

Environmental Services Division



Building 535A
P.O. Box 5000
Upton, NY 11973-5000
Phone 631 344-4225
Fax 631 344-5812
zimmerman@bnl.gov

managed by Brookhaven Science Associates
for the U.S. Department of Energy

www.bnl.gov

June 7, 2000

Ms. Kathleen Newcomer
Suffolk County Department of Health Services
Drinking Water Supply Section
220 Rabro Drive East
Hauppauge, New York 11788

Dear Ms. Newcomer:

SUBJECT: Monthly Water Treatment Plant Reports
Reference: Suffolk County Minimum Monitoring Requirements for May 2000

In accordance with the requirements of the BNL Potable Water System Sampling Plan and the 2000 SCDHS Minimum Monitoring Requirements for the BNL Potable Water Supply, included please find the following attachments for your records:

- Attachment I: BNL Potable Water Monthly Bacteriological and Operational Reports for May 2000.
- Attachment II: May 2000 Biweekly Water Quality Monitoring Data for BNL Potable Water Wells.
- Attachment III: 2000 Second Quarter Radiological Analyses for the BNL Potable Water Wells.

All analytical results have been reviewed and have been found to be within New York State Department of Health Drinking Water Standards (NYSDOH DWS). Collection and analysis of these samples are performed in accordance with the guidelines of the BNL Quality Assurance (QA) program, the SCDHS Community Water Supply Monitoring Requirements, and the BNL Potable Water System Sampling Plan. Plant Engineering Division (PE) personnel using standard operating procedures collect routine monitoring samples; a contractor laboratory using standard methods of analysis performs the subsequent analyses. The QA documentation is available from the Environmental Services Division (ESD) and PE Divisions. Based on this information, we believe the values contained in these reports are representative of the BNL potable water system.

Zimmerman to Newcomer

-2-

June 7, 2000

Should there be any questions regarding this report or the analytical or operational data contained herein, please call either R. Lee (ESD) at (631) 344-3148, M. Allococo (ESD) at (631) 344-3166, or W. Chaloupka (PE) at (631) 344-7136.

Sincerely,



E. A. Zimmerman, CEP, REM, CEA, CESM
Division Manager

EAZ/MA:rt

Attachments: As noted

cc: K. Brog w/o attachments
W. Chaloupka w/attachments
R. Lee w/attachments
E. Murphy w/attachments
P. Ponturo w/o attachments
L. Ross w/o attachments
R. Simeone w/attachments

EC4120.00



ATTACHMENT I

**Brookhaven National Laboratory
Potable Water Supply**

**Monthly Bacteriological and Operational
Reports for May 2000**

BROOKHAVEN NATIONAL LABORATORY

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :	MAY 2000
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LOCATION: WATER TREATMENT PLANT

Did an emergency occur in any part of the water system? yes no

Source: Ground Water

Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION			pH	Totalizer	
	Treated Water	Liquid Sodium Hypochlorite Gallons	Free Cl2 use per 24hrs	Residual mg/l		
1	0	60/40+70	0	0.7	7.4	11810236
2	1,598	60/98	12	1.1	7.58	11811834
3	1,560	60/78	20	0.56	7.4	11813394
4	1,331	60/70	8	0.94	7.4	11814725
5	1,316	60/60	10	1.6	7.5	11816041
6	0					
7	0					
8	4,754	0/88	32	1	7.4	11820795
9	1,543	5/74	14	0.35	7.8	11822338
10	1,745	5/60	14	0.86	7.5	11824083
11	900	5+95/55+152	5	0.72	7.4	11824983
12	1,587	100/190	17	0.85	7.7	11826570
13	0					
14	0					
15	2,747	115/165	25	0.88	7.5	11829317
16	1,545	115/154	11	0.82	7.4	11830862
17	1,613	115/142	12	0.94	7.3	11832475
18	1,643	115/131	11	0.75	7.4	11834118
19	1,559	115/120	11	0.8	7.5	11835677
20	0					
21	0					
22	4,466	115/65	35	0.8	7.2	11840143
23	1,671	115/75	10	0.7	7.5	11841814
24	1,508	115/65	10	0.76	7.7	11843322
25	1,618	115/55	10	0.7	7.8	11844940
26	1,608	60/100	10	0.7	7.3	11846548
27	0					
28	0					
29	4,417	60/70	30	0.7	7.7	11850965
30	1,304	60/58+115	16	0.76	7.5	11852269
31	1,574	60/165	8	0.83	7.2	11853843
TOT	43,607		331			
Avg.	1406.68		10.68	No. Days:	31	

Reported by: JC Pazz Date: 6-2-00Title: WATER SYSTEMS SUPERVISOR Cert. #: 05650

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :
		MAY 2000	

LOCATION: WELL NO. 4

Did an emergency occur in any part of the water system? yes no ✓

Source: Ground Water

Does the system have a chlorination waiver? yes no ✓

CHLORINATION				pH	
Day of month	Treated Water K Gals	Liquid Sodium Hypochlorite	Free Cl2 Residual	Lime Sodium Hydroxide	Totalizer Daily Totalizer
		Gallons per 24hrs	mg/l		
1	0	60	0	5.8	1336822
2	590	60	0	6	1337412
3	593	60	0	6	1338005
4	542	60	0	5.9	1336647
5	580	60	0	5.9	1339227
6	0				
7	0				
8	2,058	60	0.2	5.9	1341285
9	668	60	0	NR	1341953
10	794	60	0	NR	1342747
11	573	60	0	0.09	6
12	1,157	60	0	0.13	6
13	0				
14	0				
15	1,035	60	0	NR	1345512
16	683	60	0	NR	1346195
17	625	60	0	NR	1346820
18	678	60	0	NR	1347498
19	880	60	0	NR	1348378
20	0				
21	0				
22	1,656	60	0	NR	1350034
23	741	60	0	0	1350775
24	634	60	0	0	1351409
25	745	60	0	0	1352154
26	798	60	0	0	1352952
27	0				
28	0				
29	1,523	60	0	0	1354575
30	468	60	0	0	1355043
31	524	60	0	0	1355567
TOT	18,745		0		
AVG	604.68		0.00	No. Days: 31	

Reported by: Joe Rossi

Title: WATER SYSTEMS SUPERVISOR

Date: 6-2-00

Cert. #: 05650

BROOKHAVEN NATIONAL LABORATORY

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :	MAY 2000
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LOCATION: WELL NO. 6

Did an emergency occur in any part of the water system? yes no

Source: Ground Water

Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION			pH	Population Served 3,500
	Treated Water	Liquid Sodium Hypochlorite Gallons	Free Cl2 use per 24hrs	Residual mg/l	
1	0	72	0	0.07	5.8 23376
2	533	65	7	1.1	6 23909
3	526	55	10	0.01	6 24435
4	467	48+92=140	5	0.06	5.9 24902
5	236	138	2	0.09	5.9 25138
6	0				
7	0				
8	1,083	120	18	0.2	5.9 26221
9	491	112	8	NR	NR 26712
10	605	110+60	2	0.09	5.9 27317
11	512	162+47=209	8	0.09	6 27829
12	1,114	195	14	0.13	6 28943
13	0				
14	0				
15	2,555	160	35	NR	NR 31498
16	590	151	9	0.35	6 32088
17	196	150	1	NR	NR 32284
18	454	140	10	NR	NR 32738
19	602	135+65	5	NR	NR 33340
20	0				
21	0				
22	1,089	180	20	NR	NR 34429
23	217	180	0	0	6.3 34546
24	330	175	5	0	5.8 34976
25	166	173	2	0	6.3 35142
26	293	170	3	0	6.3 35435
27	0				
28	0				
29	1,161	152	18	0	6.3 36596
30	416	146	6	0	5.8 37012
31	476	144	2	0	5.8 37488
TOT	14,112		190		0
Avg.	455.23		6.13	No. Days: 31	

Reported by: Joseph
 Title: WATER SYSTEMS SUPERVISOR

Date: 6-2-00
 Cert. #: 05650

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :	MAY 2000
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LOCATION: WELL NO. 7

Did an emergency occur in any part of the water system? yes no

Source: Ground Water

Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION			pH	Totalizer	
	Treated Water	Liquid Sodium Hypochlorite Gallons	Free Cl2 use per 24hrs	Residual mg/l		
1	0	60	0	0.07	5.8	39426
2	1,009	40+150	20	1.1	6	40435
3	597	180	10	0.04	6	41432
4	973	150/65=215	30	0.06	5.9	42405
5	940	195	20	0.09	5.9	43345
6	0					
7	0					
8	4,422	120	75	0.2	5.9	47767
9	1,094	100	20	NR	NR	48861
10	928	78+130	22	0.09	5.9	49789
11	408	195	13	0.09	6	50197
12	0	195	0	0.13	6	50197
13	0					
14	0					
15	0	195	0	NR	NR	50197
16	144	169	26	0.35	6	50341
17	728	135	34	NR	NR	51069
18	1,057	115	20	0.3	6	52126
19	509	107+103	8	NR	NR	52635
20	0					
21	0					
22	2,762	155	55	NR	NR	55397
23	1,214	135	20	0	6.3	56611
24	1,185	110	25	0	5.8	57796
25	1,322	90+90	20	0	6.3	59118
26	1,207	160	20	0	6.3	60325
27	0					
28	0					
29	3,110	121	39	0	6.3	63435
30	816	111	10	0	5.8	64251
31	976	98	13	0	5.8	65227
TOT	25,801		500			0
AVG.	832.29		16.13	No. Days:	31	

Reported by

JC Raser

Date: *6-2-00*

Title: *WATER SYSTEMS SUPERVISOR*

Cert. #: *05650*

BROOKHAVEN NATIONAL LABORATORY

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :	MAY 2000
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LOCATION: WELL NO. 10

Did an emergency occur in any part of the water system? yes no

Source: Ground Water

Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION			pH	
	Treated Water	Liquid Sodium Hypochlorite	Free Cl2	Lime	Totalizer
		Gallons per 24hrs	Residual mg/l	Sodium Hydroxide	Daily Totalizer
1	0	60	0	NR	763512
2	0	60	0	NR	763512
3	0	60	0	NR	763512
4	0	60	0	NR	763512
5	0	60	0	NR	763512
6	0				
7	0				
8	0	60	0	NR	763512
9	0	60	0	NR	763512
10	0	60	0	NR	763512
11	0	60	0	NR	763512
12	0	60	0	NR	763512
13	0				
14	0				
15	0	60	0	NR	763512
16	0	60	0	NR	763512
17	0	60	0	NR	763512
18	0	60	0	NR	763512
19	0	60	0	NR	763512
20	0				
21	0				
22	0	60	0	NR	763512
23	0	60	0	NR	763512
24	0	60	0	NR	763512
25	0	60	0	NR	763512
26	96	60	0	NR	763608
27	0				
28	0				
29	0	58	2	NR	763608
30	0	58	0	NR	763608
31	0	58	0	NR	763608
TOT	96		2		
AVG.	3.10		0.06	No. Days:	31

Reported by:

JO RoseTitle: WATER SYSTEMS SUPERVISORDate: 6-2-00Cert. #: 05650

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :
			MAY 2000

LOCATION: WELL NO. 11

Did an emergency occur in any part of the water system? yes no

Source: Ground Water Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION			pH	Totalizer	
	Treated Water	Liquid Sodium Hypochlorite Gallons	Cl2 use per 24hrs	Free Cl2 mg/l		
		Residual		Lime Sodium Hydroxide		
1	0	168	0	0.9	7.9	310133
2	92	168	0	0.7	8	310225
3	398	168	0	NR	NR	310623
4	496	168	0	0.6	8	311119
5	168	168	0	NR	NR	311287
6	0					
7	0					
8	5	168	0	0.25	7.2	311292
9	546	168	0	0.21	6.5	311838
10	437	168	0	NR	NR	312275
11	141	168	0	NR	NR	312416
12	0	168	0	NR	NR	312416
13	0					
14	0					
15	5	168	0	NR	NR	312421
16	6	168	0	NR	NR	312427
17	117	165	3	NR	NR	312544
18	130	164	1	0.6	7.8	312674
19	121	164	0	NR	NR	312795
20	0					
21	0					
22	265	164	0	NR	NR	313060
23	31	164	0	0.4	7.4	313091
24	148	163	1	NR	NR	313239
25	233	163	0	0.9	7.1	313472
26	453	163	0	NR	NR	313925
27	0					
28	0					
29	525	163	0	NR	NR	314450
30	165	163	0	0.6	7.9	314615
31	170	163	0	0.7	7.8	314785
TOT	4,652		5			
AVG.	150.06		0.16	No Days:	31	

Population Served 3,500

Number of routine samples 4

(Must collect a minimum of 5 routine samples the month following a repeat sample collection)

Number of actual routine samples 7

Does a M&R violation exist? yes No

If yes, check reason(s) below.

Actual number of samples fewer than required

Failure to analyze for E. Coli if there was a positive result for total coliform from routine, repeat or high turbidity sample.

Failure to analyze repeat samples.

Does an MCL violation exist? NO

If yes, check reason(s) below.

Two or more positive total coliform samples for systems collecting 40 or more samples (routine, repeat or hiturb) per month.

Positive E. Coli result followed by a positive total coliform repeat sample.

Positive total coliform result followed by a positive E. Coli repeat sample.

Reported by:

De Rose

Date: 6-2-00

Title: WATER SYSTEMS SUPERVISOR

Cert. #: 05650

DRAUGI DAVIN NATIONAL LABORATORY

WATER SYSTEMS OPERATION REPORT

Public Water Supply Protection

PROGRAM CODE 169	STATION 11515100	SUFFOLK COUNTY	REPORTING PERIOD :	MAY 2000
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LOCATION: WELL NO. 12

Did an emergency occur in any part of the water system? yes no

Source: Ground Water

Does the system have a chlorination waiver? yes no

Day of month	CHLORINATION				pH	
	Treated Water	Liquid Sodium Hypochlorite	Free Cl2	Lime	Totalizer	
		Galons per 24hrs	Residual mg/l	Sodium Hydroxide	Daily Totalizer	
1	0	110	0	0.7	7.9	224597
2	23	110	0	0.5	8	224620
3	0	110	0	NR	NR	224620
4	452	109	1	0.7	8	225072
5	116	109	0	NR	NR	225188
6	0					
7	0					
8	342	105	4	0.48	8	225530
9	379	101	4	0.34	7.8	225909
10	599	98-98=0	3	0.24	7.6	226508
11	275	+100	0	NR	NR	226783
12	173	100	0	0.62	7.5	226956
13	0					
14	0					
15	2,200	90	10	NR	NR	229156
16	216	85	5	0.5	7.6	229372
17	79	85	0	NR	NR	229451
18	396	81	4	0.74	8	229847
19	254	80+25	1	NR	NR	230101
20	0					
21	0					
22	0	105	0	NR	NR	230101
23	361	103	2	0.5	7	230462
24	7	102	1	NR	NR	230469
25	0	100	2	0.6	7.8	230469
26	7	100	0	NR	NR	230475
27	0					
28	0					
29	0	100	0	NR	NR	230476
30	0	100	0	0.7	8	230476
31	7	100	0	0.9	7.8	230483
TOT	5,886		37			
AVG	189.87		1.19	No. Days:	31	

Population Served 3,500

Number of routine samples 4

(Must collect a minimum of 5 routine samples the month following a repeat sample collection)

Number of actual routine samples 7Does a M&AR violation exist? yes No

If yes, check reason's below.

 Actual number of samples fewer than required. Failure to analyze for E. Coli if there was a positive result for total coliform from routine, repeat or high turbidity sample. Failure to analyze repeat samples.Does an MCL violation exist? NO

If yes, check reason(s) below.

 Two or more positive total coliform samples for systems collecting 40 or more samples (routine, repeat or turbid) per month. Positive E. Coli result followed by a positive total coliform repeat sample. Positive total coliform result followed by a positive E. Coli repeat sample.Reported by JO RossDate: 6-2-00Title: WATER SYSTEMS SUPERVISORCert. #: 05650



575 Broad Hollow Road, Melville, NY 11747-5076
(631)694-3040, FAX:(631)420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

BROOKHAVEN NATIONAL LAB. BNL
70 BELL AVE.
UPTON, NY 11973
Federal ID : 5111891

Received : 04-MAY-2000 15:10
Collected By : PP99
Sample Type : Potable Water

Copies To : SCHD

Lab Number	Collected	Location	Units	<u>T.COLL. BACT.</u>	<u>E.COLI</u>	<u>CHLORINE RESIDUAL</u>
			<u>Method</u>	<u>None</u>	<u>None</u>	<u>mg/l</u>
			<u>Limits</u>	<u>SM#3223</u>	<u>SM#3223</u>	<u>SM#450-CIG</u>
20000504-173	04-MAY-2000 ROUTINE	DUPLICATE 08:15 DISTRIBUTION	NEGATIVE 05-MAY-2000 10:30	NEGATIVE 05-MAY-2000 10:30	ABSENT 05-MAY-2000 10:30	0.6 04-MAY-2000

Result(s) reported meet(s) NEW YORK STATE/USEPA limits for Potable Water.

Date Issued : 05/11/2000

ORIGINAL
Report for client information only

Jean M. Glavin
Laboratory Director

ATTACHMENT II

**Brookhaven National Laboratory
Potable Water Supply**

**May 2000 Biweekly Water Quality Monitoring Data for
the BNL Potable Water Wells**

Attachment II
Table 1
Summary of Water Quality Analyses
for the BNL Potable Water System
May 2000

Sample Location	Sample Date	pH (SU)	Temperature (Degrees F)	Conductivity (μmhos)	Alkalinity (mg/L)	Calcium (mg/L)
WTP	5/2/00	7.6	55	118	NR	NR
WTP	5/4/00	7.4	55	114	NR	NR
WTP	5/9/00	7.8	54	116	NR	NR
WTP	5/11/00	7.4	54	109	NR	NR
WTP	5/16/00	7.4	55	116	NR	NR
WTP	5/18/00	7.4	55	111	NR	NR
WTP	5/23/00	7.5	55	120	NR	NR
WTP	5/25/00	7.8	55	117	NR	NR
WTP	5/30/00	7.5	55	129	NR	NR
Well 11	5/2/00	8.0	56	163	NR	NR
Well 11	5/4/00	8.0	56	169	NR	NR
Well 11	5/9/00	6.5	55	256	NR	NR
Well 11	5/16/00	7.3	56	165	NR	NR
Well 11	5/18/00	7.8	56	190	NR	NR
Well 11	5/23/00	7.4	56	206	NR	NR
Well 11	5/25/00	7.1	56	224	NR	NR
Well 11	5/30/00	7.9	56	203	NR	NR
Well 12	5/2/00	8.0	56	190	NR	NR
Well 12	5/4/00	8.0	56	203	NR	NR
Well 12	5/9/00	7.8	56	188	NR	NR
Well 12	5/11/00	7.8	56	138	NR	NR
Well 12	5/16/00	7.6	58	206	NR	NR
Well 12	5/18/00	8.0	56	160	NR	NR
Well 12	5/23/00	7.0	56	157	NR	NR
Well 12	5/25/00	7.8	56	311	NR	NR
Well 12	5/30/00	8.0	56	163	NR	NR

NR - Analysis Not Required or Not Reported

WTP - Water Treatment Plant

Note: Field parameters are only conducted for facilities that are in operation on the day of measurement.

ATTACHMENT III

**Brookhaven National Laboratory
Potable Water Supply**

**2000 Second Quarter Radiological Analyses
for the
BNL Potable Water Wells**

ATTACHMENT III
Table 2
Brookhaven National Laboratory
Potable Water Supply

**2000 Second Quarter Radiological Analyses for
the BNL Potable Water Wells**

Summary of Radiological Results for the BNL Potable Water Wells 2000 Second Quarter Monitoring Results			
Well ID	Gross Alpha pCi/L	Gross Beta pCi/L	Tritium pCi/L
Well # 4	< 0.7	< 2.3	< 353
Well # 6	< 0.7	4.2	< 353
Well # 7	< 0.7	< 2.3	< 353
Well # 11	< 0.7	< 2.3	< 353
Well # 12	< 0.7	< 2.3	< 353

C. O. C. Number
20042706

BROOKHAVEN NATIONAL LABORATORY
SAFETY & ENVIRONMENTAL PROTECTION DIVISION

Contractor Number
1

ANALYTICAL SERVICES LABORATORY

BLDG 535A

UPTON, N.Y. 11973-5000

Page 1 of 1

ERD COC No.: 6730

Ship to:

Pick Up by:

Attention:

Bioassay samples will not be accepted
if bottles are filled above the shoulder.

Project Name:
Portable Wells

Requested by:
D Paquette

Life Number:
14314

Account No.:
X7046

-C

Date

Time

E-Mail Reports to:

EP Manager: D Paquette

Matrix

SAMPLER:

D Paquette

Requested by:
Lee

Life Number:
07089

-C

Date

Time

E-Mail Reports to:

FSS Manager: B Lee

Matrix

SAMPLER:

B Lee

FILL OUT ONLY SHADDED AREAS.

CANNOT ACCEPT SAMPLES WITH ACTIVITY $>1\text{mR/hr}$

Sample Information							Analysis Requested**												
ASL Number	Grid	-ID	Date	-C	Time	Bldg. #	Matrix	Description	#	vol.	$\alpha\beta$	3H	γ	Sr90	MET	WQ	VOA	PCB	pH
20042706-01			000427		1400		w	083-400	Potable Well #4		x	x	x						
20042706-02			000427		1403		w	083-400	Potable Well #4 duplicate		x	x	x						
20042706-03			000427		1354		w	093-400	Potable Well #6		x	x	x						
20042706-04			000427		1349		w	092-400	Potable Well #7		x	x	x						
20042706-05			000427		1342		w	056-400	Potable Well #11		x	x	x						
20042706-06			000427		1336		w	056-401	Potable Well #12		x	x	x						

Must be one of the samplers

Transferred to :	Wm Rizzitello	RA Brown
Signed by:	Wm Rizzitello	RA Brown
Date/time	4/27/00 1508	4/27/00 1508

***OTHER ANALYSIS NOT LISTED

COMMENTS

BNL F 2963B White Copy: Sample Custodian Yellow Copy: Analyst Pink Copy: Receiver or Intra-Lab Transfer Goldenrod Copy:

S.O.C. NUMBER
20042706

**BROOKHAVEN NATIONAL LABORATORY
SAFETY AND ENVIRONMENTAL PROTECTION DIVISION
Radiological Analysis Laboratory**

RADIOLOGICAL REPORT

Analyzed by: Robert R Gaschott

Reviewed by: RRG

05/30/00

C.O.C. Number
20042706

**Brookhaven National Laboratory
Safety and Environmental Protection Division
Radiological Analysis Laboratory**

GAMMA RESULTS

Analyzed by: Robert R. Gaschott

Reviewed by: RRG

5/31/00