

**FIRST QUARTER 2008
NPDES SELF MONITORING REPORT**

**PACKAGED GROUNDWATER TREATMENT PLANT AT IR SITE 3
CALIFORNIA NPDES PERMIT #CAG912002, ORDER #R2-2006-0075**

**NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA**

**Naval Facilities Engineering Command Southwest
1220 Pacific Highway
San Diego, CA 92132**

Contract No. N62473-07-D-3214, D.O. No. 0003

May 08, 2008



**RORE, Inc.
5151 Shoreham Place, Suite 260
San Diego, CA 92122**

**FIRST QUARTER 2008 NATIONAL POLLUTANT DISCHARGE ELIMINATION
SYSTEM SELF-MONITORING REPORT
FOR
THE PACKAGED GROUNDWATER TREATMENT PLANT
Order No. R2-2006-0075, NPDES PERMIT No. CAG912002
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA**

1.0 COMPLIANCE OVERVIEW

The Packaged Groundwater Treatment Plant (PGWTP) operated normally during the months of January through March of 2008. The influent and effluent samples were collected and analyzed in accordance with the National Pollutant Discharge Elimination System (NPDES) permit No. CAG912002, Order No. R2-2006-0075 that is effective until January 12, 2012. Per permit requirements, this quarterly report was prepared to summarize the first quarter self monitoring samples and includes tabular summary of the monitoring data obtained throughout the quarter. In addition, a comprehensive discussion of the compliance record is contained in this report.

This report will be submitted in electronic data format for the PGWTP via the Internet to the State Water Resources Control Board GeoTracker System. This submission will be an electronic document and will be in a searchable, linked "PDF" format and will include all tables and attachments.

2.0 ANALYTICAL PROGRAM

The PGWTP samples were numbered according to the following format:

3214-003-XXX,

Where, 3214 is the four-digit Fixed Price Remediation Action Contract number, 003 is the three-digit Contract Task Order number, and XXX is a sequential number for this project. The sample numbers were recorded at the time of sample collection, in the field logbook and on the Chain-of-Custody (COC) form. A complete description of the sample and sampling circumstances was recorded in the field logbook and referenced using the unique sample identification numbers. Analytical data summary tables, including the analytical methods for the reporting period, are included in Attachment 1.

As a quality control and assurance measure, the laboratory is required to perform method blanks, laboratory control samples, and initial/continuing calibration (depending on method). The laboratory is also required to perform an analyst review, peer review, technical review, and management review on 100 percent of the data provided, and a quality assurance review on 10 percent of the reports by method. In the field, a trip blank is required for every set of samples that require volatile organic compound analyses. A matrix spike/matrix spike duplicate is performed once on every 20

samples. Upon receipt of the data, the project chemist conducts data evaluation to ensure compliance with all quality control and assurance procedures.

2.1 Additional Samples

In order to monitor and optimize the plant operation, sampling of intermediate treatment locations is conducted as determined necessary and as part of the Self-Monitoring Program. Also, if analytical results exceed any instantaneous maximum limit, a confirmation sample is collected within 24 hours and analyzed within 24 hours of sampling.

Three additional samples were collected during the first quarter of 2008:

- 1) Sample No. 3214-005-003: Intermediate sample, collected between the lead and lag granular activated carbon (GAC) vessels, analyzed for TPH
- 2) Sample No. 3214-005-012: Intermediate sample, collected between the lead and lag GAC vessels, analyzed for TPH
- 3) Sample No. 3214-005-024: Interim sample, collected between the lead and lag GAC vessels, analyzed for TPH

The samples were collected to evaluate the performance of the GAC vessels.

2.2 Laboratory Results

Analytical results confirmed that the effluent met all discharge limits specified in the NPDES permit during the first quarter of 2008. Analytical results for polycyclic aromatic hydrocarbons and TPH for the first quarter are listed in Table 2-1. Per the permit, receiving water was also collected to analyze hardness. The result indicates 6,570 milligrams per liter (mg/L) for hardness as calcium carbonate (CaCO_3); this value is an increase from the previous quarter of 2007 (4,130 mg/L).

Table 2-1
1st Quarter 2008
PGWTP Sample Results

1 st Quarter 2008			
Sample	TPH-Diesel (µg/L)	TPH-Bunker C (µg/L)	PAHs (µg/L)
Maximum daily limit	50	300	0.2
January Influent	290	850	
January Influent (SGCU)	50 U	300 U	
January Effluent	50 U	300 U	
January Effluent (SGCU)	50 U	300 U	
February Influent	1,100	2,800	
February Effluent (SGCU)	50 U	300 U	
March Influent	430	980	0.2 U
March Influent (SGCU)	50 U	300 U	
March Effluent	50 U	300 U	0.2 U
March Effluent (SGCU)	50 U	300 U	

Notes:

µg/L denotes micrograms per liter
 TPH denotes total petroleum hydrocarbons
 PAH denotes polycyclic aromatic hydrocarbons
 SGCU denotes silica gel cleanup
 U denotes not detected at or above the reporting limit

3.0 OPERATION SUMMARY AND MASS REMOVAL

The PGWTP operated normally during the first quarter of 2008. There was an increase in flow rate during the January and February months due to the rainfalls. Starting in March, flow rate decreased due to seasonally-lower groundwater levels. The system was turned off for a period of 24 hours in January due to power outage at the plant, as well as for 24 hours in March to allow for groundwater recharge.

Table 3-1 below provides the volume of groundwater that was treated and discharged, and the TPH mass removed during the first quarter. Values for mass that was removed were estimated using the TPH concentrations in the influent and the effluent. During the first quarter, the total groundwater that was treated and discharged is estimated at 950,670 gallons, and the TPH mass that was removed is estimated at 2.36 pounds.

**Table 3-1
1st Quarter 2008**

PGWTP Volume And Mass Process Data

Week	Weekly Flow (gallons)	TPH Mass Removed (pounds)
Week of 1/7/08	53,908	0.00
Week of 1/14/08	82,861	0.00
Week of 1/21/08	57,494	0.00
Week of 1/31/08	123,792	0.00
Total (January)	318,055	0.00
Week of 2/7/08	97,527	0.65
Week of 2/14/08	70,397	0.47
Week of 2/21/08	89,425	0.60
Week of 2/29/08	96,300	0.64
Total (February)	353,649	2.36
Week of 3/7/08	65,535	0.00
Week of 3/14/08	74,136	0.00
Week of 3/21/08	74,269	0.00
Week of 3/31/08	65,026	0.00
Total (March)	278,966	0.00
Total Quarterly	950,670	2.36
Cumulative Flow	47,199,670	

Notes:

The weeks of 1/31/08, 2/29/08, and 3/31/08 include 10, 8, and 10 days, respectively.

Cumulative flow is the total flow registered in the effluent totalizer and indicates the volume of water treated and discharged to the San Francisco Bay since the system startup.

ATTACHMENT 1
First Quarter 2008
Monthly Analytical Data Tables

**Point Molate Naval Fuel Depot
Packaged Groundwater Treatment Plant Analytical Data
January 2008**

U.S. Navy
Contract No. N62473-07-D-3214

Sample ID	Location	Sampling Date	DO	pH	Flow Rate	Temp	Conductivity	Salinity	MTBE+ BTEX	TPH-Diesel	TPH-Bunker C
EPA method Units			mg/L		gpd	deg C	mS/cm	%	8260B µg/L	8015B µg/L	8015B µg/L
Permit Requirements	Month Ave		See Note 1	6 to 9		See Note 2			See Note 3	NE	NE
	Weekly Ave			6 to 9						NE	NE
	Daily Max			6 to 9						NE	NE
	Instantaneous			6 to 9						NE	NE
	Daily Ave		>5.0	6 to 9					50	300	
3214-003-001	Influent	1/24/2008	NA*	NA*		NA*	NA*	NA*	NA	290	850
3214-003-001	Influent (SGCU)	1/24/2008	NA*	NA*		NA*	NA*	NA*	NA	50 U	300 U
3214-003-002	Influent	1/24/2008	NA*	NA*		NA*	NA*	NA*	5 U	NA	NA
3214-003-003	Intermediate	1/24/2008	NA*	NA*		NA*	NA*	NA*	NA	50 U	300 U
3214-003-004	Effluent	1/24/2008	NA*	NA*		NA*	NA*	NA*	NA	50 U	300 U
3214-003-004	Effluent (SGCU)	1/24/2008	NA*	NA*		NA*	NA*	NA*	NA	50 U	300 U
3214-003-005	Effluent	1/24/2008	NA*	NA*		NA*	NA*	NA*	5 U	NA	NA
3214-003-006	Trip Blank	1/24/2008	NA*	NA*		NA*	NA*	NA*	5 U	NA	NA
	Effluent	1/1/2008			1,556						
	Effluent	1/2/2008			1,556						
	Effluent	1/3/2008			1,556						
	Effluent	1/4/2008			12,311						
	Effluent	1/5/2008			12,310						
	Effluent	1/6/2008			12,310						
	Effluent	1/7/2008			12,309						
	Effluent	1/8/2008			9,792						
	Effluent	1/9/2008			13,603						
	Effluent	1/10/2008			13,449						
	Effluent	1/11/2008			12,757						
	Effluent	1/12/2008			10,271						
	Effluent	1/13/2008			11,495						
	Effluent	1/14/2008			11,494						
	Effluent	1/15/2008			13,541						
	Effluent	1/16/2008			10,275						
	Effluent	1/17/2008			11,796						
	Effluent	1/18/2008			8,650						
	Effluent	1/19/2008			4,411						
	Effluent	1/20/2008			4,411						
	Effluent	1/21/2008			4,411						
	Effluent	1/22/2008			10,320						
	Effluent	1/23/2008			7,193						
	Effluent	1/24/2008			10,548						
	Effluent	1/25/2008			17,981						
	Effluent	1/26/2008			17,980						
	Effluent	1/27/2008			8,533						
	Effluent	1/28/2008			8,532						
	Effluent	1/29/2008			15,905						
	Effluent	1/30/2008			13,159						
	Effluent	1/31/2008			13,642						
	Minimum				1,556	gpd					
	Maximum				17,981	gpd					
	Number of days discharging				31	days					
	Total discharged				318,055	gal					
	Average daily Flow				10,260	gpd					
	Total TPH removed				0.00	lb					

µg/L denotes microgram per liter
 BTEX denotes Benzene, Toluene, Ethylbenzene, and Xylenes
 deg C denotes degrees Celsius
 DO denotes dissolved oxygen
 EPA denotes U.S. Environmental Protections Agency
 gpd denotes gallons per day
 lb denotes pound
 mg/L denotes milligram per liter
 MTBE denotes Methyl Tertiary Butyl Ether
 mS/cm denotes millisiemens per centimeter

NA denotes not analyzed
 NE denotes not established
 PAH denotes polynuclear aromatic hydrocarbon
 SGCU denotes silica gel cleanup
 SIM denotes selective ion monitoring
 TEMP denotes temperature
 TPH denotes total petroleum hydrocarbons
 U denotes not detected at or above the indicated reporting limit
 Ave denotes average
 gal denotes gallons

Note 1: There is no limit for dissolved oxygen at the PGWTP discharge pipe. The permit requires the dissolved oxygen concentration to be > 5.0 mg/L within 1 foot of the receiving water surface. The permit requires daily receiving water sampling only when bypassing occurs from any of the treatment units in the treatment facilities for more than 24 hours, and when the bypass results in violation of any effluent limitation

Note 2: There is no permit level for temperature at the PGWTP discharge pipe. The permit requires that the discharge shall not alter the temperature of the receiving water beyond natural background levels. The permit requires daily receiving water sampling only when bypassing occurs from any of the treatment facilities for more than 24 hours, and when the bypass results in violation of any effluent limitation.

Note 3: Permit requirements for individual analytes can be found in the permit. (Permit No. CAG912002, Order No. R2-2006-0075).

* The water quality meter was malfunctioning during this round of sampling thus no data was collected for dissolved oxygen, pH, temperature, conductivity, or salinity.

**Point Molate Naval Fuel Depot
Packaged Groundwater Treatment Plant Analytical Data
February 2008**

U.S. Navy
Contract No. N62473-07-D-3214 D.O. 005

Sample ID	Location	Sampling Date	DO	pH	Flow Rate	Temp	Conductivity	Salinity	MTBE+BTEX	TPH-Diesel	TPH-Bunker C
EPA method Units			mg/L		gpd	deg C	mS/cm	%	8260B µg/L	8015B µg/L	8015B µg/L
Permit Requirements	Month Ave		See Note 1	6 to 9		See Note 2			See Note 3	NE	NE
	Weekly Ave			6 to 9						NE	NE
	Daily Max			6 to 9						NE	NE
	Instantaneous			6 to 9						NE	NE
	Daily Ave			>5.0						6 to 9	50
3214-003-009	Influent	2/27/2008	5.79	6.37		12.9	0.538	0.02	NA	1,100	2,800
3214-003-009	Influent (SGCU)	2/27/2008	5.79	6.37		12.9	0.538	0.02	NA	51	1,100
3214-003-010	Influent	2/27/2008	5.79	6.37		12.9	0.538	0.02	5 U	NA	NA
3214-003-011	Intermediate	2/27/2008	NA	NA		NA	NA	NA	NA	260	530
3214-003-012	Effluent	2/27/2008	7.15	7.62		13.9	0.587	0.02	NA	190	410
3214-003-012	Effluent (SGCU)	2/27/2008	7.15	7.62		13.9	0.587	0.02	NA	50 U	300 U
3214-003-013	Effluent	2/27/2008	7.15	7.62		13.9	0.587	0.02	5 U	NA	NA
3214-003-014	Trip Blank	2/27/2008	NA	NA		NA	NA	NA	5 U	NA	NA
	Effluent	2/1/2008									
	Effluent	2/2/2008									
	Effluent	2/3/2008									
	Effluent	2/4/2008									
	Effluent	2/5/2008									
	Effluent	2/6/2008									
	Effluent	2/7/2008									
	Effluent	2/8/2008									
	Effluent	2/9/2008									
	Effluent	2/10/2008									
	Effluent	2/11/2008									
	Effluent	2/12/2008									
	Effluent	2/13/2008									
	Effluent	2/14/2008									
	Effluent	2/15/2008									
	Effluent	2/16/2008									
	Effluent	2/17/2008									
	Effluent	2/18/2008									
	Effluent	2/19/2008									
	Effluent	2/20/2008									
	Effluent	2/21/2008									
	Effluent	2/22/2008									
	Effluent	2/23/2008									
	Effluent	2/24/2008									
	Effluent	2/25/2008									
	Effluent	2/26/2008									
	Effluent	2/27/2008									
	Effluent	2/28/2008									
	Effluent	2/29/2008									
	Minimum					2,799					
	Maximum					19,238					
	Number of days discharging					29					
	Total discharged					353,649					
	Average daily Flow					12,195					
	Total TPH removed					2.36					

µg/L denotes microgram per liter
BTEX denotes Benzene, Toluene, Ethylbenzene, and Xylenes
deg C denotes degrees Celsius
DO denotes dissolved oxygen
EPA denotes U.S. Environmental Protections Agency
gpd denotes gallons per day
lb denotes pound
mg/L denotes milligram per liter
MTBE denotes Methyl Tertiary Butyl Ether
mS/cm denotes millisiemens per centimeter

NA denotes not analyzed
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PAH denotes polynuclear aromatic hydrocarbon
SGCU denotes silica gel cleanup
SIM denotes selective ion monitoring
TEMP denotes temperature
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U denotes not detected at or above the indicated reporting limit
Ave denotes average
gal denotes gallons

Note 1: There is no limit for dissolved oxygen at the PGWTP discharge pipe. The permit requires the dissolved oxygen concentration to be > 5.0 mg/L within 1 foot of the receiving water surface. The permit requires daily receiving water sampling only when bypassing occurs from any of the treatment units in the treatment facilities for more than 24 hours, and when the bypass results in violation of any effluent limitation

Note 2: There is no permit level for temperature at the PGWTP discharge pipe. The permit requires that the discharge shall not alter the temperature of the receiving water beyond natural background levels. The permit requires daily receiving water sampling only when bypassing occurs from any of the treatment facilities for more than 24 hours, and when the bypass results in violation of any effluent limitation.

Note 3: Permit requirements for individual analytes can be found in the permit. (Permit No. CAG912002, Order No. R2-2006-0075).

**Point Molate Naval Fuel Depot
Packaged Groundwater Treatment Plant Analytical Data
March 2008**

U.S. Navy
Contract No. N62473-07-D-3214

Sample ID	Location	Sampling Date	DO	pH	Flow Rate	Temp	Conductivity	Salinity	MTBE+BTEX	TPH-Diesel	TPH-Bunker C	PAHs	Hardness
EPA Method Units			mg/L		gpd	deg C	mS/cm	%	8260B µg/L	8015B µg/L	8015B µg/L	8270C µg/L	130.2 µg/L
Permit Requirements	Month Ave Weekly Ave Daily Max Instantaneous Daily Ave		See Note 1 >5.0	6 to 9 6 to 9 6 to 9 6 to 9 6 to 9		See Note 2			See Note 3	NE NE NE NE 50	NE NE NE NE 300		NA
3214-003-022	Influent	4/2/2008	5.30	7.75		12.8	1.04	0.08	NA	430	980	NA	NA
3214-003-022	Influent (SGCU)	4/2/2008	5.30	7.75		12.8	1.04	0.08	NA	50 U	300 U	0.2 U	NA
3214-003-023	Influent	4/2/2008	5.30	7.75		12.8	1.04	0.08	5 U	NA	NA	NA	NA
3214-003-024	Intermediate	4/2/2008	NA	NA		NA	NA	NA	NA	50 U	300 U	NA	NA
3214-003-025	Effluent	4/2/2008	7.89	7.86		13.2	1.73	0.08	NA	50 U	300 U	0.2 U	NA
3214-003-025	Effluent (SGCU)	4/2/2008	7.89	7.86		13.2	1.73	0.08	NA	50 U	300 U	NA	NA
3214-003-026	Effluent	4/2/2008	7.89	7.86		13.2	1.73	0.08	5 U	NA	NA	NA	NA
3214-003-027	Bay	4/2/2008	NA	NA		NA	NA	NA	NA	NA	NA	NA	6570
3214-003-028	Trip Blank	4/2/2008	NA	NA		NA	NA	NA	5 U	NA	NA	NA	NA
	Effluent	3/1/2008				7952							
	Effluent	3/2/2008				7952							
	Effluent	3/3/2008				7952							
	Effluent	3/4/2008				8832							
	Effluent	3/5/2008				10921							
	Effluent	3/6/2008				11824							
	Effluent	3/7/2008				10103							
	Effluent	3/8/2008				10785							
	Effluent	3/9/2008				10785							
	Effluent	3/10/2008				10785							
	Effluent	3/11/1900				10801							
	Effluent	3/12/2008				10801							
	Effluent	3/13/2008				10090							
	Effluent	3/14/2008				10090							
	Effluent	3/15/2008				9099							
	Effluent	3/16/2008				9099							
	Effluent	3/17/2008				9099							
	Effluent	3/18/2008				11613							
	Effluent	3/19/2008				11555							
	Effluent	3/20/2008				11902							
	Effluent	3/21/2008				11902							
	Effluent	3/22/2008				11902							
	Effluent	3/23/2008				11902							
	Effluent	3/24/2008				11902							
	Effluent	3/25/2008				11902							
	Effluent	3/26/2008				0							
	Effluent	3/27/2008				2536							
	Effluent	3/28/2008				2536							
	Effluent	3/29/2008				4115							
	Effluent	3/30/2008				4115							
	Effluent	3/31/2008				4115							
	Minimum					0							
	Maximum					11,902							
	Number of days discharging					30							
	Total discharged					278,966							
	Average daily Flow					8,999							
	Total TPH removed					0.00							

µg/L denotes microgram per liter
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