5.00	ug/L						
2,6-Dinitrotoluene	--- U	5.00	ug/L						
2,4-Dinitrophenol	--- U	5.00	ug/L						
2-Chloronaphthalene	--- U	5.00	ug/L						
2-Chlorophenol	--- U	5.00	ug/L						
2-Nitrophenol	--- U	5.00	ug/L						
3,3'- Dichlorobenzidine	--- U	5.00	ug/L						
4,6-Dinitro-2-Methylphenol	--- U	5.00	ug/L						
4-Bromophenyl-Phenylether	--- U	5.00	ug/L						
4-Chloro-3-Methylphenol	--- U	5.00	ug/L						
4-Chlorophenyl-Phenylether	--- U	5.00	ug/L						
4-Nitrophenol	--- U	5.00	ug/L						
Bis(-2-Chloroethoxy)Methane	--- U	5.00	ug/L						
Bis(2-Chloroethyl)Ether	--- U	5.00	ug/L						
Bis(2-Chloroisopropyl)Ether	--- U	5.00	ug/L						

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Blank (B209096-BLK1)									
Bis(2-Ethylhexyl)Phthalate	--- U	5.00	ug/L						
Butylbenzylphthalate	--- U	5.00	ug/L						
Azobenzene	--- U	5.00	ug/L						
Diethylphthalate	--- U	5.00	ug/L						
Dimethyl Phthalate	--- U	5.00	ug/L						
Di-N-Butyl Phthalate	--- U	5.00	ug/L						
Di-N-Octyl Phthalate	--- U	5.00	ug/L						
Hexachlorobenzene	--- U	5.00	ug/L						
Hexachlorobutadiene	--- U	5.00	ug/L						
Hexachlorocyclopentadiene	--- U	5.00	ug/L						
Hexachloroethane	--- U	5.00	ug/L						
Isophorone	--- U	5.00	ug/L						
Nitrobenzene	--- U	5.00	ug/L						
N-Nitrosodimethylamine	--- U	5.00	ug/L						
N-Nitroso-Di-N-Propylamine	--- U	5.00	ug/L						
N-Nitrosodiphenylamine	--- U	5.00	ug/L						
Pentachlorophenol	--- U	5.00	ug/L						
Phenol	--- U	5.00	ug/L						
Pyrene	--- U	5.00	ug/L						
Surrogate: 2-Fluoroaniline	*41.6*		ug/L	*50.00*		*83.2*	*60-140*		
Surrogate: Phenol-D6	*ND*		ug/L	*50.00*		*34.9*	*60-140*		
Surrogate: Naphthalene-D8	*37.7*		ug/L	*50.00*		*75.4*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*37.0*		ug/L	*50.00*		*74.1*	*60-140*		
Surrogate: 2,4-Dibromophenol	*37.6*		ug/L	*50.00*		*75.2*	*60-140*		
Surrogate: Anthracene-D10	*61.9*		ug/L	*50.00*		*124*	*60-140*		
Surrogate: Chrysene-D12	*44.4*		ug/L	*50.00*		*88.7*	*60-140*		
LCS (B209096-BS1)									
Acenaphthene	37.7	5.00	ug/L	50.00		75.5	47-145		
Acenaphthylene	37.4	5.00	ug/L	50.00		74.9	33-145		
Anthracene	43.9	5.00	ug/L	50.00		87.9	27-133		
Benzo(A)Anthracene	38.8	5.00	ug/L	50.00		77.5	33-143		
Benzo(A)Pyrene	48.2	5.00	ug/L	50.00		96.4	17-163		
Benzo(B)Fluoranthene	51.2	5.00	ug/L	50.00		102	24-159		
Benzo(G,H,I)Perylene	47.8	5.00	ug/L	50.00		95.5	35-219		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
LCS (B209096-BS1)									
Benzo(K)Fluoranthene	48.0	5.00	ug/L	50.00		95.9	11-162		
Chrysene	39.2	5.00	ug/L	50.00		78.4	17-168		
Dibenzo(A,H)Anthracene	49.0	5.00	ug/L	50.00		98.0	33-227		
Fluoranthene	48.0	5.00	ug/L	50.00		96.0	26-137		
Fluorene	42.3	5.00	ug/L	50.00		84.6	59-121		
Indeno(1,2,3-Cd)Pyrene	52.2	5.00	ug/L	50.00		104	39-171		
Naphthalene	35.9	5.00	ug/L	50.00		71.8	21-133		
Phenanthrene	44.1	5.00	ug/L	50.00		88.2	54-120		
1,2,4-Trichlorobenzene	32.3	5.00	ug/L	50.00		64.7	44-142		
2,4,6-Trichlorophenol	41.1	5.00	ug/L	50.00		82.3	37-144		
2,4-Dichlorophenol	41.7	5.00	ug/L	50.00		83.4	39-135		
2,4-Dimethylphenol	44.7	5.00	ug/L	50.00		89.4	32-120		
2,4-Dinitrotoluene	48.0	5.00	ug/L	50.00		95.9	39-139		
2,6-Dinitrotoluene	42.7	5.00	ug/L	50.00		85.4	50-158		
2,4-Dinitrophenol	46.5	5.00	ug/L	50.00		93.0	21-191		
2-Chloronaphthalene	35.4	5.00	ug/L	50.00		70.7	60-120		
2-Chlorophenol	42.4	5.00	ug/L	50.00		84.8	23-134		
2-Nitrophenol	43.8	5.00	ug/L	50.00		87.6	29-182		
3,3'- Dichlorobenzidine	48.3	5.00	ug/L	50.00		96.5	38-262		
4,6-Dinitro-2-Methylphenol	57.6	5.00	ug/L	50.00		115	17-181		
4-Bromophenyl-Phenylether	42.8	5.00	ug/L	50.00		85.6	53-127		
4-Chloro-3-Methylphenol	40.8	5.00	ug/L	50.00		81.7	22-147		
4-Chlorophenyl-Phenylether	41.3	5.00	ug/L	50.00		82.6	25-158		
4-Nitrophenol	21.4	5.00	ug/L	50.00		42.8	9-132		
Bis(-2-Chloroethoxy)Methane	39.0	5.00	ug/L	50.00		77.9	33-184		
Bis(2-Chloroethyl)Ether	41.9	5.00	ug/L	50.00		83.8	12-158		
Bis(2-Chloroisopropyl)Ether	36.0	5.00	ug/L	50.00		72.1	36-166		
Bis(2-Ethylhexyl)Phthalate	46.1	5.00	ug/L	50.00		92.2	8-158		
Butylbenzylphthalate	41.2	5.00	ug/L	50.00		82.3	38-152		
Azobenzene	42.0	5.00	ug/L	50.00		84.0	60-115		
Diethylphthalate	27.8	5.00	ug/L	50.00		55.5	31-114		
Dimethyl Phthalate	9.04	5.00	ug/L	50.00		18.1	28-120		
Di-N-Butyl Phthalate	41.1	5.00	ug/L	50.00		82.1	1-120		
Di-N-Octyl Phthalate	49.4	5.00	ug/L	50.00		98.8	4-146		
Hexachlorobenzene	43.2	5.00	ug/L	50.00		86.4	35-152		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
LCS (B209096-BS1)									
Hexachlorobutadiene	29.5	5.00	ug/L	50.00		58.9	24-120		
Hexachlorocyclopentadiene	29.0	5.00	ug/L	50.00		58.0	15-76		
Hexachloroethane	30.8	5.00	ug/L	50.00		61.6	40-120		
Isophorone	42.0	5.00	ug/L	50.00		84.0	21-196		
Nitrobenzene	42.7	5.00	ug/L	50.00		85.4	35-180		
N-Nitrosodimethylamine	28.9	5.00	ug/L	50.00		57.7	17-127		
N-Nitroso-Di-N-Propylamine	39.2	5.00	ug/L	50.00		78.4	43-230		
N-Nitrosodiphenylamine	49.1	5.00	ug/L	50.00		98.2	79-139		
Pentachlorophenol	45.1	5.00	ug/L	50.00		90.3	14-176		
Phenol	19.2	5.00	ug/L	50.00		38.4	5-120		
Pyrene	49.1	5.00	ug/L	50.00		98.1	52-120		
Surrogate: 2-Fluoroaniline	*43.6*		ug/L	*50.00*		*87.2*	*60-140*		
Surrogate: Phenol-D6	*17.9*		ug/L	*50.00*		*35.8*	*60-140*		
Surrogate: Naphthalene-D8	*34.3*		ug/L	*50.00*		*68.7*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*31.5*		ug/L	*50.00*		*62.9*	*60-140*		
Surrogate: 2,4-Dibromophenol	*38.6*		ug/L	*50.00*		*77.2*	*60-140*		
Surrogate: Anthracene-D10	*56.4*		ug/L	*50.00*		*113*	*60-140*		
Surrogate: Chrysene-D12	*36.3*		ug/L	*50.00*		*72.6*	*60-140*		
LCS Dup (B209096-BSD1)									
Acenaphthene	40.3	5.00	ug/L	50.00		80.5	47-145	6.46	30
Acenaphthylene	39.6	5.00	ug/L	50.00		79.2	33-145	5.68	30
Anthracene	47.4	5.00	ug/L	50.00		94.9	27-133	7.66	30
Benzo(A)Anthracene	42.7	5.00	ug/L	50.00		85.3	33-143	9.58	30
Benzo(A)Pyrene	53.0	5.00	ug/L	50.00		106	17-163	9.53	30
Benzo(B)Fluoranthene	56.1	5.00	ug/L	50.00		112	24-159	9.06	30
Benzo(G,H,I)Perylene	53.6	5.00	ug/L	50.00		107	35-219	11.6	30
Benzo(K)Fluoranthene	53.3	5.00	ug/L	50.00		107	11-162	10.5	30
Chrysene	42.8	5.00	ug/L	50.00		85.7	17-168	8.80	30
Dibenzo(A,H)Anthracene	54.9	5.00	ug/L	50.00		110	33-227	11.4	30
Fluoranthene	53.1	5.00	ug/L	50.00		106	26-137	10.0	30
Fluorene	44.4	5.00	ug/L	50.00		88.8	59-121	4.94	30
Indeno(1,2,3-Cd)Pyrene	57.9	5.00	ug/L	50.00		116	39-171	10.3	30
Naphthalene	36.9	5.00	ug/L	50.00		73.8	21-133	2.77	30
Phenanthrene	48.4	5.00	ug/L	50.00		96.8	54-120	9.30	30

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
LCS Dup (B209096-BSD1)									
1,2,4-Trichlorobenzene	33.3	5.00	ug/L	50.00		66.6	44-142	2.90	30
2,4,6-Trichlorophenol	43.8	5.00	ug/L	50.00		87.5	37-144	6.19	30
2,4-Dichlorophenol	43.1	5.00	ug/L	50.00		86.3	39-135	3.35	30
2,4-Dimethylphenol	40.9	5.00	ug/L	50.00		81.7	32-120	8.93	30
2,4-Dinitrotoluene	53.6	5.00	ug/L	50.00		107	39-139	11.2	30
2,6-Dinitrotoluene	47.4	5.00	ug/L	50.00		94.8	50-158	10.4	30
2,4-Dinitrophenol	53.3	5.00	ug/L	50.00		107	21-191	13.7	30
2-Chloronaphthalene	37.3	5.00	ug/L	50.00		74.7	60-120	5.48	30
2-Chlorophenol	42.1	5.00	ug/L	50.00		84.2	23-134	0.615	30
2-Nitrophenol	44.8	5.00	ug/L	50.00		89.5	29-182	2.21	30
3,3'- Dichlorobenzidine	52.0	5.00	ug/L	50.00		104	38-262	7.38	30
4,6-Dinitro-2-Methylphenol	65.9	5.00	ug/L	50.00		132	17-181	13.3	30
4-Bromophenyl-Phenylether	46.5	5.00	ug/L	50.00		93.1	53-127	8.33	30
4-Chloro-3-Methylphenol	43.4	5.00	ug/L	50.00		86.9	22-147	6.12	30
4-Chlorophenyl-Phenylether	44.3	5.00	ug/L	50.00		88.6	25-158	6.92	30
4-Nitrophenol	23.9	5.00	ug/L	50.00		47.8	9-132	11.0	30
Bis(-2-Chloroethoxy)Methane	39.8	5.00	ug/L	50.00		79.7	33-184	2.18	30
Bis(2-Chloroethyl)Ether	41.6	5.00	ug/L	50.00		83.1	12-158	0.815	30
Bis(2-Chloroisopropyl)Ether	35.2	5.00	ug/L	50.00		70.4	36-166	2.39	30
Bis(2-Ethylhexyl)Phthalate	51.6	5.00	ug/L	50.00		103	8-158	11.4	30
Butylbenzylphthalate	49.4	5.00	ug/L	50.00		98.8	38-152	18.2	30
Azobenzene	44.5	5.00	ug/L	50.00		89.0	60-115	5.78	30
Diethylphthalate	30.6	5.00	ug/L	50.00		61.2	31-114	9.70	30
Dimethyl Phthalate	10.8	5.00	ug/L	50.00		21.6	28-120	17.7	30
Di-N-Butyl Phthalate	46.1	5.00	ug/L	50.00		92.2	1-120	11.6	30
Di-N-Octyl Phthalate	55.2	5.00	ug/L	50.00		110	4-146	11.1	30
Hexachlorobenzene	47.9	5.00	ug/L	50.00		95.7	35-152	10.2	30
Hexachlorobutadiene	29.8	5.00	ug/L	50.00		59.7	24-120	1.21	30
Hexachlorocyclopentadiene	30.3	5.00	ug/L	50.00		60.6	15-76	4.38	30
Hexachloroethane	31.4	5.00	ug/L	50.00		62.7	40-120	1.90	30
Isophorone	44.1	5.00	ug/L	50.00		88.2	21-196	4.81	30
Nitrobenzene	43.7	5.00	ug/L	50.00		87.4	35-180	2.31	30
N-Nitrosodimethylamine	28.1	5.00	ug/L	50.00		56.3	17-127	2.53	30
N-Nitroso-Di-N-Propylamine	40.4	5.00	ug/L	50.00		80.8	43-230	3.12	30
N-Nitrosodiphenylamine	52.6	5.00	ug/L	50.00		105	79-139	6.90	30

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
LCS Dup (B209096-BSD1)									
Pentachlorophenol	51.4	5.00	ug/L	50.00		103	14-176	13.0	30
Phenol	19.1	5.00	ug/L	50.00		38.2	5-120	0.574	30
Pyrene	54.3	5.00	ug/L	50.00		109	52-120	10.2	30
Surrogate: 2-Fluoroaniline	*43.2*		ug/L	*50.00*		*86.5*	*60-140*		
Surrogate: Phenol-D6	*17.4*		ug/L	*50.00*		*34.9*	*60-140*		
Surrogate: Naphthalene-D8	*35.4*		ug/L	*50.00*		*70.8*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*33.3*		ug/L	*50.00*		*66.6*	*60-140*		
Surrogate: 2,4-Dibromophenol	*40.7*		ug/L	*50.00*		*81.3*	*60-140*		
Surrogate: Anthracene-D10	*61.5*		ug/L	*50.00*		*123*	*60-140*		
Surrogate: Chrysene-D12	*39.1*		ug/L	*50.00*		*78.3*	*60-140*		
Matrix Spike (B209096-MS1)	**Source: 2209014-01**								
Acenaphthene	41.5	5.00	ug/L	50.00	ND	83.0	47-145		
Acenaphthylene	42.8	5.00	ug/L	50.00	ND	85.5	33-145		
Anthracene	47.4	5.00	ug/L	50.00	ND	94.9	27-133		
Benzo(A)Anthracene	40.7	5.00	ug/L	50.00	ND	81.5	33-143		
Benzo(A)Pyrene	53.2	5.00	ug/L	50.00	ND	106	17-163		
Benzo(B)Fluoranthene	52.7	5.00	ug/L	50.00	ND	105	24-159		
Benzo(G,H,I)Perylene	51.1	5.00	ug/L	50.00	ND	102	35-219		
Benzo(K)Fluoranthene	50.0	5.00	ug/L	50.00	ND	100	11-162		
Chrysene	41.2	5.00	ug/L	50.00	ND	82.4	17-168		
Dibenzo(A,H)Anthracene	53.7	5.00	ug/L	50.00	ND	107	33-227		
Fluoranthene	49.1	5.00	ug/L	50.00	ND	98.2	26-137		
Fluorene	50.8	5.00	ug/L	50.00	ND	102	59-121		
Indeno(1,2,3-Cd)Pyrene	56.7	5.00	ug/L	50.00	ND	113	39-171		
Naphthalene	39.2	5.00	ug/L	50.00	ND	78.4	21-133		
Phenanthrene	49.4	5.00	ug/L	50.00	ND	98.9	54-120		
1,2,4-Trichlorobenzene	38.4	5.00	ug/L	50.00	ND	76.9	44-142		
2,4,6-Trichlorophenol	46.2	5.00	ug/L	50.00	ND	92.4	37-144		
2,4-Dichlorophenol	44.2	5.00	ug/L	50.00	ND	88.4	39-135		
2,4-Dimethylphenol	43.6	5.00	ug/L	50.00	ND	87.2	32-120		
2,4-Dinitrotoluene	55.9	5.00	ug/L	50.00	ND	112	39-139		
2,6-Dinitrotoluene	46.0	5.00	ug/L	50.00	ND	92.0	50-158		
2,4-Dinitrophenol	58.5	5.00	ug/L	50.00	ND	117	21-191		
2-Chloronaphthalene	40.8	5.00	ug/L	50.00	ND	81.6	60-120		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike (B209096-MS1)		**Source: 2209014-01**							
2-Chlorophenol	38.8	5.00	ug/L	50.00	ND	77.6	23-134		
2-Nitrophenol	45.8	5.00	ug/L	50.00	ND	91.6	29-182		
3,3'- Dichlorobenzidine	42.3	5.00	ug/L	50.00	ND	84.5	38-262		
4,6-Dinitro-2-Methylphenol	64.2	5.00	ug/L	50.00	ND	128	17-181		
4-Bromophenyl-Phenylether	52.7	5.00	ug/L	50.00	ND	105	53-127		
4-Chloro-3-Methylphenol	44.0	5.00	ug/L	50.00	ND	88.0	22-147		
4-Chlorophenyl-Phenylether	52.5	5.00	ug/L	50.00	ND	105	25-158		
4-Nitrophenol	22.0	5.00	ug/L	50.00	ND	44.0	9-132		
Bis(-2-Chloroethoxy)Methane	41.8	5.00	ug/L	50.00	ND	83.5	33-184		
Bis(2-Chloroethyl)Ether	40.1	5.00	ug/L	50.00	ND	80.2	12-158		
Bis(2-Chloroisopropyl)Ether	38.8	5.00	ug/L	50.00	ND	77.7	36-166		
Bis(2-Ethylhexyl)Phthalate	50.1	5.00	ug/L	50.00	ND	100	8-158		
Butylbenzylphthalate	49.5	5.00	ug/L	50.00	ND	99.0	38-152		
Azobenzene	51.0	5.00	ug/L	50.00	ND	102	61-106		
Diethylphthalate	40.4	5.00	ug/L	50.00	ND	80.9	31-114		
Dimethyl Phthalate	19.2	5.00	ug/L	50.00	ND	38.3	28-120		
Di-N-Butyl Phthalate	48.3	5.00	ug/L	50.00	ND	96.6	1-120		
Di-N-Octyl Phthalate	54.2	5.00	ug/L	50.00	ND	108	4-146		
Hexachlorobenzene	52.4	5.00	ug/L	50.00	ND	105	35-152		
Hexachlorobutadiene	36.0	5.00	ug/L	50.00	ND	72.1	24-120		
Hexachlorocyclopentadiene	28.6	5.00	ug/L	50.00	ND	57.1	15-76		
Hexachloroethane	34.9	5.00	ug/L	50.00	ND	69.8	40-120		
Isophorone	41.5	5.00	ug/L	50.00	ND	83.1	21-196		
Nitrobenzene	43.9	5.00	ug/L	50.00	ND	87.8	35-180		
N-Nitrosodimethylamine	21.4	5.00	ug/L	50.00	ND	42.8	17-127		
N-Nitroso-Di-N-Propylamine	44.0	5.00	ug/L	50.00	ND	87.9	43-230		
N-Nitrosodiphenylamine	48.4	5.00	ug/L	50.00	ND	96.7	79-139		
Pentachlorophenol	52.8	5.00	ug/L	50.00	ND	106	14-176		
Phenol	18.7	5.00	ug/L	50.00	ND	37.3	5-120		
Pyrene	49.2	5.00	ug/L	50.00	ND	98.5	52-120		
Surrogate: 2-Fluoroaniline	*40.8*		ug/L	*50.00*		*81.5*	*60-140*		
Surrogate: Phenol-D6	*17.9*		ug/L	*50.00*		*35.9*	*60-140*		
Surrogate: Naphthalene-D8	*40.1*		ug/L	*50.00*		*80.1*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*38.0*		ug/L	*50.00*		*76.0*	*60-140*		
Surrogate: 2,4-Dibromophenol	*44.1*		ug/L	*50.00*		*88.2*	*60-140*		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike (B209096-MS1)		**Source: 2209014-01**							
Surrogate: Anthracene-D10	*65.8*		ug/L	*50.00*		*132*	*60-140*		
Surrogate: Chrysene-D12	*38.5*		ug/L	*50.00*		*76.9*	*60-140*		
Matrix Spike (B209096-MS2)		**Source: 2209015-02**							
Acenaphthene	39.0	5.00	ug/L	50.00	ND	78.0	47-145		
Acenaphthylene	39.4	5.00	ug/L	50.00	ND	78.8	33-145		
Anthracene	43.9	5.00	ug/L	50.00	ND	87.7	27-133		
Benzo(A)Anthracene	40.0	5.00	ug/L	50.00	ND	80.0	33-143		
Benzo(A)Pyrene	54.2	5.00	ug/L	50.00	ND	108	17-163		
Benzo(B)Fluoranthene	52.0	5.00	ug/L	50.00	ND	104	24-159		
Benzo(G,H,I)Perylene	50.6	5.00	ug/L	50.00	ND	101	35-219		
Benzo(K)Fluoranthene	49.8	5.00	ug/L	50.00	ND	99.7	11-162		
Chrysene	40.8	5.00	ug/L	50.00	ND	81.5	17-168		
Dibenzo(A,H)Anthracene	52.9	5.00	ug/L	50.00	ND	106	33-227		
Fluoranthene	49.1	5.00	ug/L	50.00	ND	98.2	26-137		
Fluorene	43.6	5.00	ug/L	50.00	ND	87.1	59-121		
Indeno(1,2,3-Cd)Pyrene	55.8	5.00	ug/L	50.00	ND	112	39-171		
Naphthalene	37.8	5.00	ug/L	50.00	ND	75.5	21-133		
Phenanthrene	45.2	5.00	ug/L	50.00	ND	90.5	54-120		
1,2,4-Trichlorobenzene	39.8	5.00	ug/L	50.00	ND	79.6	44-142		
2,4,6-Trichlorophenol	42.8	5.00	ug/L	50.00	ND	85.6	37-144		
2,4-Dichlorophenol	42.5	5.00	ug/L	50.00	ND	84.9	39-135		
2,4-Dimethylphenol	37.1	5.00	ug/L	50.00	ND	74.2	32-120		
2,4-Dinitrotoluene	49.2	5.00	ug/L	50.00	ND	98.5	39-139		
2,6-Dinitrotoluene	43.0	5.00	ug/L	50.00	ND	86.0	50-158		
2,4-Dinitrophenol	66.1	5.00	ug/L	50.00	ND	132	21-191		
2-Chloronaphthalene	38.8	5.00	ug/L	50.00	ND	77.7	60-120		
2-Chlorophenol	39.0	5.00	ug/L	50.00	ND	78.0	23-134		
2-Nitrophenol	44.4	5.00	ug/L	50.00	ND	88.8	29-182		
3,3'- Dichlorobenzidine	44.4	5.00	ug/L	50.00	ND	88.8	38-262		
4,6-Dinitro-2-Methylphenol	62.1	5.00	ug/L	50.00	ND	124	17-181		
4-Bromophenyl-Phenylether	45.1	5.00	ug/L	50.00	ND	90.2	53-127		
4-Chloro-3-Methylphenol	41.8	5.00	ug/L	50.00	ND	83.5	22-147		
4-Chlorophenyl-Phenylether	44.8	5.00	ug/L	50.00	ND	89.6	25-158		
4-Nitrophenol	24.6	5.00	ug/L	50.00	ND	49.2	9-132		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike (B209096-MS2)	**Source: 2209015-02**								
Bis(-2-Chloroethoxy)Methane	38.0	5.00	ug/L	50.00	ND	75.9	33-184		
Bis(2-Chloroethyl)Ether	38.2	5.00	ug/L	50.00	ND	76.4	12-158		
Bis(2-Chloroisopropyl)Ether	36.4	5.00	ug/L	50.00	ND	72.9	36-166		
Bis(2-Ethylhexyl)Phthalate	51.4	5.00	ug/L	50.00	ND	103	8-158		
Butylbenzylphthalate	66.1	5.00	ug/L	50.00	ND	132	38-152		
Azobenzene	43.8	5.00	ug/L	50.00	ND	87.7	61-106		
Diethylphthalate	43.9	5.00	ug/L	50.00	ND	87.8	31-114		
Dimethyl Phthalate	38.4	5.00	ug/L	50.00	ND	76.9	28-120		
Di-N-Butyl Phthalate	49.2	5.00	ug/L	50.00	ND	98.3	1-120		
Di-N-Octyl Phthalate	55.8	5.00	ug/L	50.00	ND	112	4-146		
Hexachlorobenzene	45.0	5.00	ug/L	50.00	ND	90.0	35-152		
Hexachlorobutadiene	40.7	5.00	ug/L	50.00	ND	81.3	24-120		
Hexachlorocyclopentadiene	40.4	5.00	ug/L	50.00	ND	80.9	15-76		
Hexachloroethane	40.6	5.00	ug/L	50.00	ND	81.3	40-120		
Isophorone	38.1	5.00	ug/L	50.00	ND	76.1	21-196		
Nitrobenzene	41.3	5.00	ug/L	50.00	ND	82.5	35-180		
N-Nitrosodimethylamine	24.6	5.00	ug/L	50.00	ND	49.2	17-127		
N-Nitroso-Di-N-Propylamine	39.8	5.00	ug/L	50.00	ND	79.7	43-230		
N-Nitrosodiphenylamine	42.5	5.00	ug/L	50.00	ND	85.1	79-139		
Pentachlorophenol	48.3	5.00	ug/L	50.00	ND	96.6	14-176		
Phenol	18.8	5.00	ug/L	50.00	ND	37.7	5-120		
Pyrene	50.0	5.00	ug/L	50.00	ND	99.9	52-120		
Surrogate: 2-Fluoroaniline	*37.6*		ug/L	*50.00*		*75.3*	*60-140*		
Surrogate: Phenol-D6	*18.0*		ug/L	*50.00*		*35.9*	*60-140*		
Surrogate: Naphthalene-D8	*38.9*		ug/L	*50.00*		*77.7*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*38.8*		ug/L	*50.00*		*77.5*	*60-140*		
Surrogate: 2,4-Dibromophenol	*41.3*		ug/L	*50.00*		*82.6*	*60-140*		
Surrogate: Anthracene-D10	*59.9*		ug/L	*50.00*		*120*	*60-140*		
Surrogate: Chrysene-D12	*38.2*		ug/L	*50.00*		*76.5*	*60-140*		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike Dup (B209096-MSD1)	**Source: 2209014-01**								
Acenaphthene	37.8	5.00	ug/L	50.00	ND	75.5	47-145	9.46	24
Acenaphthylene	38.7	5.00	ug/L	50.00	ND	77.3	33-145	10.0	24
Anthracene	44.0	5.00	ug/L	50.00	ND	88.1	27-133	7.41	24
Benzo(A)Anthracene	38.9	5.00	ug/L	50.00	ND	77.9	33-143	4.52	24
Benzo(A)Pyrene	51.8	5.00	ug/L	50.00	ND	104	17-163	2.66	24
Benzo(B)Fluoranthene	51.2	5.00	ug/L	50.00	ND	102	24-159	2.85	24
Benzo(G,H,I)Perylene	50.0	5.00	ug/L	50.00	ND	100	35-219	2.00	24
Benzo(K)Fluoranthene	48.1	5.00	ug/L	50.00	ND	96.2	11-162	3.81	24
Chrysene	39.4	5.00	ug/L	50.00	ND	78.9	17-168	4.37	24
Dibenzo(A,H)Anthracene	52.2	5.00	ug/L	50.00	ND	104	33-227	2.83	24
Fluoranthene	48.8	5.00	ug/L	50.00	ND	97.6	26-137	0.695	24
Fluorene	44.9	5.00	ug/L	50.00	ND	89.8	59-121	12.4	24
Indeno(1,2,3-Cd)Pyrene	55.1	5.00	ug/L	50.00	ND	110	39-171	2.79	24
Naphthalene	37.2	5.00	ug/L	50.00	ND	74.4	21-133	5.23	24
Phenanthrene	45.6	5.00	ug/L	50.00	ND	91.2	54-120	8.12	24
1,2,4-Trichlorobenzene	36.7	5.00	ug/L	50.00	ND	73.4	44-142	4.71	24
2,4,6-Trichlorophenol	41.8	5.00	ug/L	50.00	ND	83.6	37-144	10.0	24
2,4-Dichlorophenol	41.3	5.00	ug/L	50.00	ND	82.6	39-135	6.71	24
2,4-Dimethylphenol	41.6	5.00	ug/L	50.00	ND	83.3	32-120	4.67	24
2,4-Dinitrotoluene	50.8	5.00	ug/L	50.00	ND	102	39-139	9.73	24
2,6-Dinitrotoluene	42.0	5.00	ug/L	50.00	ND	84.0	50-158	9.16	24
2,4-Dinitrophenol	63.9	5.00	ug/L	50.00	ND	128	21-191	8.81	24
2-Chloronaphthalene	37.1	5.00	ug/L	50.00	ND	74.2	60-120	9.55	24
2-Chlorophenol	39.2	5.00	ug/L	50.00	ND	78.5	23-134	1.18	24
2-Nitrophenol	43.6	5.00	ug/L	50.00	ND	87.2	29-182	4.95	24
3,3'- Dichlorobenzidine	41.1	5.00	ug/L	50.00	ND	82.2	38-262	2.86	24
4,6-Dinitro-2-Methylphenol	60.7	5.00	ug/L	50.00	ND	121	17-181	5.59	24
4-Bromophenyl-Phenylether	45.5	5.00	ug/L	50.00	ND	91.1	53-127	14.7	24
4-Chloro-3-Methylphenol	40.4	5.00	ug/L	50.00	ND	80.7	22-147	8.68	24
4-Chlorophenyl-Phenylether	44.8	5.00	ug/L	50.00	ND	89.7	25-158	15.8	24
4-Nitrophenol	23.0	5.00	ug/L	50.00	ND	46.1	9-132	4.66	24
Bis(-2-Chloroethoxy)Methane	37.7	5.00	ug/L	50.00	ND	75.4	33-184	10.2	24
Bis(2-Chloroethyl)Ether	39.0	5.00	ug/L	50.00	ND	78.0	12-158	2.73	24
Bis(2-Chloroisopropyl)Ether	36.1	5.00	ug/L	50.00	ND	72.2	36-166	7.34	24
Bis(2-Ethylhexyl)Phthalate	48.0	5.00	ug/L	50.00	ND	96.0	8-158	4.24	24

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike Dup (B209096-MSD1)	**Source: 2209014-01**								
Butylbenzylphthalate	45.8	5.00	ug/L	50.00	ND	91.6	38-152	7.77	24
Azobenzene	44.7	5.00	ug/L	50.00	ND	89.4	61-106	13.2	24
Diethylphthalate	33.6	5.00	ug/L	50.00	ND	67.2	31-114	18.4	24
Dimethyl Phthalate	15.2	5.00	ug/L	50.00	ND	30.5	28-120	22.8	24
Di-N-Butyl Phthalate	43.1	5.00	ug/L	50.00	ND	86.2	1-120	11.4	24
Di-N-Octyl Phthalate	52.6	5.00	ug/L	50.00	ND	105	4-146	3.05	24
Hexachlorobenzene	46.0	5.00	ug/L	50.00	ND	91.9	35-152	13.0	24
Hexachlorobutadiene	35.7	5.00	ug/L	50.00	ND	71.4	24-120	1.03	24
Hexachlorocyclopentadiene	26.1	5.00	ug/L	50.00	ND	52.2	15-76	8.92	24
Hexachloroethane	36.0	5.00	ug/L	50.00	ND	72.1	40-120	3.19	24
Isophorone	37.2	5.00	ug/L	50.00	ND	74.5	21-196	10.9	24
Nitrobenzene	41.7	5.00	ug/L	50.00	ND	83.4	35-180	5.16	24
N-Nitrosodimethylamine	27.6	5.00	ug/L	50.00	ND	55.3	17-127	25.5	24
N-Nitroso-Di-N-Propylamine	39.5	5.00	ug/L	50.00	ND	79.0	43-230	10.8	24
N-Nitrosodiphenylamine	43.1	5.00	ug/L	50.00	ND	86.3	79-139	11.4	24
Pentachlorophenol	49.6	5.00	ug/L	50.00	ND	99.2	14-176	6.23	24
Phenol	19.5	5.00	ug/L	50.00	ND	39.0	5-120	4.45	24
Pyrene	49.7	5.00	ug/L	50.00	ND	99.5	52-120	1.03	24
Surrogate: 2-Fluoroaniline	*41.1*		ug/L	*50.00*		*82.2*	*60-140*		
Surrogate: Phenol-D6	*18.9*		ug/L	*50.00*		*37.8*	*60-140*		
Surrogate: Naphthalene-D8	*36.5*		ug/L	*50.00*		*73.0*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*34.0*		ug/L	*50.00*		*68.0*	*60-140*		
Surrogate: 2,4-Dibromophenol	*39.4*		ug/L	*50.00*		*78.9*	*60-140*		
Surrogate: Anthracene-D10	*60.1*		ug/L	*50.00*		*120*	*60-140*		
Surrogate: Chrysene-D12	*36.9*		ug/L	*50.00*		*73.7*	*60-140*		
Matrix Spike Dup (B209096-MSD2)	**Source: 2209015-02**								
Acenaphthene	39.8	5.05	ug/L	50.51	ND	78.8	47-145	2.03	24
Acenaphthylene	40.2	5.05	ug/L	50.51	ND	79.5	33-145	1.97	24
Anthracene	44.7	5.05	ug/L	50.51	ND	88.5	27-133	1.85	24
Benzo(A)Anthracene	40.3	5.05	ug/L	50.51	ND	79.9	33-143	0.880	24
Benzo(A)Pyrene	54.0	5.05	ug/L	50.51	ND	107	17-163	0.332	24
Benzo(B)Fluoranthene	52.7	5.05	ug/L	50.51	ND	104	24-159	1.35	24
Benzo(G,H,I)Perylene	51.1	5.05	ug/L	50.51	ND	101	35-219	0.827	24
Benzo(K)Fluoranthene	49.6	5.05	ug/L	50.51	ND	98.2	11-162	0.532	24

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike Dup (B209096-MSD2)	**Source: 2209015-02**								
Chrysene	41.2	5.05	ug/L	50.51	ND	81.6	17-168	1.10	24
Dibenzo(A,H)Anthracene	53.6	5.05	ug/L	50.51	ND	106	33-227	1.44	24
Fluoranthene	50.8	5.05	ug/L	50.51	ND	101	26-137	3.38	24
Fluorene	44.5	5.05	ug/L	50.51	ND	88.1	59-121	2.06	24
Indeno(1,2,3-Cd)Pyrene	56.5	5.05	ug/L	50.51	ND	112	39-171	1.17	24
Naphthalene	38.2	5.05	ug/L	50.51	ND	75.6	21-133	1.14	24
Phenanthrene	46.4	5.05	ug/L	50.51	ND	91.8	54-120	2.50	24
1,2,4-Trichlorobenzene	39.9	5.05	ug/L	50.51	ND	79.0	44-142	0.274	24
2,4,6-Trichlorophenol	43.7	5.05	ug/L	50.51	ND	86.6	37-144	2.14	24
2,4-Dichlorophenol	41.9	5.05	ug/L	50.51	ND	83.0	39-135	1.33	24
2,4-Dimethylphenol	29.2	5.05	ug/L	50.51	ND	57.9	32-120	23.7	24
2,4-Dinitrotoluene	51.2	5.05	ug/L	50.51	ND	101	39-139	3.99	24
2,6-Dinitrotoluene	44.6	5.05	ug/L	50.51	ND	88.2	50-158	3.55	24
2,4-Dinitrophenol	70.9	5.05	ug/L	50.51	ND	140	21-191	7.04	24
2-Chloronaphthalene	39.6	5.05	ug/L	50.51	ND	78.3	60-120	1.83	24
2-Chlorophenol	39.0	5.05	ug/L	50.51	ND	77.2	23-134	0.0518	24
2-Nitrophenol	45.2	5.05	ug/L	50.51	ND	89.4	29-182	1.66	24
3,3'- Dichlorobenzidine	43.2	5.05	ug/L	50.51	ND	85.4	38-262	2.90	24
4,6-Dinitro-2-Methylphenol	63.6	5.05	ug/L	50.51	ND	126	17-181	2.49	24
4-Bromophenyl-Phenylether	46.6	5.05	ug/L	50.51	ND	92.2	53-127	3.18	24
4-Chloro-3-Methylphenol	42.0	5.05	ug/L	50.51	ND	83.2	22-147	0.669	24
4-Chlorophenyl-Phenylether	45.9	5.05	ug/L	50.51	ND	90.8	25-158	2.31	24
4-Nitrophenol	23.1	5.05	ug/L	50.51	ND	45.7	9-132	6.42	24
Bis(-2-Chloroethoxy)Methane	38.0	5.05	ug/L	50.51	ND	75.2	33-184	0.0253	24
Bis(2-Chloroethyl)Ether	38.8	5.05	ug/L	50.51	ND	76.9	12-158	1.55	24
Bis(2-Chloroisopropyl)Ether	36.0	5.05	ug/L	50.51	ND	71.4	36-166	1.10	24
Bis(2-Ethylhexyl)Phthalate	50.1	5.05	ug/L	50.51	ND	99.2	8-158	2.62	24
Butylbenzylphthalate	65.9	5.05	ug/L	50.51	ND	130	38-152	0.289	24
Azobenzene	44.4	5.05	ug/L	50.51	ND	88.0	61-106	1.32	24
Diethylphthalate	44.8	5.05	ug/L	50.51	ND	88.8	31-114	2.14	24
Dimethyl Phthalate	38.8	5.05	ug/L	50.51	ND	76.9	28-120	1.01	24
Di-N-Butyl Phthalate	50.0	5.05	ug/L	50.51	ND	98.9	1-120	1.61	24
Di-N-Octyl Phthalate	54.2	5.05	ug/L	50.51	ND	107	4-146	2.85	24
Hexachlorobenzene	46.8	5.05	ug/L	50.51	ND	92.7	35-152	3.94	24
Hexachlorobutadiene	40.8	5.05	ug/L	50.51	ND	80.7	24-120	0.289	24

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Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

NVOA GCMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209096									
Matrix Spike Dup (B209096-MSD2)	**Source: 2209015-02**								
Hexachlorocyclopentadiene	38.6	5.05	ug/L	50.51	ND	76.5	15-76	4.59	24
Hexachloroethane	41.2	5.05	ug/L	50.51	ND	81.7	40-120	1.50	24
Isophorone	38.4	5.05	ug/L	50.51	ND	76.0	21-196	0.900	24
Nitrobenzene	41.6	5.05	ug/L	50.51	ND	82.4	35-180	0.835	24
N-Nitrosodimethylamine	26.9	5.05	ug/L	50.51	ND	53.2	17-127	8.77	24
N-Nitroso-Di-N-Propylamine	40.2	5.05	ug/L	50.51	ND	79.6	43-230	0.854	24
N-Nitrosodiphenylamine	43.5	5.05	ug/L	50.51	ND	86.0	79-139	2.15	24
Pentachlorophenol	48.4	5.05	ug/L	50.51	ND	95.8	14-176	0.194	24
Phenol	17.9	5.05	ug/L	50.51	ND	35.5	5-120	5.01	24
Pyrene	51.2	5.05	ug/L	50.51	ND	101	52-120	2.55	24
Surrogate: 2-Fluoroaniline	*39.7*		ug/L	*50.51*		*78.6*	*60-140*		
Surrogate: Phenol-D6	*17.2*		ug/L	*50.51*		*34.1*	*60-140*		
Surrogate: Naphthalene-D8	*39.4*		ug/L	*50.51*		*78.0*	*60-140*		
Surrogate: 1-Fluoronaphthalene	*39.1*		ug/L	*50.51*		*77.4*	*60-140*		
Surrogate: 2,4-Dibromophenol	*42.1*		ug/L	*50.51*		*83.4*	*60-140*		
Surrogate: Anthracene-D10	*61.8*		ug/L	*50.51*		*122*	*60-140*		
Surrogate: Chrysene-D12	*38.8*		ug/L	*50.51*		*76.8*	*60-140*		

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Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

PCB Aroclors GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209085									
Blank (B209085-BLK1)									
Aroclor 1016	--- U	0.031	ug/L						
Aroclor 1221	--- U	0.062	ug/L						
Aroclor 1232	--- U	0.031	ug/L						
Aroclor 1242	--- U	0.031	ug/L						
Aroclor 1248	--- U	0.031	ug/L						
Aroclor 1254	--- U	0.031	ug/L						
Aroclor 1260	--- U	0.031	ug/L						
Surrogate: TCMX	*ND*		ug/L	*0.06000*		*54.8*	*23-101*		
Surrogate: TCMX [2C]	*ND*		ug/L	*0.06000*		*54.4*	*23-101*		
Surrogate: DCB	*ND*		ug/L	*0.06000*		*46.6*	*25-107*		
Surrogate: DCB [2C]	*ND*		ug/L	*0.06000*		*43.8*	*25-107*		
LCS (B209085-BS1)									
Aroclor 1016	0.251	0.031	ug/L	0.2500		100	50-140		
Aroclor 1016 [2C]	0.276	0.031	ug/L	0.2500		110	50-140		
Aroclor 1260	0.232	0.031	ug/L	0.2500		92.8	8-140		
Aroclor 1260 [2C]	0.217	0.031	ug/L	0.2500		86.8	8-140		
Surrogate: TCMX	*0.0437*		ug/L	*0.06000*		*72.8*	*23-101*		
Surrogate: TCMX [2C]	*0.0433*		ug/L	*0.06000*		*72.1*	*23-101*		
Surrogate: DCB	*0.0280*		ug/L	*0.06000*		*46.6*	*25-107*		
Surrogate: DCB [2C]	*0.0266*		ug/L	*0.06000*		*44.4*	*25-107*		
LCS Dup (B209085-BSD1)									
Aroclor 1016	0.259	0.031	ug/L	0.2500		104	50-140	3.19	36
Aroclor 1016 [2C]	0.281	0.031	ug/L	0.2500		112	50-140	1.84	36
Aroclor 1260	0.226	0.031	ug/L	0.2500		90.2	8-140	2.77	38
Aroclor 1260 [2C]	0.219	0.031	ug/L	0.2500		87.6	8-140	0.932	38
Surrogate: TCMX	*0.0431*		ug/L	*0.06000*		*71.9*	*23-101*		
Surrogate: TCMX [2C]	*0.0439*		ug/L	*0.06000*		*73.1*	*23-101*		
Surrogate: DCB	*0.0324*		ug/L	*0.06000*		*54.0*	*25-107*		
Surrogate: DCB [2C]	*0.0300*		ug/L	*0.06000*		*50.0*	*25-107*		

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Project: PREPA Palo Seco Power Plant - 2209014

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PCB Aroclors GC - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209085									
Matrix Spike (B209085-MS1)		**Source: 2209016-06**							
Aroclor 1016	0.204	0.031	ug/L	0.2451	ND	83.1	50-140		
Aroclor 1016 [2C]	0.224	0.031	ug/L	0.2451	ND	91.6	50-140		
Aroclor 1260	0.264	0.031	ug/L	0.2451	ND	108	8-140		
Aroclor 1260 [2C]	0.171	0.031	ug/L	0.2451	ND	69.8	8-140		
Surrogate: TCMX	*0.0361*		ug/L	*0.05882*		*61.4*	*23-101*		
Surrogate: TCMX [2C]	*0.0402*		ug/L	*0.05882*		*68.3*	*23-101*		
Surrogate: DCB	*0.0446*		ug/L	*0.05882*		*75.8*	*25-107*		
Surrogate: DCB [2C]	*0.0437*		ug/L	*0.05882*		*74.2*	*25-107*		
Matrix Spike (B209085-MS2)		**Source: 2209014-01**							
Aroclor 1016	0.274	0.031	ug/L	0.2463	ND	111	50-140		
Aroclor 1016 [2C]	0.262	0.031	ug/L	0.2463	ND	106	50-140		
Aroclor 1260	0.250	0.031	ug/L	0.2463	ND	102	8-140		
Aroclor 1260 [2C]	0.160	0.031	ug/L	0.2463	ND	64.9	8-140		
Surrogate: TCMX	*0.0324*		ug/L	*0.05911*		*54.8*	*23-101*		
Surrogate: TCMX [2C]	*0.0315*		ug/L	*0.05911*		*53.3*	*23-101*		
Surrogate: DCB	*0.0481*		ug/L	*0.05911*		*81.4*	*25-107*		
Surrogate: DCB [2C]	*0.0387*		ug/L	*0.05911*		*65.5*	*25-107*		
Matrix Spike Dup (B209085-MSD1)		**Source: 2209016-06**							
Aroclor 1016	0.271	0.031	ug/L	0.2463	ND	110	50-140	28.4	36
Aroclor 1016 [2C]	0.254	0.031	ug/L	0.2463	ND	103	50-140	12.2	36
Aroclor 1260	0.218	0.031	ug/L	0.2463	ND	88.6	8-140	18.9	38
Aroclor 1260 [2C]	0.162	0.031	ug/L	0.2463	ND	65.7	8-140	5.67	38
Surrogate: TCMX	*0.0354*		ug/L	*0.05911*		*59.9*	*23-101*		
Surrogate: TCMX [2C]	*0.0357*		ug/L	*0.05911*		*60.4*	*23-101*		
Surrogate: DCB	*0.0438*		ug/L	*0.05911*		*74.2*	*25-107*		
Surrogate: DCB [2C]	*0.0393*		ug/L	*0.05911*		*66.4*	*25-107*		

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GC - Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209121									
Blank (B209121-BLK1)									
Oil & Grease	--- U	5.00	mg/L						
LCS (B209121-BS1)									
Oil & Grease	34.4	5.00	mg/L	40.00		86	78-114		
LCS Dup (B209121-BSD1)									
Oil & Grease	37.3	5.00	mg/L	40.00		93	78-114	8	20
Matrix Spike (B209121-MS1)	**Source: 2209013-02**								
Oil & Grease	41.8	5.00	mg/L	51.28	ND	82	78-114		
Matrix Spike (B209121-MS2)	**Source: 2209014-01**								
Oil & Grease	42.2	5.00	mg/L	51.28	ND	82	78-114		
Matrix Spike (B209121-MS3)	**Source: 2209015-04**								
Oil & Grease	39.1	5.00	mg/L	45.98	ND	85	78-114		
Matrix Spike (B209121-MS4)	**Source: 2209016-02**								
Oil & Grease	42.2	5.00	mg/L	48.78	ND	87	78-114		

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Metals ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209117									
Blank (B209117-BLK1)									
Antimony	--- U	20.0	ug/L						
Arsenic	--- U	8.00	ug/L						
Beryllium	--- U	3.00	ug/L						
Cadmium	--- U	3.00	ug/L						
Chromium	--- U	5.00	ug/L						
Copper	--- U	10.0	ug/L						
Iron	--- U	50.0	ug/L						
Lead	--- U	8.00	ug/L						
Nickel	--- U	20.0	ug/L						
Selenium	--- U	20.0	ug/L						
Silver	--- U	5.00	ug/L						
Thallium	--- U	20.0	ug/L						
Zinc	--- U	20.0	ug/L						
LCS (B209117-BS1)									
Antimony	188	20.0	ug/L	200.0		94.2	85-115		
Arsenic	185	8.00	ug/L	200.0		92.7	85-115		
Beryllium	190	3.00	ug/L	200.0		95.1	85-115		
Cadmium	190	3.00	ug/L	200.0		95.0	85-115		
Chromium	192	5.00	ug/L	200.0		95.9	85-115		
Copper	190	10.0	ug/L	200.0		94.9	85-115		
Iron	4770	50.0	ug/L	5000		95.5	85-115		
Lead	191	8.00	ug/L	200.0		95.6	85-115		
Nickel	191	20.0	ug/L	200.0		95.5	85-115		
Selenium	183	20.0	ug/L	200.0		91.4	85-115		
Silver	191	5.00	ug/L	200.0		95.4	85-115		
Thallium	187	20.0	ug/L	200.0		93.6	85-115		
Zinc	188	20.0	ug/L	200.0		94.2	85-115		

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Metals ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209117									
LCS Dup (B209117-BSD1)									
Antimony	191	20.0	ug/L	200.0		95.3	85-115	1.17	20
Arsenic	186	8.00	ug/L	200.0		93.2	85-115	0.527	20
Beryllium	196	3.00	ug/L	200.0		98.1	85-115	3.12	20
Cadmium	192	3.00	ug/L	200.0		95.8	85-115	0.755	20
Chromium	194	5.00	ug/L	200.0		96.8	85-115	0.944	20
Copper	192	10.0	ug/L	200.0		95.9	85-115	1.05	20
Iron	4920	50.0	ug/L	5000		98.5	85-115	3.12	20
Lead	194	8.00	ug/L	200.0		96.9	85-115	1.29	20
Nickel	192	20.0	ug/L	200.0		96.1	85-115	0.668	20
Selenium	188	20.0	ug/L	200.0		94.1	85-115	2.90	20
Silver	192	5.00	ug/L	200.0		96.1	85-115	0.783	20
Thallium	190	20.0	ug/L	200.0		94.8	85-115	1.37	20
Zinc	190	20.0	ug/L	200.0		95.0	85-115	0.830	20
Matrix Spike (B209117-MS1)	**Source: 2209013-02**								
Cadmium	166	3.00	ug/L	200.0	ND	82.8	80-120		
Lead	175	8.00	ug/L	200.0	2.40	86.4	80-120		
Nickel	193	20.0	ug/L	200.0	19.0	87.2	80-120		
Thallium	169	20.0	ug/L	200.0	7.03	81.1	80-120		
Matrix Spike (B209117-MS2)	**Source: 2209014-01**								
Arsenic	196	8.00	ug/L	200.0	3.57	96.0	80-120		
Cadmium	178	3.00	ug/L	200.0	ND	88.8	80-120		
Copper	213	10.0	ug/L	200.0	3.06	105	80-120		
Nickel	188	20.0	ug/L	200.0	8.85	89.6	80-120		
Silver	201	5.00	ug/L	200.0	ND	101	80-120		
Thallium	170	20.0	ug/L	200.0	7.07	81.4	80-120		

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Metals ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209117									
Matrix Spike (B209117-MS3)		**Source: 2209015-01**							
Copper	289	10.0	ug/L	200.0	ND	145	80-120		
Zinc	146	20.0	ug/L	200.0	ND	72.9	80-120		
Matrix Spike (B209117-MS4)		**Source: 2209016-01**							
Zinc	137	20.0	ug/L	200.0	1.99	67.5	80-120		
Matrix Spike Dup (B209117-MSD1)		**Source: 2209013-02**							
Cadmium	184	15.0	ug/L	200.0	ND	91.9	80-120	10.4	10
Lead	194	40.0	ug/L	200.0	ND	97.1	80-120	10.3	10
Nickel	216	100	ug/L	200.0	19.0	98.8	80-120	11.3	10
Thallium	200	100	ug/L	200.0	ND	99.8	80-120	16.5	10
Matrix Spike Dup (B209117-MSD2)		**Source: 2209014-01**							
Arsenic	187	40.0	ug/L	200.0	ND	93.4	80-120	4.55	10
Cadmium	183	15.0	ug/L	200.0	ND	91.4	80-120	2.84	10
Copper	204	50.0	ug/L	200.0	ND	102	80-120	4.63	10
Nickel	190	100	ug/L	200.0	ND	95.0	80-120	1.08	10
Silver	187	25.0	ug/L	200.0	ND	93.4	80-120	7.48	10
Thallium	198	100	ug/L	200.0	ND	98.8	80-120	15.1	10
Matrix Spike Dup (B209117-MSD3)		**Source: 2209015-01**							
Copper	248	50.0	ug/L	200.0	ND	124	80-120	15.4	10
Zinc	190	100	ug/L	200.0	ND	94.8	80-120	26.2	10
Matrix Spike Dup (B209117-MSD4)		**Source: 2209016-01**							
Zinc	182	100	ug/L	200.0	ND	91.0	80-120	28.3	10

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Project: PREPA Palo Seco Power Plant - 2209014

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Mercury CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209111									
Blank (B209111-BLK1)									
Mercury	--- U	0.050	ug/L						
LCS (B209111-BS1)									
Mercury	0.971	0.050	ug/L	1.000		97.1	85-115		
LCS Dup (B209111-BSD1)									
Mercury	0.931	0.050	ug/L	1.000		93.1	85-115	4.21	20
Matrix Spike (B209111-MS2)	**Source: 2209013-04**								
Mercury	0.928	0.050	ug/L	1.000	ND	92.8	80-120		
Matrix Spike (B209111-MS3)	**Source: 2209014-01**								
Mercury	0.902	0.050	ug/L	1.000	ND	90.2	80-120		
Matrix Spike (B209111-MS4)	**Source: 2209016-02**								
Mercury	0.990	0.050	ug/L	1.000	0.068	92.2	80-120		

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Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209078									
Blank (B209078-BLK1)									
Color	<5	5.00	Color Units						
LCS (B209078-BS1)									
Color	40.0	10.0	Color Units	40.00		100	85-115		
LCS Dup (B209078-BSD1)									
Color	40.0	10.0	Color Units	40.00		100	85-115	0.00	20
Duplicate (B209078-DUP1)	**Source: 2209016-01**								
Color	5.00	5.00	Color Units		5.00			0.00	20
Batch B209079									
Blank (B209079-BLK1)									
Ammonia [As N]	--- U	0.100	mg/L						
LCS (B209079-BS1)									
Ammonia [As N]	15.5	0.200	mg/L	14.90		104	90-110		
LCS Dup (B209079-BSD1)									
Ammonia [As N]	15.6	0.200	mg/L	14.90		105	90-110	0.9	20
Matrix Spike (B209079-MS1)	**Source: 2209014-01**								
Ammonia [As N]	4.96	0.100	mg/L	5.000	0.115	97	90-110		
Batch B209080									
Blank (B209080-BLK1)									
Biochemical Oxygen Demand	--- U	2.00	mg/L						

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Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209080									
LCS (B209080-BS1)									
Biochemical Oxygen Demand	215		mg/L	198.0		108	84.6-115.4		
LCS (B209080-BS2)									
Biochemical Oxygen Demand	201		mg/L	198.0		101	84.6-115.4		
LCS (B209080-BS3)									
Biochemical Oxygen Demand	200		mg/L	198.0		101	84.6-115.4		
Duplicate (B209080-DUP1)		**Source: 2209014-04**							
Biochemical Oxygen Demand	5.94	2.00	mg/L		6.47			8.46	25
Matrix Spike (B209080-MS1)		**Source: 2209014-04**							
Biochemical Oxygen Demand	38.4	2.00	mg/L	31.68	6.47	101	75-125		
Matrix Spike Dup (B209080-MSD1)		**Source: 2209014-04**							
Biochemical Oxygen Demand	31.6	2.00	mg/L	23.76	6.47	106	75-125	19.3	200
Batch B209081									
LCS (B209081-BS1)									
Turbidity	19.3	0.100	NTU	19.90		97.0	90-110		
LCS Dup (B209081-BSD1)									
Turbidity	19.3	0.100	NTU	19.90		97.0	90-110	0.00	20
Duplicate (B209081-DUP1)		**Source: 2209014-01**							
Turbidity	0.735	0.100	NTU		0.773			5.04	20

NOTE: The results recorded in this report relate only to the samples as received on the date and at the time noted

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Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209083									
Blank (B209083-BLK1)									
Residue, Non-Filterable	--- U	10.0	mg/L						
LCS (B209083-BS1)									
Residue, Non-Filterable	55.0	10.0	mg/L	55.10		99.8	85-115		
LCS Dup (B209083-BSD1)									
Residue, Non-Filterable	55.0	10.0	mg/L	55.10		99.8	85-115	0.00	20
Duplicate (B209083-DUP1)	**Source: 2209014-04**								
Residue, Non-Filterable	4.00	10.0	mg/L		7.00			54.5	20
Batch B209088									
Blank (B209088-BLK1)									
Weak Acid Dissociable [Free] Cyanide	--- U	10.0	ug/L						
Blank (B209088-BLK2)									
Weak Acid Dissociable [Free] Cyanide	--- U	10.0	ug/L						
LCS (B209088-BS1)									
Cyanide, Total	477	10.0	ug/L	440.0		108	85-115		
LCS Dup (B209088-BSD1)									
Cyanide, Total	474	10.0	ug/L	440.0		108	85-115	0.6	20
Matrix Spike (B209088-MS1)	**Source: 2209014-01**								
Cyanide, Total	484	10.0	ug/L	500.0	0.747	97	80-120		

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Project Number: 2209014

Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209088									
Matrix Spike (B209088-MS2)		**Source: 2209016-02**							
Cyanide, Total	482	10.0	ug/L	500.0	0.304	96	80-120		
Batch B209089									
LCS (B209089-BS1)									
Sulfide	0.580	0.0100	mg/L	0.5720		101	85-115		
LCS Dup (B209089-BSD1)									
Sulfide	0.609	0.0100	mg/L	0.5720		107	85-115	5	20
Matrix Spike (B209089-MS1)		**Source: 2209014-01**							
Sulfide	0.0926	0.0100	mg/L	0.2000	0.0226	35	80-120		
Batch B209109									
LCS (B209109-BS1)									
Sulfate	12.4	2.00	mg/L	12.50		99	90-110		
LCS Dup (B209109-BSD1)									
Sulfate	12.5	2.00	mg/L	12.50		100	90-110	0.8	20
Matrix Spike (B209109-MS1)		**Source: 2209021-07**							
Sulfate	44.9	1.00	mg/L	20.00	24.6	102	90-110		
Matrix Spike (B209109-MS2)		**Source: 2209014-01**							
Sulfate	3420	100	mg/L	20.00	3570	NR	90-110		

Final Report

Project: PREPA Palo Seco Power Plant - 2209014

Project Number: 2209014

Sanitary - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B209114									
LCS (B209114-BS1)									
Nitrate + Nitrite [As N]	16.7	0.500	mg/L	16.50		101	90-110		
LCS Dup (B209114-BSD1)									
Nitrate + Nitrite [As N]	16.9	0.500	mg/L	16.50		102	90-110	1.19	200
Matrix Spike (B209114-MS1)	**Source: 2209014-01**								
Nitrate + Nitrite [As N]	1.35	0.0500	mg/L	0.2000	1.18	85.0	90-110		