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17 June 2009
ECC Job No. 5700.007

TO: Mr. Todd Bober, RPM

LOCATION: BRAC PMO NE

FROM: Bob Phinney, Plant Operator

LOCATION: ECC-NAS Brunswick

SUBJECT: Monthly Operations Report for 1-31 May 2009
Groundwater Extraction and Treatment System, Building 50
Naval Air Station, Brunswick, Maine
Contract No. N62472-02-D-0810, Delivery Order No. 0007

The following is the May 2009 monthly operations report for the Groundwater Extraction and Treatment System (GWETS) located at Naval Air Station, Brunswick, Maine. There was no overflow discharge to the Brunswick Sewer District collection system during this period.

Table 1 summarizes the GWETS process flow data and results of the daily in-plant water quality analysis. Table 2 provides a summary of daily individual extraction well pumping performance as well as monthly pumping efficiency during the reporting period. Table 3 provides the monthly laboratory analytical results for the Eastern Plume influent and GWETS effluent samples.

The GWETS treatment plant was operational for 99.19 % of the available hours during May 2009. Well performance based on well system capacity (all 4 wells) was 62.37%. There were two operational interruptions or corrective actions necessary to restore plant operations during May 2009. EW-02A was taken down for maintenance due to iron fouling causing a decrease in flow. The pump intake was cleaned as well as the well screen. The well and vault piping was also cleaned out. More detail on the maintenance of the extractions wells will be included in the June 2009 monthly report.

All nine infiltration gallery sub-distribution cells are receiving GWETS effluent.

The combined treatment plant influent flow from Eastern Plume groundwater extraction wells EW-01, EW-02A, EW-04, and EW-05A averaged approximately 25 gpm through 31 May 2009.

Activities performed during May 2009 included:

- Performed routine cleaning, calibration, and equipment maintenance activities.
- Prepared and submitted monthly operations report.
- Performed Monthly Safety inspections of fire extinguishers and building equipment.
- Conducted monthly sampling.
- Cleaned flow meters for EW-05A and EW-02A.
- Established SCADA Program Graphics and Points connections on new PC which will replace old computer and yield more accurate operational reporting data.
- Inspected piping of EW-02A.
- Installed new electrical box for extraction well pit pumps and motors which pump the GWETS effluent to the infiltration gallery.

I certify by my signature affixed that I have personally examined the information contained herein, and based on my inquiry of those individuals immediately responsible for obtaining and providing the information, I further certify that the information contained herein is true, accurate, and complete.



Robert Phinney
MEDEP Wastewater Operator No. 626

17 June 2009

Date

cc: BRAC PMO NE (P. Burgio)
NAVACLANT (J. Wright, A. Van Dercook, B. Capito)
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TTNUS (L. Klink, J. Orient)

Table 1
Summary of Treatment System Process
Flow and In-Plant Water Quality
Groundwater Extraction and Treatment System (Building 50)
Naval Air Station, Brunswick, Maine

Date	Turbidity	Daily Flow ^(c)	pH
May 2009	NTU	Gallons	Standard Units
1	0.13	37,490	6.3
2	(a)	37,490	(a)
3	(a)	37,490	(a)
4	0.17	37,434	6.3
5	0.17	36,445	6.3
6	0.23	37,682	6.3
7	0.16	36,933	6.3
8	0.14	37,006	6.3
9	(a)	37,006	(a)
10	(a)	37,006	(a)
11	0.20	36,804	6.3
12	0.16	39,321	6.3
13	0.17	32,921	6.3
14	0.18	30,649	6.3
15	0.18	36,441	6.3
16	(a)	36,441	(a)
17	(a)	36,441	(a)
18	0.18	36,800	6.3
19	0.14	36,525	6.3
20	0.15	36,425	6.3
21	0.19	36,525	6.3
22	0.30	36,264	6.3
23	(a)	36,264	(a)
24	(a)	36,264	(a)
25	(a)	36,264	(a)
26	0.22	37,258	6.3
27	0.26	35,784	6.3
28	0.26	36,070	6.3
29	0.20	35,843	6.3
30	(a)	35,843	(a)
31	(a)	35,843	(a)
Monthly Average pH (standard units)			
6.3			
Monthly Process Flow Total (gallons)			
1,128,972			
Monthly VOCs Removed (pounds)			
0.386 ^(b)			
Notes:			
(a) Weekend/Holiday/Operator not present.			
(b) Based on quarterly composite influent VOC sample.			
(c) Daily flow estimated on pump run times and flow history.			

Table 2
Summary of Extraction Well Performance
Groundwater Extraction and Treatment System (Building 50), Naval Air Station, Brunswick, Maine

DATE May 2009 Day	EW-01			EW-02A			EW-04			EW-05A		
	Flow Rate GPM	Run Time Hours	Total Pumpage Gallons									
1	9.76	24	14054.4	2	24	2880	24	24	31680	1	24	1440
2	9.76	24	14054.4	2	24	2880	24	24	34560	1	24	1440
3	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
4	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
5	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
6	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
7	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
8	9.76	24	14054.4	2	24	2880	23	24	33120	1	24	1440
9	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
10	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
11	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
12	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
13	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
14	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
15	9.76	20	11712	2	20	2400	22	20	26400	1	20	1200
16	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
17	9.76	24	14054.4	2	24	2880	22	24	31680	1	24	1440
18	9.76	24	14054.4	1	24	1440	22	24	31680	1	24	1440
19	9.76	24	14054.4	1	24	1440	22	24	31680	1	24	1440
20	9.76	24	14054.4	0.5	24	720	22	24	31680	1	24	1440
21	9.76	24	14054.4	0.5	24	720	22	24	31680	1	24	1440
22	9.76	24	14054.4	0.4	24	576	22	24	31680	1	24	1440
23	9.76	24	14054.4	0.1	24	576	22	24	31680	1	24	1440
24	9.76	24	14054.4	0.3	24	432	22	24	31680	1	24	1440
25	9.76	24	14054.4	0.3	24	432	22	24	31680	1	24	1440
26	9.76	24	14054.4	0.3	24	432	22	24	31680	1	24	1440
27	9.76	24	14054.4	0.3	24	432	21	24	30240	1	24	1440
28	9.76	24	14054.4	0.3	22	396	21	24	30240	1	24	1440
29	9.76	24	14054.4	0.3	24	432	21	24	34560	1	24	1440
30	9.76	24	14054.4	0.3	24	432	21	24	34560	1	24	1440
31	9.76	24	14054.4	0.3	24	432	21	24	34560	1	24	1440
TOTALS		740.00	433,344		738.00	69,036		740.00	996,960		740.00	44,400

EXPECTED WELL GPM	10	15	25	7
EFFECTIVENESS OF WELL	0.971	0.103	0.893	0.142
MONTH AVERAGE GPM	9.71	1.55	22.33	0.99

PERFORMANCE BASED ON WELL SYSTEM CAPACITY (all four wells):	62.37%
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Table 3
Summary of Analytical Results
Treatment System Influent and Effluent
Samples Collected on 1 May 2009
Groundwater Extraction and Treatment System (Building 50)
Naval Air Station, Brunswick, Maine

Parameter ^(a)	Method	Result	Treatment Plant Duplicate	Discharge Limit ^(b)	MEG (ppb)	MCL (ppb)
EASTERN PLUME INFLUENT						
1,1,1-Trichloroethane	EPA8260B	NS	NR	NA	200	200
1,1-Dichloroethane	EPA8260B	NS	NR	NA	70	NA
1,1-Dichloroethene	EPA8260B	NS	NR	NA	0.6	7
<i>cis</i> -1,2-Dichloroethene	EPA8260B	NS	NR	NA	70	70
<i>trans</i> -1,2-Dichloroethene	EPA8260B	NS	NR	NA	140	100
Methylene chloride	EPA8260B	NS	NR	NA	47	5
Tetrachloroethene	EPA8260B	NS	NR	NA	7	5
Trichloroethene	EPA8260B	NS	NR	NA	32	5
Vinyl chloride	EPA8260B	NS	NR	NA	0.2	2
1,4 Dioxane	EPA8260B/SIM	5.7	NR	NA	32	NA
Arsenic, Total	EPA6010B	NS	NR	NA	10	10
Iron, Total	EPA6010B	NS	NR	NA	NA	NA
Manganese, Total	EPA6010B	NS	NR	NA	500	*300
TREATMENT PLANT EFFLUENT						
Arsenic, Total	EPA6010B	NS	NR	50	10	10
Chromium, Total	EPA6010B	NS	NR	10	40	100
Cyanide, Total	EPA9010	NS	NR	34	140	200
Nickel, Total	EPA6010B	NS	NR	78	140	*100
Lead, Total	EPA6010B	NS	NR	15	10	15
Zinc, Total	EPA6010B	NS	NR	200	2000	*2000
Iron, Total	EPA6010B	NS	NR	NA	NA	NA
Manganese, Total	EPA6010B	NS	NR	NA	500	*300
1,1,1-Trichloroethane	EPA8260B	NS	NR	750	200	200
1,1-Dichloroethane	EPA8260B	NS	NR	94	70	NA
1,1-Dichloroethene	EPA8260B	NS	NR	7	0.6	7
<i>cis</i> -1,2-Dichloroethene	EPA8260B	NS	NR	70	70	70
<i>trans</i> -1,2-Dichloroethene	EPA8260B	NS	NR	---	140	100
Methylene chloride	EPA8260B	NS	NR	5	NA	NA
Tetrachloroethene	EPA8260B	NS	NR	5	7	5
Trichloroethene	EPA8260B	NS	NR	5	32	5
Vinyl chloride	EPA8260B	NS	NR	2	0.2	2
1,4-Dioxane	EPA8260B/SIM	5.1	5.4	NA	32	NA

(a) Results reported in $\mu\text{g/L}$.

(b) Maximum effluent discharge limit established by Brunswick Sewer District Draft Permit (Dec. 1994).

(c) Combined 1, 2-dichloroethane (*cis* and *trans*) not to exceed 70 $\mu\text{g/L}$.

*- EPA Health Advisory

EPA = U.S. Environmental Protection Agency.

D = Analysis conducted at a secondary dilution factor.

NR = Analysis not required.

NA = Discharge limit applicable to treatment plant effluent only.

B = Compound also detected in associated method blank.

NS = Not Sampled

SIM = Selective Ion Monitoring

U = Not detected. Sample quantitation limits are shown as (<1.0 U).

Trip blank (TP-165-QT1) results for EPA Method 8260B/SIM were non-detect.