

**BROOKHAVEN**  
NATIONAL LABORATORY

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

January 10, 2008

Ms. Kathleen Newcomer  
Suffolk County Department of Health Services  
Office of Water Resources  
Bureau of Drinking Water  
Suite 1C  
360 Yaphank Avenue  
Yaphank, New York 11980

Dear Ms. Kathleen Newcomer:

**Subject: Monthly Water Treatment Plant Reports**  
**Reference: Suffolk County Minimum Monitoring Requirements for December 2007**

In accordance with the requirements of the BNL Potable Water System Sampling Plan and the 2007 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 Operational Data for December.
- Attachment II: December 2007 Biweekly Water Quality Monitoring Data for the BNL Distribution System and Potable Water Wells.
- Attachment III: December 2007 Stage 1 Disinfectants & Disinfection Byproduct Rule Monitoring Data and Bacteriological Analyses for the BNL Distribution System.
- Attachment IV: 2007 Fourth Quarter Radiological Analyses for the BNL Potable Water Wells.

Collection and analysis of these samples is 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 and Waste Management 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.



Registered to  
ISO 14001

Should there be any questions regarding this report or the analytical or operational data contained herein, please call either J. Higbie at (631) 344-5919, R. Lee at (631) 344-3148, or W. Chaloupka at (631) 344-7136.

Sincerely,



George A. Goode  
Environmental & Waste Management Services  
Division Manager

GAG/JB:car

Attachments: As noted

cc:	L. Ambroszkiewicz, SCDHS	w/attachments
	W. Chaloupka	w/attachments
	J. Granzen	w/attachments
	G. Goode	w/o attachments
	J. Higbie	w/attachments
	R. Lee	w/attachments
	E. Murphy	w/attachments
	P. Ponturo, SCDHS	w/o attachments
	L. Ross	w/o attachments

File: EC61ER.07

**ATTACHMENT I**

**Brookhaven National Laboratory**

**Potable Water Supply**

**Monthly Operational Data for December 2007**

**for the BNL Potable Water System**



Public Water System Name		Reporting Month/Year		Date Report Submitted			Source Water Type(s)				
Brookhaven National Laboratory		12/07		12/31/2007			<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI <input type="checkbox"/> Purchase with subsequent chlorination <input type="checkbox"/> Purchase w/out subsequent chlorination				
Public Water System ID		County		Town, Village, or City							
5111891		Suffolk		Upton, New York 11973							
DATE	Source(s) in Use Well(s) No.:	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings				
			Gaseous		Liquid		Free chlorine residual at entry point (mg/l) (WTF-624)	Hypochlorite used/day (WTF - 624)	pH Lime Softening (WTF-624)	pH (Incoming RAW Water)	Daily Totalizer
Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)									
					130						824,824
1		-									
2		-									
3	7+4+6	1,733	NA	NA	120	0.99	10	7	5.9		826,557
4	7+4+6	692	NA	NA	110	0.61	10	7.1	5.9		827,249
5	7+4+6	603	NA	NA	100	0.99	10	7.4	5.9		827,852
6	7+4+6	538	NA	NA	95+85	1.10	5	7.5	5.9		828,390
7	7+4+6	728	NA	NA	175	1.15	5	7.4	5.8		829,118
8		-									
9		-									
10	7+4+6	1,461	NA	NA	160	1.30	15	7.5	5.9		830,579
11	7+4+6	610	NA	NA	152	1.00	8	7.4	5.7		831,189
12	7+4+6	779	NA	NA	145	1.20	7	7.3	5.8		831,968
13	7+4+6	784	NA	NA	138	0.64	7	7.3	5.9		832,752
14	7+4+6	628	NA	NA	130+40	0.69	8	7.3	5.8		833,380
15		-									
16		-									
17	7+4+6	1,763	NA	NA	155	0.94	15	7.5	6		835,143
18	7+4+6	575	NA	NA	150	0.80	5	7.5	6		835,718
19	7+4+6	621	NA	NA	139	0.84	11	7.4	6		836,339
20	7+4+6	547	NA	NA	132	0.95	7	7.4	6		836,886
21	7+4+6	674	NA	NA	128	0.78	4	7.3	0.6		837,560
22		-									
23		-									
24	7+4+6	1,555	NA	NA	110	0.50	18	7.3	0.17		839,115
25		-									
26	7+4+6	930	NA	NA	100	0.66	10	7.3	0.18		840,045
27	7+4+6	608	NA	NA	90	0.60	10	7.3	0.14		840,653
28	7+4+6	633	NA	NA	80	0.80	10	7.2	0.18		841,286
29		-									
30		-									
31	7+4+6	1,648	NA	NA	70+30=100	0.70	10	7.3	0.06		842,934
<b>Total</b>		18,110	DAYS	31	2184		185	146.7	83.83		
<b>AVG.</b>		584.19			128.4705882	0.86	9.25	7.335	4.1915		

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941  
 Signature: [Signature] Date: 1-7-08 Operator Grade Level: 1A-SW/GUI



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report


Well No. 4 - Supply to Water Treatment Facility

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	12/07	12/31/2007	<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI
Public Water System ID	County	Town, Village, or City	<input type="checkbox"/> Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	<input type="checkbox"/> Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 4	Treated water volume (1,000 gallons/day)	Chlorination				Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	Other Treatments / Readings	Daily Totalizer
			Gaseous		Liquid					
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					150				1,764,853	
1	4	-								
2	4	-								
3	4	195	NA	NA	147	0.27	3		1,765,048	
4	4	211	NA	NA	144	0.14	3		1,765,259	
5	4	141	NA	NA	141	0.14	3		1,765,400	
6	4	90	NA	NA	140	0.20	1		1,765,490	
7	4	73	NA	NA	139	0.10	1		1,765,563	
8		-								
9		-								
10	4	254	NA	NA	138	0.51	1		1,765,817	
11	4	198	NA	NA	135	0.22	3		1,766,015	
12	4	206	NA	NA	130	0.23	5		1,766,221	
13	4	174	NA	NA	130	0.03			1,766,395	
14	4	160	NA	NA	130+20	0.17			1,766,555	
15		-								
16		-								
17	4	1,588	NA	NA	123	0.02	27		1,768,143	
18	4	218	NA	NA	120	0.21	3		1,768,361	
19	4	140	NA	NA	117	0.07	3		1,768,501	
20	4	97	NA	NA	117	0.02			1,768,598	
21	4	482	NA	NA	114+36=150	0.03	3		1,769,080	
22		-								
23		-								
24	4	403	NA	NA	144	0.17	6		1,769,483	
25		-								
26	4	194	NA	NA	141	0.18	3		1,769,677	
27	4	58	NA	NA	140	0.14	1		1,769,735	
28	4	133	NA	NA	138	0.18	2		1,769,868	
29		-								
30		-								
31	4	351	NA	NA	132	0.60	6		1,770,219	
<b>Total</b>		5,366	DAYS	31	2416		74			
<b>AVG.</b>		173.10			134.2222222	0.18	3.7			

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941

Signature:  Date: 1-7-08 Operator Grade Level 1A-SW/GUI



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report

Well No. 6 - Supply to Water Treatment Facility

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	12/07	12/31/2007	<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI
Public Water System ID	County	Town, Village, or City	<input type="checkbox"/> Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	<input type="checkbox"/> Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 6	Treated water volume (1,000 gallons/day)	Chlorination				Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	Other Treatments / Readings	Daily Totalizer
			Gaseous		Liquid					
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					128				695,542	
1	6	-								
2	6	-								
3	6	32	NA	NA	128	0.27			695,574	
4	6	63	NA	NA	128	0.14			695,637	
5	6	15	NA	NA	126	0.14	2		695,652	
6	6	15	NA	NA	126	0.20			695,667	
7	6	-	NA	NA	126	0.01			695,667	
8		-								
9		-								
10	6	-	NA	NA	126	0.51			695,667	
11	6	67	NA	NA	126	0.22			695,734	
12	6	-	NA	NA	129	0.23			695,734	
13	6	-	NA	NA	129	0.03			695,734	
14	6	83	NA	NA	124	0.17			695,817	
15		-								
16		-								
17	6	265	NA	NA	123	0.02	1		696,082	
18	6	82	NA	NA	121	0.21	2		696,164	
19	6	36	NA	NA	120	0.07	1		696,200	
20	6	-	NA	NA	120	0.02			696,200	
21	6	100	NA	NA	120+30=150	0.03			696,300	
22		-								
23		-								
24	6	61	NA	NA	150	0.17			696,361	
25		-								
26	6	62	NA	NA	144	0.18	6		696,423	
27	6	22	NA	NA	144	0.14			696,445	
28	6	35	NA	NA	141	0.18	3		696,480	
29		-								
30		-								
31	6	58	NA	NA	140	6.00	1		696,538	
<b>Total</b>		996	DAYS	31	2471		16			
<b>AVG.</b>		32.13			130.0526316	0.45	2.285714286			

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941

Signature: [Signature] Date: 1-7-08 Operator Grade Level: 1A-SW/GUI



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report

Well No. 7 - Supply to Water Treatment Facility

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	12/07	12/31/2007	<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI
Public Water System ID	County	Town, Village, or City	<input type="checkbox"/> Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	<input type="checkbox"/> Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 7	Treated water volume (1,000 gallons/day)	Chlorination				Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	Other Treatments / Readings	Daily Totalizer
			Gaseous		Liquid	Hypochlorite (gallons Hypochlorite in Tank)				
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)						
					150				2,414,714	
1	7	-								
2	7	-								
3	7	1,821	NA	NA	111	0.27	39		2,416,535	
4	7	616	NA	NA	102	0.14	9		2,417,151	
5	7	761	NA	NA	90	0.14	12		2,417,912	
6	7	560	NA	NA	78	0.20	12		2,418,472	
7	7	742	NA	NA	69+81	0.10	9		2,419,214	
8		-								
9		-								
10	7	1,668	NA	NA	122	0.51	28		2,420,882	
11	7	563	NA	NA	114	0.22	22		2,421,445	
12	7	734	NA	NA	100	0.23	14		2,422,179	
13	7	818	NA	NA	87	0.03	13		2,422,997	
14	7	629	NA	NA	74+76	0.17	13		2,423,626	
15		-								
16		-								
17	7	268	NA	NA	147	0.02	3		2,423,894	
18	7	472	NA	NA	138	0.21	9		2,424,366	
19	7	576	NA	NA	132	0.07	6		2,424,942	
20	7	542	NA	NA	123	0.02	9		2,425,484	
21	7	218	NA	NA	117+33=150	0.03	6		2,425,702	
22		-								
23		-								
24	7	1,523	NA	NA	120	0.17	30		2,427,225	
25		-								
26	7	921	NA	NA	105	0.18	15		2,428,146	
27	7	662	NA	NA	93+57=150	0.14	12		2,428,808	
28	7	544	NA	NA	144	0.18	6		2,429,352	
29		-								
30		-								
31	7	1,594	NA	NA	114	6.00	30		2,430,946	
<b>Total</b>		16,232	DAYS	31	1827		297			
<b>AVG.</b>		523.61			114.1875	0.45	14.85			

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941

Signature: *Lowell Ross* Date: 1-7-08 Operator Grade Level: 1A-SW/GUI



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report

Well No. 10 - Direct Supply to Distribution System

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	12/07	12/31/2007	<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI
Public Water System ID	County	Town, Village, or City	<input type="checkbox"/> Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	<input type="checkbox"/> Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 10	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			Daily Totalizer
			Gaseous		Liquid	Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	pH Sodium Hypochloride		
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
									772,460	
1	10	-								
2	10	-								
3	10	-	NA	NA	NR	NR	NR	NR	772,460	
4	10	-	NA	NA	NR	NR	NR	NR	772,460	
5	10	-	NA	NA	NR	NR	NR	NR	772,460	
6	10	-	NA	NA	NR	NR	NR	NR	772,460	
7	10	-	NA	NA	NR	NR	NR	NR	772,460	
8		-								
9		-								
10	10	-	NA	NA	NR	NR	NR	NR	772,460	
11	10	-	NA	NA	NR	NR	NR	NR	772,460	
12	10	-	NA	NA	NR	NR	NR	NR	772,460	
13	10	-	NA	NA	NR	NR	NR	NR	772,460	
14	10	-	NA	NA	NR	NR	NR	NR	772,460	
15		-								
16		-								
17	10	-	NA	NA	NR	NR	NR	NR	772,460	
18	10	-	NA	NA	NR	NR	NR	NR	772,460	
19	10	-	NA	NA	NR	NR	NR	NR	772,460	
20	10	-	NA	NA	NR	NR	NR	NR	772,460	
21	10	-	NA	NA	NR	NR	NR	NR	772,460	
22		-								
23		-								
24	10	-	NA	NA	NR	NR	NR	NR	772,460	
25		-								
26	10	-	NA	NA	NR	NR	NR	NR	772,460	
27	10	-	NA	NA	NR	NR	NR	NR	772,460	
28	10	-	NA	NA	NR	NR	NR	NR	772,460	
29		-								
30		-								
31	10	-	NA	NA	NR	NR	NR	NR	772,460	
<b>Total</b>		-	<b>DAYS</b>	31						
<b>AVG.</b>		-								

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941  
 Signature: [Signature] Date: 1-7-08 Operator Grade Level: 1A-SW/GUI



NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report


Well No. 11 - Direct Supply to Distribution System

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	12/07	12/31/2007	<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI
Public Water System ID	County	Town, Village, or City	<input type="checkbox"/> Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	<input type="checkbox"/> Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 11	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			Daily Totalizer
			Gaseous		Liquid	Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	pH Sodium Hypochlorite		
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					97				741,339	
1	11	-								
2	11	-								
3	11	-	NA	NA	97	NR	NR	NR	741,339	
4	11	-	NA	NA	97	NR	NR	NR	741,339	
5	11	-	NA	NA	97	NR	NR	NR	741,339	
6	11	-	NA	NA	97	NR	NR	NR	741,339	
7	11	-	NA	NA	97	NR	NR	NR	741,339	
8		-								
9		-								
10	11	-	NA	NA	97	NR	NR	NR	741,339	
11	11	-	NA	NA	97	NR	NR	NR	741,339	
12	11	-	NA	NA	97	NR	NR	NR	741,339	
13	11	-	NA	NA	97	NR	NR	NR	741,339	
14	11	-	NA	NA	97	NR	NR	NR	741,339	
15		-								
16		-								
17	11	-	NA	NA	97	NR	NR	NR	741,339	
18	11	26	NA	NA	97	NR	NR	NR	741,365	
19	11	-	NA	NA	97	NR	NR	NR	741,365	
20	11	-	NA	NA	97	NR	NR	NR	741,365	
21	11	-	NA	NA	97	NR	NR	NR	741,365	
22		-								
23		-								
24	11	-	NA	NA	97	NR	NR	NR	741,365	
25		-								
26	11	-	NA	NA	97	NR	NR	NR	741,365	
27	11	-	NA	NA	97	NR	NR	NR	741,365	
28	11	-	NA	NA	97	NR	NR	NR	741,365	
29		-								
30		-								
31	11	-	NA	NA	87	NR	NR	NR	741,365	
<b>Total</b>		26	DAYS	31	1930					
<b>AVG.</b>		0.84			96.5					

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941

Signature:  Date: 1-7-08 Operator Grade Level 1A-SW/GUI

Public Water System Name		Reporting Month/Year		Date Report Submitted		Source Water Type(s)				
Brookhaven National Laboratory		12/07		12/31/2007		<input type="checkbox"/> Surface <input checked="" type="checkbox"/> Ground <input type="checkbox"/> GWUDI <input type="checkbox"/> Purchase with subsequent chlorination <input type="checkbox"/> Purchase w/out subsequent chlorination				
Public Water System ID		County		Town, Village, or City						
5111891		Suffolk		Upton, New York 11973						
DATE	Source(s) in Use Well No.: 12	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			Daily Totalizer
			Gaseous		Liquid		Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	pH Sodium Hypochloride	
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					135					857,887
1	12	-								
2	12	-								
3	12	-	NA	NA	135	NR	NR	NR		857,887
4	12	-	NA	NA	135	NR	NR	NR		857,887
5	12	-	NA	NA	135	NR	NR	NR		857,887
6	12	-	NA	NA	135	NR	NR	NR		857,887
7	12	-	NA	NA	135	NR	NR	NR		857,887
8		-								
9		-								
10	12	-	NA	NA	135	NR	NR	NR		857,887
11	12	-	NA	NA	135	NR	NR	NR		857,887
12	12	-	NA	NA	135	NR	NR	NR		857,887
13	12	-	NA	NA	135	NR	NR	NR		857,887
14	12	-	NA	NA	135	NR	NR	NR		857,887
15		-								
16		-								
17	12	-	NA	NA	135	NR	NR	NR		857,887
18	12	25	NA	NA	135	NR	NR	NR		857,912
19	12	-	NA	NA	135	NR	NR	NR		857,912
20	12	-	NA	NA	135	NR	NR	NR		857,912
21	12	-	NA	NA	135	NR	NR	NR		857,912
22		-								
23		-								
24	12	7	NA	NA	135	NR	NR	NR		857,919
25		-								
26	12	-	NA	NA	135	NR	NR	NR		857,919
27	12	-	NA	NA	135	NR	NR	NR		857,919
28	12	-	NA	NA	135	NR	NR	NR		857,919
29		-								
30		-								
31	12	-	NA	NA	129	NR	NR	NR		857,919
<b>Total</b>		32	DAYS	31	2694					
<b>AVG.</b>		1.03			134.7					

Chlorine Mix Ratio = \_\_\_\_\_ quarts/gallons of \_\_\_\_\_ % chlorine added to \_\_\_\_\_ gallons of water in crock

Reported by: Lowell Ross Title: Water Systems Supervisor NYS DOH Operator Certification Number: NY0031941

Signature: *Lowell Ross* Date: 1-7-08 Operator Grade Level 1A-SW/GUI



Date	Well 4	Well 6	Well 7	Well10	Well11	Well12	Daily Total
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	195	32	1,821	0	0	0	2,048
4	211	63	616	0	0	0	890
5	141	15	761	0	0	0	917
6	90	15	560	0	0	0	665
7	73	0	742	0	0	0	815
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	254	0	1,668	0	0	0	1,922
11	198	67	563	0	0	0	828
12	206	0	734	0	0	0	940
13	174	0	818	0	0	0	992
14	160	83	629	0	0	0	872
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	1,588	265	268	0	0	0	2,121
18	218	82	472	0	26	25	823
19	140	36	576	0	0	0	752
20	97	0	542	0	0	0	639
21	482	100	218	0	0	0	800
22	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0
24	403	61	1,523	0	0	7	1,994
25	0	0	0	0	0	0	0
26	194	62	921	0	0	0	1,177
27	58	22	662	0	0	0	742
28	133	35	544	0	0	0	712
29	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
31	351	58	1,594	0	0	0	2,003
Total	5,366	996	16,232	0	26	32	22,652

	Totalizer This Month	Totalizer Last Month	Total(x1,000) Gallons
Well 4	1,770,219	1,764,853	5,366
Well 6	696,538	695,542	996
Well 7	2,430,946	2,414,714	16,232
Well 10	772,460	772,460	0
Well 11	741,365	741,339	26
Well 12	857,919	857,887	32

AGS Water Supply Meter	652,959	648,984	3975.00
Biology Building - Well 9	6,793,150	6,793,150	0.00

### Microbiological Samples and Free Chlorine Residual

Sample Location	Date of Sample	Sample Type 1. Routine 2. Repeat	Total Coliform Positive	E. coli Positive	Free Chlorine Residual (mg/l)	Population Served: 3,500
B-49 WATER TOWER 094-273	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.91	Number of microbiological monitoring samples required: <b>4</b>
B-640 WATER TOWER 076-408	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.45	Number of microbiological monitoring samples taken: <b>7</b>
B 1005 RHIC 045-12	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.71	Did an M&R violation occur? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
B 363 APART. LAUNDRY 109-19	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.61	If "Yes," check reason (s) below: Actual number of samples is fewer than required. Did not collect/analyze repeat sample. Did not collect/analyze for E. coli for positive total coliform from routine/repeat sample.
B-725 NSLS 075-602	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.5	Did an MCL violation occur? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
B 490 BLOCK 1 ACF 084-69	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.47	If "Yes," check reason(s) below (see also Part 5, Table 6 for additional information): For systems collecting less than 40 samples per month: two or more of the samples (routine and/or repeat) are positive for total coliform (= total coliform MCL violation).
B490 BLOCK 4 MRC 084-68	12/12/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.89	
FIELD DUP. B-640 076-408	12/7/2007	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0.45	For systems collecting 40 or more samples per month: more than 5% of the samples (routine and/or repeat) are positive for total coliform (= total coliform MCL violation).
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		The original sample was E. coli positive and at least 1 repeat sample was positive for total coliform (= E. coli MCL violation).
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		Reminder: System must collect a minimum of five (5) routine microbiological monitoring samples during the month following a repeat sample collection.
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		As required by S-1.72, "Operation of a Public Water System," a copy of this form shall be sent to your local health department by the 10th calendar day of the next reporting period.
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
			<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

Sample Collector(s): (Name)

Name of NYSDOH Certified Laboratory: H2M Labs 575 Broad Hollow Road; Melville, N.Y. 11747

Did any MCL violation occur? If so, please describe: No

Did an emergency or low pressure problem occur? Did source water bypass an existing treatment process in the system? If so, please explain.

No

Comments:

**ATTACHMENT II**

**Brookhaven National Laboratory**

**Potable Water Supply**

**December 2007 Biweekly Water Quality Monitoring Data  
for the BNL Distribution System and Potable Water Wells**



**Attachment II**  
**Table 1 - Summary of Water Quality Analyses**  
**for the BNL Potable Water System**  
**December 2007**

Sample Location	Sample Date	pH (SU)	Temperature (Degrees F)	Conductivity (µmhos)	Alkalinity (mg/L)	Calcium (mg/L)
WTP	12/4/07	7.1	54	181	ANR	ANR
WTP	12/6/07	7.5	53	199	ANR	ANR
WTP	12/11/07	7.4	55	159	ANR	ANR
WTP	12/13/07	7.3	54	171	ANR	ANR
WTP	12/18/07	7.5	54	159	ANR	ANR
WTP	12/20/07	7.4	53	161	ANR	ANR
WTP	12/27/07	7.3	57	157	ANR	ANR

**ANR-** Analysis Not Required

**NR-** Not Reported

**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**

**December 2007 Stage 1 Disinfectants & Disinfection Byproduct Rule**

**Monitoring Data and Bacteriological Analyses for the BNL Distribution System**

**Attachment III**

**December 2007 Stage 1 Disinfectants & Disinfection Byproduct Rule Monitoring Data  
Table II - Maximum Residual Disinfectant Level (MRDL) Compliance**

Location	Total Residual Chlorine (mg/L)											
	Jan. 07	Feb. 07	Mar. 07	Apr. 07	May 07	June 07	July 07	Aug. 07	Sept. 07	Oct. 07	Nov. 07	Dec. 07
Bldg. 49 Water Tower	0.7	0.7	0.6	0.6	0.9	0.8	0.6	0.8	0.5	1.0	0.6	0.9
Bldg. 640 Water Tower	0.3	0.6	0.6	0.6	0.8	0.5	0.5	0.6	0.7	0.6	0.7	0.5
Bldg. 363 Apt. Laundry	0.3	0.5	0.3	0.5	0.3	0.6	0.4	0.5	0.4	0.4	0.3	0.6
Bldg. 1005 RHIC	0.3	0.7	0.6	0.6	0.9	0.5	0.5	0.5	0.5	0.6	0.5	0.7
Bldg. 930 LINAC	0.3	NS	0.8	NS	1.5	NS	0.4	NS	1.0	NS	1.1	NS
Bldg. 725 NSLS	NS	0.8	NS	0.8	NS	0.8	NS	0.9	NS	0.7	NS	0.5
Bldg. 490 Outpatient Clinic	0.5	NS	0.7	NS	0.5	NS	0.9	NS	0.7	NS	0.8	NS
Bldg. 490 Block 11	0.4	NS	0.3	NS	0.5	NS	0.6	NS	0.4	NS	0.5	NS
Bldg. 490 Block 1 ACF	NS	0.4	NS	0.5	NS	0.6	NS	1.1	NS	0.9	NS	0.5
Bldg. 490 Block 4 MRC	NS	0.6	NS	0.5	NS	0.7	NS	0.6	NS	1.1	NS	0.9
<b>Monthly Average</b>	0.4	0.6	0.6	0.6	0.8	0.6	0.6	0.7	0.6	0.8	0.6	0.7

NA - Not Applicable

NS- Not Scheduled for sampling

**Running Annual Average (mg/L)    0.6    (Total Residual Chlorine)**  
**MRDL (mg/L)                    4.0**

# H2M LABS, INC.

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

## LABORATORY RESULTS

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM  
70 Bell Ave.

Lab No. : 0713890-001

Upton, NY 11973

Attn To : Bob Lee

Client ID. : 23392-001

Federal ID : 5111891

Collected : 12/7/2007 10:15:00 AM Point No: 094-273

Received : 12/7/2007 3:20:00 PM Location: B-49 Water Tower

Collected By CLIENT

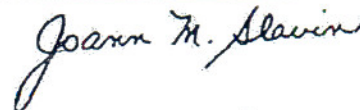
Copy : ORIGINAL

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<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Limit</u>	<u>Method Number</u>	<u>Analyzed</u>
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.9		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A16



# H2M LABS, INC.

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

## LABORATORY RESULTS

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM  
70 Bell Ave.  
Upton, NY 11973  
Attn To : Bob Lee

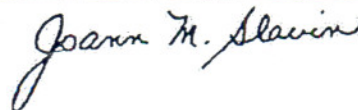
Lab No. : 0713890-002

Federal ID : 5111891 Client ID. : 23392-002  
Collected : 12/7/2007 9:25:00 AM Point No: 076-408  
Received : 12/7/2007 3:20:00 PM Location: B-640 Water Tower  
Collected By CLIENT  
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Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A17

# H2M LABS, INC.

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

## LABORATORY RESULTS

Lab No. : 0713890-004

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM  
70 Bell Ave.

Upton, NY 11973

Attn To : Bob Lee

Federal ID : 5111891

Client ID. : 23392-004

Collected : 12/7/2007 8:50:00 AM Point No: 109-19

Received : 12/7/2007 3:20:00 PM Location: B-363 Apt.Laundry

Collected By CLIENT

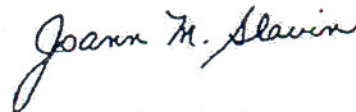
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<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Limit</u>	<u>Method Number</u>	<u>Analyzed</u>
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.6		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A19



# H2M LABS, INC.

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

## LABORATORY RESULTS

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM

70 Bell Ave.

Upton, NY 11973

Attn To : Bob Lee

Lab No. : 0713890-003

Client ID. : 23392-003

Federal ID : 5111891

Collected : 12/7/2007 9:10:00 AM Point No: 045-12

Received : 12/7/2007 3:20:00 PM Location: B-1005 RHIC

Collected By CLIENT

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Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.7		1	mg/L		M4500-CI G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007

*Joann M. Slavin*

Laboratory Manager

BNLM200 A18

# H2M LABS, INC.

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

## LABORATORY RESULTS

Lab No. : 0713890-005

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM  
70 Bell Ave.

Upton, NY 11973

Attn To : Bob Lee

Client ID. : 23392-005

Federal ID : 5111891

Collected : 12/7/2007 10:25:00 AM Point No: 075-602

Received : 12/7/2007 3:20:00 PM Location: B-725 NSLS

Collected By CLIENT

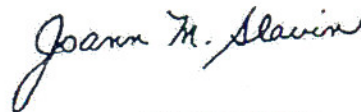
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<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Limit</u>	<u>Method Number</u>	<u>Analyzed</u>
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A20

# H2M LABS, INC.

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

Brookhaven National Lab.-BNLM  
70 Bell Ave.  
Upton, NY 11973  
Attn To : Bob Lee

## LABORATORY RESULTS

Lab No. : 0713890-006

### Sample Information...

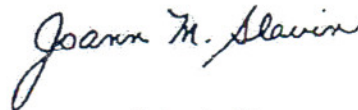
Type : Potable Water  
Origin: Distribution

Federal ID : 5111891 Client ID. : 23392-006  
Collected : 12/7/2007 11:00:00 AM Point No: 084-69  
Received : 12/7/2007 3:20:00 PM Location: B-490 Block 1 ACF  
Collected By CLIENT  
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<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Limit</u>	<u>Method Number</u>	<u>Analyzed</u>
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A21



# H2M LABS, INC.

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

Brookhaven National Lab.-BNLM  
70 Bell Ave.  
Upton, NY 11973  
Attn To : Bob Lee

Federal ID : 5111891  
Collected : 12/12/2007 8:47:00 AM Point No : 084-68  
Received : 12/12/2007 3:41:00 PM Location : B-490 Block 4 MRC  
Collected By : CLIENT  
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## LABORATORY RESULTS

Lab No. : 0714116-001A

Client ID. : 23209-001

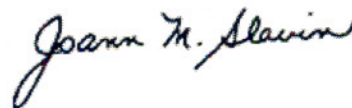
### Sample Information

Type : Potable Water  
Origin : Distribution  
Routine

<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Limit</u>	<u>Method Number</u>	<u>Analyzed</u>
Total Coliform	Negative		1	N/A	Negative	M9223	12/12/2007 4:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/12/2007 4:00 PM
Total Residual Chlorine	0.9		1	mg/L		M4500-Cl G	12/12/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

# H2M LABS, INC.

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

## LABORATORY RESULTS

### Sample Information...

Type : Potable Water  
Origin: Distribution

Brookhaven National Lab.-BNLM  
70 Bell Ave.

Lab No. : 0713890-008

Upton, NY 11973

Attn To : Bob Lee

Federal ID : 5111891

Client ID. : 23392-008

Collected : 12/7/2007 9:25:00 AM Point No: 076-408

Received : 12/7/2007 3:20:00 PM Location: B-640 Water Tower

Collected By CLIENT

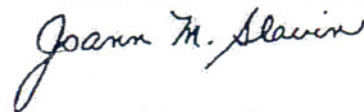
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Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	12/08/2007 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	12/08/2007 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	12/07/2007

Result(s) reported meet(s) Regulatory Limit(s).  
Result(s) flagged with \* Exceed Regulatory Limit(s). Limit noted.  
D.F. = Dilution Factor

Date Reported : 12/18/2007



Laboratory Manager

BNLM200 A22

**ATTACHMENT IV**  
**Brookhaven National Laboratory**  
**Potable Water Supply**  
**2007 Fourth Quarter Radiological Analyses**  
**for the BNL Potable Water Wells**



## ATTACHMENT IV

**Table 3**  
**Summary of 2007 Fourth Quarter Radiological Analyses for the**  
**BNL Potable Water Wells**

<b>Well ID</b>	<b>Sample Date</b>	<b>Gross Alpha (pCi/L)</b>	<b>Gross Beta (pCi/L)</b>	<b>Tritium (pCi/L)</b>	<b>Sr-90 (pCi/L)</b>
Well #4	10/30/07	< 1.43	< 1.39	< 255	< 0.30
Well # 6	10/30/07	1.97	< 1.54	< 256	< 0.75
Well # 7	10/30/07	< 1.97	2.27	< 256	< 0.75
Well #11	10/30/07	2.37	2.78	345	< 0.75
Well #12	10/30/07	< 1.52	< 1.41	< 207	< 0.75
Well # 12 (Duplicate)	10/30/07	2.63	< 2.76	< 257	< 0.31

NA – Not Analyzed

NS – Not Sampled/Shutdown

\* - The reported concentration is estimated at less than the method detection limit but greater than the instrument detection limit.

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
 Upton, New York 11973--5000

Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID: 24920-006	Project: BRKL00501
Sample ID: 196806006	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 13:50	Samp Recv.: Client Desc.: Well 4
Receive Date: 01-NOV-07 09:00	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>GammaSpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	10.6	+/-9.15	14.2	25.0	pCi/L		MJH1 11/14/07	1508	699064	1
Beryllium-7	U	-4.98	+/-9.65	16.1	60.0	pCi/L					
Cesium-134	U	1.13	+/-1.19	1.90	5.00	pCi/L					
Cesium-137	DL	0.452	+/-1.01	1.73	1.00	pCi/L					
Cobalt-57	U	0.172	+/-1.00	1.64	5.00	pCi/L					
Cobalt-60	U	-0.163	+/-1.09	1.78	22.0	pCi/L					
Europium-152	U	-1.63	+/-3.16	4.91	84.0	pCi/L					
Europium-154	U	-0.393	+/-2.78	4.58	57.0	pCi/L					
Europium-155	U	3.52	+/-4.28	7.13	359	pCi/L					
Manganese-54	U	-0.215	+/-0.984	1.60	6.00	pCi/L					
Sodium-22	U	-0.0894	+/-0.998	1.65	7.00	pCi/L					
Zinc-65	U	-1.17	+/-2.59	3.69	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha	U	0.582	+/-0.821	1.43	2.00	pCi/L		DXB5 11/05/07	2052	698651	2
Beta	U	1.05	+/-0.870	1.39	4.00	pCi/L					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	-0.102	+/-0.164	0.297	0.800	pCi/L		KSD1 11/07/07	2003	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium	U	67.6	+/-149	255	300	pCi/L		AXD2 11/07/07	2246	699606	4

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
 Upton, New York 11973--5000

Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID: 24920-003	Project: BRKL00501
Sample ID: 196806003	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 13:45	Samp Recv.: Client Desc.: Well 6
Receive Date: 01-NOV-07 09:00	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>Gammascpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	5.22	+/-4.95	7.68	25.0	pCi/L		MJH1 11/13/07	1552	699064	1
Beryllium-7	U	-3.93	+/-8.08	13.5	60.0	pCi/L					
Cesium-134	U	-0.283	+/-1.06	1.57	5.00	pCi/L					
Cesium-137	DL	-0.305	+/-0.908	1.50	1.00	pCi/L					
Cobalt-57	U	0.452	+/-0.629	1.29	5.00	pCi/L					
Cobalt-60	U	-0.207	+/-0.914	1.52	22.0	pCi/L					
Europium-152	U	-1.15	+/-2.55	4.33	84.0	pCi/L					
Europium-154	U	1.58	+/-2.58	4.55	57.0	pCi/L					
Europium-155	U	-1.15	+/-3.20	5.36	359	pCi/L					
Manganese-54	U	0.108	+/-0.889	1.48	6.00	pCi/L					
Sodium-22	U	0.504	+/-0.919	1.61	7.00	pCi/L					
Zinc-65	U	0.0519	+/-2.16	3.18	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha	J	1.97	+/-1.24	1.69	2.00	pCi/L		DXB5 11/05/07	1748	698651	2
Beta	U	1.26	+/-0.979	1.54	4.00	pCi/L					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	-0.0107	+/-0.383	0.747	0.800	pCi/L		KSD1 11/07/07	1658	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium	U	164	+/-153	256	300	pCi/L		AXD2 11/07/07	1927	699606	4

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery %	Acceptable Limits



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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
 Upton, New York 11973--5000

Contact: Mr. John Burke

Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID: 24920-004	Project: BRKL00501
Sample ID: 196806004	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 13:40	Samp Recv.: Client Desc.: Well 7
Receive Date: 01-NOV-07 09:00	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>GammaSpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	1.54	+/-3.85	5.73	25.0	pCi/L		MJH1 11/14/07	1501	699064	1
Beryllium-7	U	1.32	+/-7.33	12.5	60.0	pCi/L					
Cesium-134	U	0.912	+/-0.848	1.48	5.00	pCi/L					
Cesium-137	DL	0.934	+/-2.04	1.26	1.00	pCi/L					
Cobalt-57	U	-0.0306	+/-0.625	1.07	5.00	pCi/L					
Cobalt-60	U	0.490	+/-0.820	1.42	22.0	pCi/L					
Europium-152	U	-0.0775	+/-2.25	3.89	84.0	pCi/L					
Europium-154	U	-0.501	+/-2.21	3.61	57.0	pCi/L					
Europium-155	U	-0.633	+/-2.65	4.55	359	pCi/L					
Manganese-54	U	-0.722	+/-0.744	1.21	6.00	pCi/L					
Sodium-22	U	-0.173	+/-0.793	1.29	7.00	pCi/L					
Zinc-65	U	0.392	+/-1.90	2.82	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha	U	1.12	+/-1.21	1.97	2.00	pCi/L		DXB5 11/05/07	1748	698651	2
Beta	J	2.27	+/-1.21	1.83	4.00	pCi/L					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	-0.245	+/-0.340	0.753	0.800	pCi/L		KSD1 11/07/07	1658	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium	U	83.0	+/-150	256	300	pCi/L		AXD2 11/07/07	2033	699606	4

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery %	Acceptable Limits

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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
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Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID: 24920-002	Project: BRKL00501
Sample ID: 196806002	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 14:00	Samp Recv.:
Receive Date: 01-NOV-07 09:00	Client Desc.: Well 11
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>Gammascpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	1.47	+/-3.60	5.55	25.0	pCi/L		MJH1 11/13/07	1809	699064	1
Beryllium-7	U	0.609	+/-8.64	14.2	60.0	pCi/L					
Cesium-134	U	-0.144	+/-1.01	1.68	5.00	pCi/L					
Cesium-137	DL	0.384	+/-0.907	1.57	1.00	pCi/L					
Cobalt-57	U	0.265	+/-0.784	1.31	5.00	pCi/L					
Cobalt-60	U	-0.563	+/-0.942	1.52	22.0	pCi/L					
Europium-152	U	-1.33	+/-2.81	4.47	84.0	pCi/L					
Europium-154	U	0.545	+/-2.66	4.57	57.0	pCi/L					
Europium-155	U	3.20	+/-3.16	5.37	359	pCi/L					
Manganese-54	U	0.125	+/-0.906	1.53	6.00	pCi/L					
Sodium-22	U	0.170	+/-0.952	1.63	7.00	pCi/L					
Zinc-65	U	-0.259	+/-2.24	3.26	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha		2.37	+/-1.23	1.35	2.00	pCi/L		DXB5 11/05/07	1748	698651	2
Beta	J	2.78	+/-1.07	1.43	4.00	pCi/L					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	0.541	+/-0.461	0.745	0.800	pCi/L		KSD1 11/07/07	1658	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium		345	+/-161	256	300	pCi/L		AXD2 11/07/07	1820	699606	4

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery %	Acceptable Limits

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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
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Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID: 24920-001	Project: BRKL00501
Sample ID: 196806001	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 14:08	Samp Recv.:
Receive Date: 01-NOV-07 09:00	Client Desc.: Well 12
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>Gammascpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	-3.04	+/-6.32	10.8	25.0	pCi/L		MJH1 11/13/07	1510	699064	1
Beryllium-7	U	3.71	+/-8.31	14.0	60.0	pCi/L					
Cesium-134	U	-0.162	+/-1.01	1.67	5.00	pCi/L					
Cesium-137	DL	1.43	+/-1.91	1.66	1.00	pCi/L					
Cobalt-57	U	0.219	+/-0.830	1.40	5.00	pCi/L					
Cobalt-60	U	0.615	+/-0.968	1.70	22.0	pCi/L					
Europium-152	U	1.31	+/-2.65	4.56	84.0	pCi/L					
Europium-154	U	2.21	+/-2.79	4.51	57.0	pCi/L					
Europium-155	U	0.765	+/-3.55	6.04	359	pCi/L					
Manganese-54	U	-0.348	+/-0.928	1.51	6.00	pCi/L					
Sodium-22	U	0.790	+/-0.996	1.59	7.00	pCi/L					
Zinc-65	U	-1.75	+/-1.92	3.06	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha	U	1.30	+/-1.06	1.52	2.00	pCi/L		DXB5 11/05/07	1748	698651	2
Beta	U	1.38	+/-0.918	1.41	4.00	pCi/L					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	-0.0817	+/-0.425	0.754	0.800	pCi/L		KSD1 11/07/07	1658	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium		<del>700</del>	<del>+/-267</del>	<del>423</del>	<del>300</del>	<del>pCi/L</del>		<i>See revised analysis</i> AXD2 11/08/07	1936	699606	4

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery %	Acceptable Limits



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## Certificate of Analysis

Company : Brookhaven National Laboratory  
Address : Building 51  
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Contact: Mr. John Burke  
Project: **Hazardous & Radiochemical Analytical  
Services--Summary**

Report Date: November 27, 2007

Client Sample ID: 24920-001  
Sample ID: 197992001  
Matrix: Water  
Collect Date: 30-OCT-07 14:08  
Receive Date: 01-NOV-07 09:00  
Collector: Client

Project: BRKL00501  
Client ID: BRKL005  
COC: 24920  
Samp Recv.:  
Client Desc.: Well 12

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium	U	150	+/-129	207	300	pCi/L		MXPI 11/20/07 2128	704133	1	

### The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 906.0 Modified	

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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
 Upton, New York 11973--5000

Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 26, 2007

Client Sample ID:	24920-005	Project:	BRKL00501
Sample ID:	196806005	Client ID:	BRKL005
Matrix:	Water	COC:	24920
Collect Date:	30-OCT-07 00:00	Samp Recv.:	
Receive Date:	01-NOV-07 09:00	Client Desc.:	BD-1
Collector:	Client		

Well #12 Duplicate

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
<b>Rad Gamma Spec Analysis</b>											
<i>GammaSpec, Gamma, Liquid (Long List)</i>											
Americium-241	U	11.0	+/-8.42	11.7	25.0	pCi/L		MJH1 11/14/07	1508	699064	1
Beryllium-7	U	-1.3	+/-11.1	18.1	60.0	pCi/L					
Cesium-134	U	0.140	+/-1.19	2.02	5.00	pCi/L					
Cesium-137	DL	1.40	+/-1.38	1.80	1.00	pCi/L					
Cobalt-57	U	-0.0531	+/-1.09	1.87	5.00	pCi/L					
Cobalt-60	U	-0.09	+/-1.15	1.95	22.0	pCi/L					
Europium-152	U	-0.87	+/-4.66	5.77	84.0	pCi/L					
Europium-154	U	-2.1	+/-3.12	5.09	57.0	pCi/L					
Europium-155	U	-2.81	+/-4.48	7.60	359	pCi/L					
Manganese-54	U	-0.176	+/-1.12	1.87	6.00	pCi/L					
Sodium-22	U	-0.758	+/-1.12	1.82	7.00	pCi/L					
Zinc-65	U	0.562	+/-2.69	3.89	15.0	pCi/L					
<b>Rad Gas Flow Proportional Counting</b>											
<i>GFPC, Gross A/B, liquid</i>											
Alpha		<del>5.22</del>	<del>+/- 1.89</del>	<del>1.74</del>	<del>2.00</del>	<del>pCi/L</del>					
Beta	<del>J</del>	<del>3.55</del>	<del>+/-1.14</del>	<del>1.40</del>	<del>4.00</del>	<del>pCi/L</del>					
<i>GFPC, Sr90, liquid</i>											
Strontium-90	U	0.0251	+/-0.176	0.306	0.800	pCi/L		KSD1 11/07/07	2003	699044	3
<b>Rad Liquid Scintillation Analysis</b>											
<i>LSC, Tritium Dist, Liquid</i>											
Tritium	U	32.9	+/-149	257	300	pCi/L		AXD2 11/07/07	2140	699606	4

See revised analysis

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

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## Certificate of Analysis

Company : Brookhaven National Laboratory  
 Address : Building 51  
 Upton, New York 11973--5000

Contact: Mr. John Burke  
 Project: **Hazardous & Radiochemical Analytical Services--Summary**

Report Date: November 27, 2007

Client Sample ID: 24920-005	Project: BRKL00501
Sample ID: 197992002	Client ID: BRKL005
Matrix: Water	COC: 24920
Collect Date: 30-OCT-07 00:00	Samp Recv.: BD-1
Receive Date: 01-NOV-07 09:00	Client Desc.: BD-1
Collector: Client	

*Well 12 Duplicate*

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Rad Gas Flow Proportional Counting</b>												
<i>GFPC, Gross A/B, liquid</i>												
Alpha		2.63	+/-1.71	2.04	2.00	pCi/L		HAK	11/21/07	1636	704130	1
Beta	U	2.32	+/-1.75	2.76	4.00	pCi/L		B				
<b>Rad Liquid Scintillation Analysis</b>												
<i>LSC, Tritium Dist, Liquid</i>												
Tritium	U	56.9	+/-116	206	300	pCi/L		MXP1	11/20/07	2201	704133	2

**The following Analytical Methods were performed**

Method	Description	Analyst Comments
1	EPA 900.0	
2	EPA 906.0 Modified	