

Environmental Services Division



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

www.bnl.gov

September 10, 2002

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 August 2002

In accordance with the requirements of the BNL Potable Water System Sampling Plan and the 2002 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 August 2002.

Attachment II: August 2002 Biweekly Water Quality Monitoring Data for the

BNL Potable Water Wells and BNL Distribution System.

Attachment III: 2002 Third 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 program, the SCDHS Community Water Supply Monitoring Requirements, and the BNL Potable Water System Sampling Plan. Plant Engineering Division personnel using standard operating procedures collect routine monitoring samples; a contractor laboratory using standard methods of analysis performs the subsequent analyses. The Quality Assurance documentation is available from the Environmental Services Division and Plant Engineering Divisions. Based on this information, we believe the values contained in these reports are representative of the BNL potable water system.

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

Sincerely,

Lori Cunniff, CEP

Division Manager

LC/MA:rt

Attachments: As noted

ce: M. Allocco w/attachments W. Chaloupka w/attachments

J. Granzen w/attachments
R. Lee w/attachments

E. Murphy w/attachments

P. Ponturo SCDHS, w/o attachments

L. Ross w/o attachments
T. Sheridan w/o attachments

**ÉC61ER.02** 

### ATTACHMENT I

Brookhaven National Laboratory Potable Water Supply

Monthly Bacteriological and Operational Reports for August 2002

#### BROOKHAVEN NATIONAL LABORATORY WATER SYSTEMS OPERATION REPORT PUBLIC WATER SUPPLY PROTECTION STATION 11515100 SUFFOLK COUNTY REPORTING PERIOD: AUGUST 2002 PROGRAM CODE 169 LOCATION: **Water Treatment Facility** Did an emergency occur in any part of the water system? Source: Ground Water Does the system have a chlorination waiver? CHLORINATION pΗ Liquid Sodium Hypochlorite Free Cl2 \_ Lime Treated Totalizer Population Served 3,500 Day of Water Gallons Residual \_ Sodium Daily Totalizer 12624217 nonth 146 Hydroxide K Gals per 24hrs 1,043 120+80 1.02 7.1 12625260 Number of routine samples 2 1,222 182 18 1.2 7.4 12626482 (Must collect a minimum of 5 routine samples the month following 0 3 a repeat sample collection) ol 4 7 3,129 12629611 5 138 44 0.75 7.4 Number of actual routine samples 7.4 6 986 122 16 0.3 12630597 12631671 Does a M&AR violation exist? YES NO X 7 . 1,074 105 17 0.68 7,4 8 15 7.4 12632670 999 90+110 0.88 9 969 190 10 0.9 7.4 12633639 10 ol If yes, check reason's below. 0 11 2.672 0.77 7.3 12636311 12 145 45 Actual number of samples fewer than required. 7,4 12637337 13 1,026 130 15 1.1 7.3 14 1,095 112 18 0.65 12638432 \_Failure to analyze for E. Coli if there was a positive result for 900 0.78 77 12639332 total coliform from routine, repeat of high turbidity sample. 15 100 12 7.6 12640434 16 1,102 85+115 15 0.86 17 0 \_\_\_Failure to analyze repeat samples. 0 18 YES 3,230 38 1.2 7.3 12643664 Does an MCL violation exist? ио Х 19 162 20 1,077 146 16 1 7.6 12644741 1,083 0.84 7.6 12645824 If yes, check reason(s) below. 21 130 16 12646753 22 929 118 12 \_\_\_\_ Two or more positive total coliform samples for systems collecting 40 23 1,064 103 15 0.81 7.5 12647817 n 24 or more samples (routine, repeat or hiturb) per month. 25 0 3,007 1.02 7.2 \_\_\_Positive E. Coli result followed by a positive total coliform repeat sample. 26 60 43 12650824 7.1 1,050 0.9 12651874 Positive total coliform result followed by a positive E. Coli repeat sample. 28 1,044 20+27 15 0.88 7.3 12652918 29 1,038 40+160 7 7.5 12653956 0.7 7.3 736 190 1.43 12654692 30 10 771 1.23 7.5 12655463 31 180 10

14.45 Reported by: /

448

No. Days:

Title: Water Systems Supervisor

TOT

AVG.

31,246

1007.94

Certification No. NY0030392

Date: HSardor

#### BROOKHAVEN NATIONAL LABORATORY WATER SYSTEMS OPERATION REPORT PUBLIC WATER SUPPLY PROTECTION **AUGUST** 2001 STATION 11515100 SUFFOLK COUNTY REPORTING PERIOD: PROGRAM CODE 169 LOCATION: WELL NO. 4 Did an emergency occur in any part of the water system? Does the system have a chlorination waiver? Source: Ground Water CHLORINATION pН Treated Liquid Sodium Hypochlorite Free CI2 Lime Totalizer Population Served 3,500 Day of CI2 use Residual Sodium Daily Totalizer Water Gallons K Gals 130 per 24hrs Hydroxide 1479844 month mg/l 1479844 Number of routine samples NR NR 130 1 0 0 (Must collect a minimum of 5 routine samples the month following 2 130 0 NR NR 1479844 3 0 a repeat sample collection) o Δ 1479844 0 5 0 NR Number of actual routine samples NR 1479844 6 0 130 0 NR 7 o Does a M&AR violation exist? 0 NR NR 1479844 130 8 ol 130 0 NR NR 1479844 0 1479844 NR 9 130 0 NR 0 If ves, check reason's below. 10 11 ol ٥l 1479844 12 NR \_ Actual number of samples fewer than required. 130 o NR NR 1479844 13 ol 130 0 NR 14 130 NR 1479844 \_Failure to analyze for E. Coli if there was a positive result for total coliform from routine, repeat of high turbidity sample. 0 1479844 15 130 0 NR NR 1479844 o ٥ 130 NR 16 17 ٥ Failure to analyze repeat samples. ol 18 YES NO X 1479844 NR Does an MCL violation exist? 19 ol 130 0 NR 20 0 130 0 NR NR 1479844 21 0 130 NR 1479844 If yes, check reason(s) below. 1479844 22 130 0 NR NR 1479844 \_ Two or more positive total coliform samples for systems collecting 40 ol NR 23 130 or more samples (routine, repeat or hiturb) per month. 0 24 25 0 26 0 NR 1479844 Positive E. Coli result followed by a positive total coliform repeat sample. 130 NR

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AVG.

Title: Water Systems Supervisor

Date: 4 Soft 02

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

Certification No. NY0030392

#### BROOKHAVEN NATIONAL LABORATORY WATER SYSTEMS OPERATION REPORT PUBLIC WATER SUPPLY PROTECTION STATION 11515100 SUFFOLK COUNTY REPORTING PERIOD: **AUGUST** 2001 PROGRAM CODE 169 LOCATION: WELL NO. 6 Did an emergency occur in any part of the water system? Does the system have a chlorination waiver? Source: Ground Water CHLORINATION ъΗ Treated Totalizer Liquid Sodium Hypochlorite Free CI2 Lime Gallons Sodium Daily Totalizer Population Served 3,500 Day of Water Residual nonth K Gals per 24hrs Hydroxide 333701 Number of routine samples 1 2 334091 390 150+20 0.02 5.8 (Must collect a minimum of 5 routine samples the month following 2 8 3 0 a repeat sample collection) 4 ol 5 892 157 18 0.08 5.8 334983 Number of actual routine samples 6 425 150 7 0.03 5.8 335408 7 445 145 0.03 5.8 335853 Does a M&AR violation exist? YES 8 219 120+80 25 0 5.8 336072 9 298 195 5 0.04 5.8 336370 0 10 If yes, check reason's below. 0 11 12 753 180 15 0.02 5.8 337123 \_ Actual number of samples fewer than required. 13 323 177 5.8 337446 14 311 172 5 0.05 5.7 337757 \_\_Failure to analyze for E. Coli if there was a positive result for 15 247 2 5.9 338004 total coliform from routine, repeat of high turbidity sample. 170 0.06 321 161+39 0.03 5.8 338325 16 9 17 0 Failure to analyze repeat samples. 19 817 188 12 0.06 5.9 339142 Does an MCL violation exist? 20 542 8 0.07 5.9 339684 180 21 393 175 5.9 340077 5 0.03 If yes, check reason(s) below. 22 243 170 5 0.06 5.9 340320 309 165+35 340629 \_\_ Two or more positive total coliform samples for systems collecting 40 23 24 0 or more samples (routine, repeat or hiturb) per month. 25 0 \_Positive E. Coli result followed by a positive total coliform repeat sample. 26 1,246 190 10 0.14 5.7 341875 180 342239 27 364 0.03 5.8 10 28 255 178 0.01 5.9 342494 \_\_\_Positive total coliform result followed by a positive E. Coli repeat sample. 29 401 170+30 8 0.16 5.9 342895 385 0 5.9 343280 30 200 0.05 343736 31 456 190 0.05 5.9 10 10.327 TOT 179 333.13 AVG. 5.77 Reported by:

Title: Water Systems Supervisor

Certification No. NY0030392

# BROOKHAVEN NATIONAL LABORATORY

PUBL	IC WATER	SUPPLY PROT	TECTION	W.	ATER SYS	TEMS OPERA	ATION REPORT
	PROGRAM (		Т	11515100	SUFFO'	LK COUNTY	REPORTING PERIOD: AUGUST 2001
LOC	CATION:	WELL NO.	<del></del>			mergency occur i	in any part of the water system? YES NO
Sou	urce: Grour				<del></del>	Does the syste	em have a chlorination waiver? YES NO
, ,	<u></u>	CHLORIN		T	рН		
	Treated	Liquid Sodium		Free Cl2	Lime	Totalizer	B 4-11-1 0 2 500
Day of		Gallons	Cl2 use	Residual	Sodium	Daily Totalizer	Population Served 3,500
month 1	K Gals 1,214	120	per 24hrs 18	0.01	Hydroxide 5.6	824824 826038	1
2	1,214		17	0.01	5.8	827320	•
3	1,282		1/	0.02	3.0	02.0	a repeat sample collection)
4	0				<del> </del>	<del>                                     </del>	a repeat sample conection
5	3,672	<del>                                     </del>	53	0.08	5.8	830992	Number of actual routine samples
6	1,025		12	0.03	5.8	832017	·
7	1,252		20	0.03	5.8	833269	Does a M&AR violation exist? YES NO
8	1,206		15	0	5.8	834475	
g	1,106		10	0.04	5.8	835581	I
10	0						If yes, check reason's below
11	0						İ
12	3,375	150	40	0.02	5,8	838956	Actual number of samples fewer than required.
13	1,292	137	13	0.05	5.8	840248	I.
14	1,233	121	16	0.05	5.7	841481	Failure to analyze for E. Coli if there was a positive result for
15	1,105	109	12	0.06	5.9	842586	total coliform from routine, repeat of high turbidity sample.
16	1.246	95+105	14	0.03	5.8	843832	
17	0		<u>                                     </u>	<u> </u>	<u> </u>		Failure to analyze repeat samples.
18	0		<b></b> !	<u> </u>	<b></b>		₩. ×
19	3,761		45	0.06	5.9	847593	Does an MCL violation exist? YES NO
20	1,255		15	0.07	5.9	848848	
21	1.344		15	0.03	5.9	850192	If yes, check reason(s) below.
22	1,174		15	0.06	5.9	851366	/ January 40
23	1,289	90+110	20	0.06	5.9	852655	Two or more positive total coliform samples for systems collecting 40
24	0		<del></del>	<del></del>	<del></del>		or more samples (routine, repeat or hiturb) per month.
25	3 669		<del></del>			056224	5 Cell and Mallamed by a positive total coliform repeat sample.
26	3,669	140	60	0.14	5.7	856324 857617	Positive E. Coli result followed by a positive total coliform repeat sample.
27	1.293	127	13	0.03	5.8	857617 858862	Positive total coliform result followed by a positive E. Coli repeat sample.
28	1,245	90+110	13	0.01	5.9 5.9	858862 860029	Positive total collidriff result followed by a positive 2, 55%, 5243, 55%,
30	1,144	190	10	0.16	5.9	860029 861173	
31	697	170	20	0.05	5.9	861870	
TOT	37,046		490	0.00	J.,		
AVG.	1195.03		15.81	No. Days:	31		<u></u>
	eported by:	wel	XXC	loli-	sile		Date: H Satov
	Title:	Water Syste	ems Supervis	sor			Certification No. NY0030392

#### BROOKHAVEN NATIONAL LABORATORY WATER SYSTEMS OPERATION REPORT PUBLIC WATER SUPPLY PROTECTION 2001 PROGRAM CODE 169 STATION 11515100 SUFFOLK COUNTY **REPORTING PERIOD: AUGUST** LOCATION: WELL NO. 10 Did an emergency occur in any part of the water system? Does the system have a chlorination waiver? Source: Ground Water CHLORINATION рH Treated Liquid Sodium Hypochlorite Free CI2 \_ Lime Totalizer Population Served 3,500 Daily Totalizer Day of Water Gallons CI2 use Residual Sodium Hydroxide 764327 K Gals per 24hrs month mg/l NR 764327 Number of routine samples NR 1 0 58 0 0 764327 2 (Must collect a minimum of 5 routine samples the month following ol a repeat sample collection) 3 ol 4 764327 NR NR Number of actual routine samples 0 O 5 0 58 0 NR NR 764327 7 ol 58 0 NR NR 764327 Does a M&AR violation exist? ol NR 764327 8 0 NR 58 9 0 58 0 NR NR 764327 10 If yes, check reason's below. 11 0 764327 Actual number of samples fewer than required. ol 0 NR NR 12 58 764327 ol 0 NR NR 13 58 \_Failure to analyze for E. Coli if there was a positive result for ol 0 NR NR 764327 14 58 15 0 58 0 ΝR NR 764327 total coliform from routine, repeat of high turbidity sample. NR 16 0 58 0 NR 764327 ol Failure to analyze repeat samples. 17 18 ام 764327 19 0 58 0 NR NR Does an MCL violation exist? 20 58 0 NR NR 764327 21 0 58 0 NR NR 764327 If yes, check reason(s) below. ٥ n NR 764327 22 NR 58 NR ٥ NR 764327 \_\_\_ Two or more positive total coliform samples for systems collecting 40 0 23 58 24 0 or more samples (routine, repeat or hiturb) per month. 25 0 \_Positive E. Coli result followed by a positive total coliform repeat sample. 0 0 NR NR 764327 26 27 0 0 NR NR 764327 764327 \_\_\_Positive total coliform result followed by a positive E. Coli repeat sample. o O NR NR 28 58 29 ol 0 NR NR 764327 58 30 ol 0 NR NR 764327 58 0 NR NR 764327 31 58 0 TOT

orted by: WULCHOLD

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Title: Water Systems Supervisor

AVG.

0.00

Date: 4 Jan 07

Certification No. NY0030392

# BROOKHAVEN NATIONAL LABORATORY

### WATER SYSTEMS OPERATION REPORT

PUBLI	C WATER S	SUPPLY PROT	ECTION	***	AILK SIS	12110 01 21111			
Р	ROGRAM C	ODE 169	STATION 1	1515100	SUFFOL	K COUNTY	REPORTING PERIOD:	AUGUST	2001
LOCA	ATION:	WELL NO. 1	11	· ·					
					Did an em	ergency occur i	n any part of the water system?	YES	NO <u>X</u>
Sou	rce: Groun	d Water				Does the syste	m have a chlorination waiver?	YES	ио 🔀
		CHLORIN/	ATION		pН				
	Treated	Liquid Sodium I	Hypochlorite	Free Cl2	Lime	Totalizer			
Day of	Water	Gallons	CI2 use	Residual	Sodium	Daily Totalizer	Population Served 3,500		
month	K Gals	130	per 24hrs	mg/l	Hydroxide	454965			4
1	354	126	4	0.99	7.3	455319	Number of routine samples		
2	1	126	0	0.8	7	455320	(Must collect a minimum of 5 routine sample	es the month follo	wing
3	0						a repeat sample collection)		
4	0 345	128	0	0.88	7.1	455665	Number of actual routine samples		7
5			0	0.63	6.4	455733			NO <u>X</u>
6 7	68 8	128 128	0	0.63	7.1	455741	Does a M&AR violation exist?	YES	ио 🔀
8	1	128+72	0	0.58	7.2	455742			
9	1	200	0	0.63	7.3	455743			
10	0						If yes, check reason's below.		
11	0								
12	1.077	200	0	NR	NR	456820	Actual number of samples fewer than i	required.	
13	141	200	0	1.2	7.3	456961			
14	367	198	2	0,63	7.6	457328	Failure to analyze for E. Coli if there wa		
15	236	197	1	0.57	7.4	457564	total coliform from routine, repeat of high	n turbidity sample.	
16	235	197	0	0.5	7.4	457799			
17	0						Failure to analyze repeat samples.		
18	0				310	458062	Does an MCL violation exist?	YES	№ 🗡
19	263	195	2	NR	NR		Does all mod floration oxion		
20	235	195	0	0.52	7	458297 458456	If yes, check reason(s) below.		
21	159	192	5 0	0.5 0.51	7.2	458651	in yes, onour reason(e) zerom		
22	195 2	192 192	0	NR	NR	458653	Two or more positive total coliform sa	mples for systems	collecting 40
23	0	132					or more samples (routine, repeat or hiturb) p		
25	0								
26	0	192	0	0.27	7.2	458653	Positive E. Coli result followed by a pos	sitive total coliform	repeat sample.
27	1	192	0	0.3	7.2	458654			
28	4	192	0	NR	NR	458658	Positive total coliform result followed b	y a positive E. Col	i repeat sample.
29	0	192	0	NR	NR	458658			
30	5	192	0	NR	NR	458663			
31	0	192	0	NR	NR	458663			
тот	3.698		14						
AVG.	119.29		0.45	No. Days:	31		. A		
R	eported by: <b>(</b>	2006	1/X	Che	leg	la	Date: 4 Sep	202	
	Title:	Water Syste	ems Supervi	isor			Certification No. NY0030392		

#### BROOKHAVEN NATIONAL LABORATORY WATER SYSTEMS OPERATION REPORT PUBLIC WATER SUPPLY PROTECTION **AUGUST** 2001 PROGRAM CODE 169 STATION 11515100 SUFFOLK COUNTY REPORTING PERIOD: LOCATION: WELL NO. 12 Did an emergency occur in any part of the water system? Source: Ground Water Does the system have a chlorination waiver? CHLORINATION рΗ Treated Liquid Sodium Hypochlorite Free Cl2 Lime Totalizer Day of Water Gallons CI2 use Residual Sodium **Daily Totalizer** Population Served 3,500 578001 K Gals Hydroxide month 195 per 24hrs 195 NR 578001 Number of routine samples 2 0 NR NR 578001 (Must collect a minimum of 5 routine samples the month following 195 0 3 0 a repeat sample collection) 4 ol 5 1 195 0 0.73 6.9 578002 Number of actual routine samples 6 378 0.57 6.6 578380 195 0 578385 YES 7.2 Does a M&AR violation exist? 7 5 195 0 1 8 195+5 0.99 7.3 578386 9 200 0 0.97 7.2 578387 10 n If yes, check reason's below. 11 0 0 NR NR 578387 12 200 \_ Actual number of samples fewer than required. o 7.3 578387 13 200 0 1.2 578390 \_Failure to analyze for E. Coli if there was a positive result for 14 3 200 0 NR NR 15 215 NR ΝR 578605 total coliform from routine, repeat of high turbidity sample. 197 3 33 16 197 0 NR ΝR 578638 17 ol \_\_Failure to analyze repeat samples. 0 18 19 0 NR NR 578639 Does an MCL violation exist? 1 197 20 5 2 0.96 72 578644 195 21 5 0 NR NR 578649 195 If yes, check reason(s) below. 110 22 195 0 0.77 7.2 578759 195 NR 578761 \_\_\_ Two or more positive total coliform samples for systems collecting 40 24 0 or more samples (routine, repeat or hiturb) per month. 25 0 26 126 3 0.88 7.7 578887 \_Positive E. Coli result followed by a positive total coliform repeat sample. 192 2 191 0.97 7.7 578889 27 1 5 NR 578894 \_\_\_\_Positive total coliform result followed by a positive E. Coli repeat sample. 28 190 29 0 190 0 0.66 7.3 578894 20 NR 578914 30 190 0 NR NR 578914 0 NR 31 190 0 TOT 913 10 AVG. 29.45 31

ted by: WW Llaul

Title: Water Systems Supervisor

Date: 4 Jept 02

Certification No. NY0030392

# MONTHLY GALLONAGE REPORT 2002 AUGUST.xls

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Well 7 Well10 Well11 Well12 Daily Total	ell 6 Well 7	Date Well 4 Well 6
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1,214 0 354 0 $1,860$	292 1,214	1 0 2
4         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         449         1         4,9         6         0         425         1,025         0         68         378         1,8         7         0         445         1,252         0         8         5         1,7         8         0         ,219         1,206         0         1         1         1         1,4         1         1,4	$\frac{1,282}{0}$		2 0 3
6         0         425         1,025         0         68         378         1,8           7         0         445         1,252         0         8         5         1,7           8         0         219         1,266         0         1         1         1,4           9         0         298         1,106         0         1         1         1,4           10         0         0         0         0         0         0         0           11         0         0         0         0         0         0         0           12         0         753         3,375         0         1,077         0         5,2           13         0         323         1,292         0         141         0         1,7           14         0         311         1,233         0         367         3         1,9           15         0         247         1,105         0         236         215         1,8           16         0         321         1,246         0         235         33         1,8           17         0         0		0	3
6         0         425         1,025         0         68         378         1,8           7         0         445         1,252         0         8         5         1,7           8         0         ,219         1,206         0         1         1         1,4           9         0         298         1,106         0         1         1         1,4           10         0         0         0         0         0         0         0           11         0         0         0         0         0         0         0           11         0         0         0         0         0         0         0           12         0         753         3,375         0         1,077         0         5,2           13         0         323         1,292         0         141         0         1,7           14         0         311         1,233         0         367         3         1,9           15         0         247         1,105         0         236         215         1,8           16         0         321	3 672 0 345 1 4.910	892 3 672	4 0 2
7         0         445         1,252         0         8         5         1,7           8         0         ,219         1,206         0         1         1         1,4           9         0         298         1,106         0         1         1         1         1,4           10         1,7         1         1,7         1,7         1	1,025 0 68 378 1,896	425 1,025	6 0 4
8       0       219       1,200       0       1       1       1,4         10       0       0       0       0       0       0       0         11       0       0       0       0       0       0       0         12       0       753       3,375       0       1,077       0       5,2         13       0       323       1,292       0       141       0       1,7         14       0       311       1,233       0       367       3       1,9         15       0       247       1,105       0       236       215       1,8         16       0       321       1,246       0       235       33       1,8         17       0       0       0       0       0       0       0         18       0       0       0       0       0       0       0         19       0       817       3,761       0       263       1       4,8         20       0       542       1,255       0       235       5       2,0         21       0       393       1,344 </td <td>1 252 0 8 5 1,710</td> <td>445 1,252</td> <td>7 0 4</td>	1 252 0 8 5 1,710	445 1,252	7 0 4
10       1       0       1       0       1       0       1       0       1       0       1       0       1       0       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0       1       1       0		,	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{1,106}{0}$		
12       0       753       3,375       0       1,077       0       5,2         13       0       323       1,292       0       141       0       1,7         14       0       311       1,233       0       367       3       1,9         15       0       247       1,105       0       236       215       1,8         16       0       321       1,246       0       235       33       1,8         17       0       0       0       0       0       0       0         18       0       0       0       0       0       0       0         19       0       817       3,761       0       263       1       4,8         20       0       542       1,255       0       235       5       2,0         21       0       393       1,344       0       159       5       1,9         22       0       243       1,174       0       195       110       1,7         23       0       309       1,289       0       2       2       2       1,6         24       0 </td <td></td> <td></td> <td></td>			
13       0       323       1,292       0       141       0       1,7         14       0       311       1,233       0       367       3       1,9         15       0       247       1,105       0       236       215       1,8         16       0       321       1,246       0       235       33       1,8         17       0       0       0       0       0       0       0         18       0       0       0       0       0       0       0         19       0       817       3,761       0       263       1       4,8         20       0       542       1,255       0       0       235       5       2,0         21       0       393       1,344       0       159       5       1,9         22       0       243       1,174       0       195       110       1,7         23       0       309       1,289       0       2       2       2       1,6         24       0       0       0       0       0       0       0       0 <td< td=""><td>3,375 0 1,077 0 5,205</td><td>**</td><td>•</td></td<>	3,375 0 1,077 0 5,205	**	•
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.292 0 141 $0 \frac{1,756}{}$	•	<u> </u>
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Well 7 861,870 824,824 37,0	861,870 824,824 37,046	861,870	Well 7
Well 10 764,327 764,327	764,327	1 10 764,327	Well 10
Well 11 458,663 454,965 3.6	454,965 3,698	458,663	Well 11
Well 12 578,914 578,001	578,914 578,001 913	1 12 578,914	Well 12
AGS Water Supply Meter 409,224 409,188 36	409,224 409,188 36.00	409,224	AGS Water Supply Meter
Medical Reactor - Well 105 0 0	0.00	0	Medical Reactor - Well 105
	6,598,880 6,581,340 17.54	6,598,880	

## H2M LABS, INC.

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

#### **LABORATORY RESULTS**

Brookhayen National Lab.-BNLM

70 Bell Ave. Upton, NY 11973

Attn To: S. SCARPITTA

Federal ID: 5111891

: 08/08/02 3:00 PM Received

Callected By : JK00

Sample Type: Potable Water

Date Reported:

8/14/02

opies To : To	ny Ross						Date Reported:	8/14/02
				Total Coliform	E Coliform	Total Residual Chlorine		
			<u>Units</u>			ள்றி.		
			<u>Method</u>	M9223	M9223	M4500-CI G		
ab Number	Location	Collected	<u>Limits</u>	Negative	Absent	N/A		
208298-001A	14854-001	08/00/02 8:45 AM	Analysis	Negative	Absent	0.4 8/8/02		
Routine	B-49 Water Tower		Time	B/8/02 4:30:00 PM	8/8/02 4:30:00 PM	0/0/02		
Dier		•						
208298-002A	14854-002	08/08/02 9:00 AM		Negative	Absent	0.6		
Routine	B-640 Water Tower		Analysis Time	8/8/02 4:30:00 PM	8/8/02 4:30:00 PM	8/8/02		
Dist			111275					
208298-003A	14854-003	08/08/02 9:20 AM		Negative	Absent	0.7		
Routine	B-1005 Rhic		Analysis Time	8/8/02 4:30:00 PM	8/8/02 4:30:00 PM	8/8/02		
Oist			THERE					
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~							
208298-004A		DENOBIO2 10:CO AM	Analysis	Negative 8/8/02 4:30:00 PM	Absent 8/8/02 4:30:00 PM	0.6 8/8/02		
Routine	B-363 Apt Laundry		emiT	WWDE 4.49.50 7 M	Urura - Lubiu I II	DIDIUM		
Dial.								
205298-005A	14854-005	OMURADZ 9:30 AM	Analysis	Negative	Absent	0.8		
Raulina	B-725 Nals		Time	8/8/02 4:30:00 PM	8/8/02 4:30:00 PM	8/8/02		
Disel			••••					
208298-006A	14854-006	DB/DRV2 10:45 AM	****	Negative	Absent	0.7		
Rouline	B-490 Block 1 A/c	4	Analysis —	8/8/02 4:30:00 PM	8/8/02 4:30:00 PM	8/8/02		
Dist			Time					
	4.00.0 000	FORDING ANACASE		bb	Ata and			
D208298-007A		COURNOZ 10:20 AM	Analysis	Negative 8/8/02 4:30:00 PM	Absent 8/8/02 4:30:00 PM	<b>0.6</b> 8/8/02		
Routine	B-450 Block 4 Mrc		Time					
Dist.								

Result(s) reported meet(s) Regulatory Limit(s).

Result(s) flagged with 🙀 Exceed Regulatory Limit(s). Limit noted.

Joann M. Slavin

# 08/30/2002

16314208436

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

#### **LABORATORY RESULTS**

Brookhaven National Lab.-BNLM

Received

: 08/08/02 3:00 PM

70 Bell Ave.

Upton, NY 11973

Collected By : JK00

Attn To: S. SCARPITTA

Sample Type: Potable Water

Federal ID: 5111891

Date Reported:

8/14/02

Copies To: To	ny Ross						Date Reported :	8/14/02
•				Total Caliform	E Coliform	<u>Total Residual Chlorin€</u>		
			<u>Ucits</u>			mg/L		
			Method	M9223	M9223	M4500-Cl G		
ab Number	Location	Collected	<u>timits</u>	Negative	Absent	λVA		
208298-008A	14854-008	08/08/02 10-20 AJ/	Analysis	Negative	Absent	0.6		
Routina	Ouplicate		Time	8/8/02 4:30:00 PM	B/8/02 4:30:00 PM	8/8/02		
Dist.								

#### ATTACHMENT II

Brookhaven National Laboratory Potable Water Supply

August 2002 Biweekly Water Quality Monitoring Data for the BNL Potable Water Wells and the BNL Distribution System

## Attachment II Table 1 Summary of Water Quality Analyses for the BNL Potable Water System August 2002

Sample Location	Sample Date	pH (SU)	Temperature (Degrees F)	Conductivity (µmhos)	Alkalinity (mg/L)	Calcium (mg/L)
WTP	8/1/02	7.1	58	151	NR	NR
WTP	8/6/02	7.4	57	142	NR	NR
WTP	8/8/02	7.4	55	140	NR	NR
WTP	8/13/02	7.4	55	142	NR	NR
WTP	8/15/02	7.7	58	143	NR	NR
WTP	8/20/02	7.6	57	145	NR	NR
WTP	8/22/02	7.5	55	136	NR	NR
WTP	8/27/02	7.1	56	138	NR	NR
WTP	8/29/02	7.5	58	143	NR	NR
Well 11	8/1/02	7.3	55	190	NR	NR
Well 11	8/6/02	6.4	55	203	NR	NR
Well 11	8/8/02	7.2	55	. 158	NR	NR
Well 11	8/13/02	7.3	55	185	NR	NR
Well 11	8/15/02	7.4	55	181	NR	NR
Well 11	8/20/02	7.0	55	203	NR	NR
Well 11	8/22/02	7.0	55	155	NR	NR
Well 11	8/27/02	7.2	55	144	NR	NR
Well 11	8/29/02	6.7	56	275	NR	NR
Well 12	8/1/02	NR	NR	NR	NR	NR
Well 12	8/6/02	6.6	56	200	NR	NR
Well 12	8/8/02	7.3	56	210	NR	NR
Well 12	8/13/02	7.3	55	195	NR	NR
Well 12	8/15/02	NR	NR	NR	NR	NR
Well 12	8/20/02	7.2	55	154	NR	NR
Well 12	8/22/02	7.2	55	. 162	NR	NR
Well 12	8/27/02	7.7	55	137	NR	NR
Well 12	8/29/02	7.3	55	147	NR	NR

NR - Analysis Not Required or Not Reported WTP - Water Treatment Plant

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

#### ATTACHMENT III

Brookhaven National Laboratory Potable Water Supply

2002 Third Quarter Radiological Analyses for the BNL Potable Water Wells

# ATTACHMENT III Table 2 Brookhaven National Laboratory Potable Water Supply

#### Summary of Radiological Results for the BNL Potable Water Wells 2002 Third Quarter Monitoring Results Tritium Sr-90 Gross Alpha **Gross Beta** Well ID pCi/L pCi/L pCi/L pCi/L < 304 < 0.41 < 0.8 Well # 6 < 1.59 Well # 7 < 0.41 < 304 < 0.8 < 1.59 < 304 < 0.8 < 1.59 Well # 11 < 0.41 Well #7 < 1.59 < 304 < 0.8 < 0.41 (Duplicate)

ASL	Prefix	No.
220	726	04

#### **BROOKHAVEN NATIONAL LABORATORY** RADIOLOGICAL CONTROL DIVISION

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		154		

No. of Pages: 1

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Date / Time: 7/26/02 1120	Date / Time:	Date / Time:	Archive for Months
1. Received by / Date / Time	2. Received by / Date / Time	3. Received by / Date / Time	Turn Around Time Required:
Signature: V Lettieri	Signature:	Signature:	Rush 1 Day: 14 Days 30 Days
Date / Time: 7/26/02 1129	Date / Time:	Date / Time:	7 Days: Other: Days

## Brookhaven National Laboratory Radiological Control Division Analytical Services Laboratory

#### **GAMMA RESULTS**

Reviewed by: Robert R. Gaschott 8/14/02

Sample I.D.	Nuclide Name	Activity uCi/mL	2-Sigma % Error
01	K-40	3.12E-08	70.75
02	K-40	4.10E-08	56.57
03		lides meeting sum	
04	There are no nuc	lides meeting sum	mary criteria
	·		

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Meeting today's needs with a vision for tomorrow.

## Certificate of Analysis

Company: Brookhaven National Laboratory

Address:

OER

Building 51

Upton, New-York 11973-5000

Contact:

Ms. Susan Young

Project:

Brookhaven ERD Contract

Report Date: August 23, 2002

Page

of

Time Batch Method

Client Sample ID:

Sample ID:

Matrix:

Collect Date: Receive Date: Collector:

Qualifier

15155-002

64309001 Water

26-JUL-02 10:00 27-JUL-02 08:30

DL

Project: Client ID:

**BRKL02000** BRKL003

AnalystDate

COC: 22072606/15155 Samp Recv.: 22072606/15155

Client Desc.: Well 11

DF

**Parameter** Rad Gas Flow

GFPC, Sr90, liquid

Strontium-90

U

0.0841

Result

+/-0.200

0.437

0.800

RL

pCi/L

**Analyst Comments** 

Units

AB2 08/06/02 2155 189772

The following Analytical Methods were performed

Method

Description

EPA 905.0 Modified

Notes:

The Qualifiers in this report are defined as follows:

DL Failed required detection limit.

H Holding time exceeded

Estimated value; the result was greater than the MDA but less than the required detection limit.

Presumptive evidence of the analyte at an estimated quantity.

The data are unusable (radionuclide may or may not be present).

U Undetected; sample result < MDA

Uncertain identification for gamma spectroscopy.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

table Well #11



Meeting today's needs with a vision for tomorrow.

## **Certificate of Analysis**

Company:

Brookhaven National Laboratory

Address:

OER

Building 51

Upton, New York 11973--5000

Client Sample ID:

Contact:

Ms. Susan Young

Project:

Brookhaven ERD Contract

0.306

Sample ID: Matrix:

Collect Date: Receive Date:

15155-003

64309002 Water

26-JUL-02 09:42

27-JUL-02 08:30

-0.587

Report Date:

August 23, 2002

08/06/02 2155 189772 1

Project: Client ID:

pCi/L

**Analyst Comments** 

**BRKL02000** BRKL003

COC: Samp Recv.:

Client Desc.: Well 6

	Collector:		Client					 	
Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Batch	Method
Rad Gas Flow			, ,	, , , , , , , , , , , , , , , , , , , ,					
GFPC, Sr90, liquid		•							

0.800

The following Analytical Methods were performed

Method Description

EPA 905.0 Modified

U

Notes:

Strontium-90

The Qualifiers in this report are defined as follows:

DL Failed required detection limit.

Holding time exceeded

Estimated value; the result was greater than the MDA but less than the required detection limit.

+/-0.280

Presumptive evidence of the analyte at an estimated quantity.

The data are unusable (radionuclide may or may not be present).

Undetected; sample result < MDA

Uncertain identification for gamma spectroscopy.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

table Well # 6



Meeting today's needs with a vision for tomorrow. -

## Certificate of Analysis

Company: Brookhaven National Laboratory

Address:

OER

Building 51

Upton, New York 11973--5000

Ms. Susan Young

Contact: Project:

Brookhaven ERD Contract

Client Sample ID: Sample ID:

Matrix: Collect Date:

Receive Date: Collector:

Qualifier

15155-004

64309003 Water

26-JUL-02 09:32

27-JUL-02 08:30

Project: **BRKL02000** Client ID:

BRKL003 COC: Samo Recv.:

Client Desc.: Well 7

Client... RL Units DF AnalystDate Time Batch Method DL

Parameter Rad Gas Flow

GFPC, Sr90, liquid

Strontium-90

U

0.157

Result

+/-0.257

0.555

0.800

pCi/L

AB2 08/06/02 2148 189772

Report Date: August 23, 2002

of

The following Analytical Methods were performed **Analyst Comments** Method Description

EPA 905.0 Modified 1

Notes:

The Qualifiers in this report are defined as follows:

DL Failed required detection limit.

Holding time exceeded

Estimated value; the result was greater than the MDA but less than the required detection limit.

Presumptive evidence of the analyte at an estimated quantity. JN

The data are unusable (radionuclide may or may not be present).

Undetected; sample result < MDA TT

UI Uncertain identification for gamma spectroscopy.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

Potable Weil #7



Meeting today's needs with a vision for tomorrow.

#### Certificate of Analysis

Company: Brookhaven National Laboratory

Address:

OER

Building 51

Upton, New York 11973--5000

Contact:

Ms. Susan Young

Project:

Brookhaven ERD Contract

Client Sample ID:

Sample ID: Matrix:

Collect Date: Receive Date: Collector:

15155-005 64309004 Water

26-JUL-02 12:00 27-JUL-02 08:30

Report Date: August 23, 2002

of

BRKL02000

BRKL003

Client ID:

22072606/15155 22072606/15155 Samp Recv.:

Client Desc.: BD-1

Project:

Analyst Comments

				11211L							
Parameter	Qualifier	Result		DL	RL	Units	DF	AnalystDate	Time	Batch M	1ethod
Rad Gas Flow						•					
GFPC, Sr90, liquid							: .				
Strontium-90	U	0.177	+/-0.248	0.532	0.800	pCi/L		AB2 08/06/03	2 2148 18	9772	1

The following Analytical Methods were performed

Method

Description

EPA 905.0 Modified

Potable Well# (duplicate)

Notes:

The Qualifiers in this report are defined as follows:

- DL Failed required detection limit.
- Holding time exceeded
- Estimated value; the result was greater than the MDA but less than the required detection limit.
- JN Presumptive evidence of the analyte at an estimated quantity.
- The data are unusable (radionuclide may or may not be present).
- Undetected; sample result < MDA TT
- Uncertain identification for gamma spectroscopy.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407