Environmental and Waste Management Services

120 E. Fifth Ave., Bldg. 860
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Upton, NY 11973-5000
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Managed by Brookhaven Science Associates
for the U.S. Department of Energy

BROOKHAVEN
NATIONAL LABORATORY

September 11, 2006

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 August 2006

In accordance with the requirements of the BNL Potable Water System Sampling Plan and the 2006 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 August.
Attachment II:	August 2006 Biweekly Water Quality Monitoring Data for the BNL Distribution System and Potable Water Wells.
Attachment III:	August 2006 Stage 1 Disinfectants & Disinfection Byproduct Rule Monitoring Data and Bacteriological Analyses for the BNL Distribution System.
Attachment IV:	Third 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.

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
	J. Tarpinian	w/o attachments

File: EC61ER.06

ATTACHMENT I

Brookhaven National Laboratory

Potable Water Supply

Monthly Operational Data for August 2006

for the BNL Potable Water System

NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report

Water Treatment Facility - Microbiological Sample Results

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	County	Town, Village, or City	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

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 RAW Water)	Daily Totalizer
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					50					463,949
1	6+7	1,268	NA	NA	40+160	0.67	10	7.5	6.0	465,217
2	6+7	1,071	NA	NA	190	1.00	10	7.5	6.0	466,288
3	6+7	1,203	NA	NA	180+20=200	0.75	10	7.5	6.0	467,491
4	6+7	1,057	NA	NA	190	0.82	10	7.5	6.0	468,548
5		-								
6		-								
7	6+7	3,848	NA	NA	153	0.90	37	7.6	6.0	472,396
8	6+7	1,337	NA	NA	140	0.75	13	7.5	6.0	473,733
9	6+7	1,262	NA	NA	128	0.82	12	7.7	6.1	474,995
10	6+7	1,199	NA	NA	115	0.81	13	7.5	6.0	476,194
11	6+7	1,134	NA	NA	105	0.65	10	7.5	6.0	477,328
12		-								
13		-								
14	6+7	3,113	NA	NA	70	0.60	35	7.1	5.9	480,441
15	6+7	1,168	NA	NA	55	0.87	15	7.5	6.0	481,609
16	OFF	1,143	NA	NA	40	0.77	15	7.5	OFF LINE	482,752
17	OFF	1	NA	NA	40	0.63	0	6.5	OFF LINE	482,753
18		-	NA	NA	40	0.62	0	6.5	OFF LINE	482,753
19		-								
20		-								
21		-	NA	NA	40	0.61	0	6.5	NR	482,753
22	OFF	33	NA	NA	40	0.44	0	9.5	NR	482,786
23	OFF	9	NA	NA	40	0.44	0	6.4	NR	482,795
24	OFF	-	NA	NA	40	0.52	0	6.3	NR	482,795
25	OFF	-	NA	NA	40	0.44	0	7.6	NR	482,795
26		-								
27		-								
28	OFF	-	NA	NA	40+120	0.79	0	7.1	NR	482,795
29	OFF	-	NA	NA	160	0.35	0	6.8	NR	482,795
30	OFF	-	NA	NA	160	0.91	0	7.1	NR	482,795
31	OFF	-	NA	NA	160	0.85	0	7.0	NR	482,795
Total		18,846	DAY	31						
AVG.		607.94				0.6961				

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: Lo Ross Date: 9-6-06 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	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	County	Town, Village, or City	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 4	Treated water volume (1,000 gallons/day)	Chlorination: Gaseous: Cylinder weight (lbs.)	Chlorination: Gaseous: Chlorine used per day (lbs.)	Chlorination: Liquid: Hypochlorite (gallons Hypochlorite in Tank)	Free chlorine residual at entry point (mg/l) (WTF-Raw)	Other Treatments / Readings: Hypochlorite used/day			Daily Totalizer
					0					1,648,622
1	4		NA	NA	0	NR	NR			1,648,622
2	4	-	NA	NA	0	NR	NR			1,648,622
3	4	-	NA	NA	0	NR	NR			1,648,622
4	4	-	NA	NA	0	NR	NR			1,648,622
5		-								
6		-								
7	4	-	NA	NA	0	NR	NR			1,648,622
8	4	-	NA	NA	0	NR	NR			1,648,622
9	4	-	NA	NA	0	NR	NR			1,648,622
10	4	-	NA	NA	0	NR	NR			1,648,622
11	4	-	NA	NA	0	NR	NR			1,648,622
12		-								
13		-								
14	4	-	NA	NA	0	NR	NR			1,648,622
15	4	-	NA	NA	0	NR	NR			1,648,622
16	4	-	NA	NA	0	NR	NR			1,648,622
17	4	-	NA	NA	0	NR	NR			1,648,622
18	4	-	NA	NA	0	NR	NR			1,648,622
19		-								
20		-								
21	4	-	NA	NA	0	NR	NR			1,648,622
22	4	-	NA	NA	0	NR	NR			1,648,622
23	4	-	NA	NA	0	NR	NR			1,648,622
24	4	-	NA	NA	0	NR	NR			1,648,622
25	4	-	NA	NA	0	NR	NR			1,648,622
26		-								
27		-								
28	4	-	NA	NA	0	NR	NR			1,648,622
29	4	-	NA	NA	0	NR	NR			1,648,622
30	4	-	NA	NA	0	NR	NR			1,648,622
31	4	-	NA	NA	0	NR	NR			1,648,622
Total		-	Days	31						
AVG.										

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: 9-6-06 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	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	**County**	**Town, Village, or City**	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 6	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			
			Gaseous		Liquid	Free chlorine residual at entry point (mg/l) (WTF-Raw)	Hypochlorite used/day			Daily Totalizer
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)					
					126					654,929
1	6	-	NA	NA	123	0.04	3			654,929
2	6	2	NA	NA	123+27=150	0.04	NR			654,931
3	6	1	NA	NA	144	0.03	6			654,932
4	6	1								654,933
5		-								
6		-								
7	6	4	NA	NA	129	0.02	15			654,937
8	6	2	NA	NA	120+30	0.02	9			654,939
9	6	1	NA	NA	147	0.21	3			654,940
10	6	1	NA	NA	147	0.02	NR			654,941
11	6	-	NA	NA	147	0.12	NR			654,941
12		-								
13		-								
14	6	6	NA	NA	123	0.05	24			654,947
15	6	1	NA	NA	120	0.04	3			654,948
16	6	-	NA	NA	120	OFF				654,948
17	6	-	NA	NA	120	OFF				654,948
18	6	-	NA	NA	120	OFF				654,948
19		-								
20		-								
21	6	-	NA	NA	120	OFF				654,948
22	6	-	NA	NA	120	OFF				654,948
23	6	-	NA	NA	120	OFF				654,948
24	6	-	NA	NA	120	OFF				654,948
25	6	-	NA	NA	120	OFF				654,948
26		-								
27		-								
28	6	-	NA	NA	120	OFF				654,948
29	6	-	NA	NA	120	OFF				654,948
30	6		NA	NA	120	OFF				654,948
31	6		NA	NA	120	OFF				654,948
Total		19	Days	31			63			
AVG.		0.61				0.0587	2.0322581			

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: 9-6-06 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	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	County	Town, Village, or City	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 7	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			
			Gaseous		Liquid					
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)	Free chlorine residual at entry point (mg/l) (WTF-Raw)	Hypochlorite used/day			Daily Totalizer
					102					2,081,042
1	7	1,388	NA	NA	87	0.04	15			2,082,430
2	7	1,147	NA	NA	72+78=150	0.04	15			2,083,577
3	7	1,260	NA	NA	138	0.03	12			2,084,837
4	7	1,109	NA	NA	120	0.02	18			2,085,946
5		-								
6		-								
7	7	4,247	NA	NA	96	0.02	24			2,090,193
8	7	1,513	NA	NA	78	0.02	18			2,091,706
9	7	1,413	NA	NA	93+57	0.21	21			2,093,119
10	7	1,326	NA	NA	138	0.02	12			2,094,445
11	7	1,265	NA	NA	117	0.01	21			2,095,710
12		-								
13		-								
14	7	2,998	NA	NA	80	0.05	37			2,098,708
15	7	1,295	NA	NA	63	0.04	17			2,100,003
16	7	1,225	NA	NA	40	OFF	23			2,101,228
17	7	-	NA	NA	40	OFF				2,101,228
18	7	-	NA	NA	40	OFF				2,101,228
19		-								
20		-								
21	7	-	NA	NA	40	OFF				2,101,228
22	7	-	NA	NA	40	OFF				2,101,228
23	7	-	NA	NA	40	OFF				2,101,228
24	7	-	NA	NA	40	OFF				2,101,228
25	7	-	NA	NA	40	OFF				2,101,228
26		-								
27		-								
28	7	-	NA	NA	40+90	OFF				2,101,228
29	7	-	NA	NA	130	OFF				2,101,228
30	7	-	NA	NA	130	OFF				2,101,228
31	7	-	NA	NA	130	OFF				2,101,228
Total		20,186	Days	31			233			
AVG.		651.16				0.0446	7.516129			

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: 9-6-06 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	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	County	Town, Village, or City	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 10	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			
			Gaseous		Liquid					
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)	Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	pH Sodium Hydroxide		Daily Totalizer
					0					772,457
1	10		NA	NA	0	NR	NR	NR		772,457
2	10	-	NA	NA	0	NR	NR	NR		772,457
3	10	-	NA	NA	0	NR	NR	NR		772,457
4	10	-	NA	NA	0	NR	NR	NR		772,457
5		-								
6		-								
7	10	-	NA	NA	0	NR	NR	NR		772,457
8	10	-	NA	NA	0	NR	NR	NR		772,457
9	10	-	NA	NA	0	NR	NR	NR		772,457
10	10	-	NA	NA	0	NR	NR	NR		772,457
11	10	-	NA	NA	0	NR	NR	NR		772,457
12		-								
13		-								
14	10	-	NA	NA	0	NR	NR	NR		772,457
15	10	-	NA	NA	0	NR	NR	NR		772,457
16	10	-	NA	NA	0	NR	NR	NR		772,457
17	10	-	NA	NA	0	NR	NR	NR		772,457
18	10	-	NA	NA	0	NR	NR	NR		772,457
19		-								
20		-								
21	10	3	NA	NA	0	NR	NR	NR		772,460
22	10	-	NA	NA	0	NR	NR	NR		772,460
23	10	-	NA	NA	0	NR	NR	NR		772,460
24	10	-	NA	NA	0	NR	NR	NR		772,460
25	10	-	NA	NA	0	NR	NR	NR		772,460
26		-								
27		-								
28	10	-	NA	NA	0	NR	NR	NR		772,460
29	10	-	NA	NA	0	NR	NR	NR		772,460
30	10	-	NA	NA	0	NR	NR	NR		772,460
31	10	-	NA	NA	0	NR	NR	NR		772,460
Total		3	Days	31						
AVG.		0.10								

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: 9-6-06 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	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	County	Town, Village, or City	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 11	Treated water volume (1,000 gallons/day)	Chlorination: Gaseous: Cylinder weight (lbs.)	Chlorination: Gaseous: Chlorine used per day (lbs.)	Chlorination: Liquid: Hypochlorite (gallons Hypochlorite in Tank)	Free chlorine residual at entry point (mg/l)	Other Treatments / Readings: Hypochlorite used/day	Other Treatments / Readings: pH Sodium Hydroxide		Daily Totalizer
					39					723,057
1	11	-	NA	NA	39	NR	NR	NR		723,057
2	11	-	NA	NA	39	NR	NR	NR		723,057
3	11	65	NA	NA	45	NR	NR	NR		723,122
4		113								723,235
5		-								
6		-								
7	11	196	NA	NA	30	NR	15	NR		723,431
8	11	5	NA	NA	30	NR	NR	NR		723,436
9	11	8	NA	NA	30	NR	NR	NR		723,444
10	11	-	NA	NA	30	NR	NR	NR		723,444
11	11		NA	NA	30	NR	NR	NR		723,444
12		-								
13		-								
14	11	25	NA	NA	30	NR	NR	NR		723,469
15	11	2	NA	NA	30+111	NR	NR	NR		723,471
16	11	-	NA	NA	141	NR	NR	NR		723,471
17	11	1	NA	NA	141	NR	NR	NR		723,472
18	11	3	NA	NA	138	NR	3	NR		723,475
19		-								
20		-								
21	11	30	NA	NA	138	NR		NR		723,505
22	11	1,256	NA	NA	108	0.44	30	9.5		724,761
23	11	110	NA	NA	105	0.44	3	6.4		724,871
24	11	176	NA	NA	102	0.53	3	9.4		725,047
25	11	1,341	NA	NA	75	0.96	27	7.6		726,388
26		-								
27		-								
28	11	3,467	NA	NA	0+84		75	NR		729,855
29	11	22	NA	NA	84	0.25		NR		729,877
30	11	1,099	NA	NA	69	0.73	15	NR		730,976
31	11	1,122	NA	NA	54	0.80	15	NR		732,098
Total		9,041	Days	31			186			
AVG.		291.65				0.51875	6			

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: 9-6-06 Operator Grade Level 1A-SW/GUI

NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Water Systems Operation Report

Well No. 12 - Direct Supply to Distribution System

Public Water System Name	Reporting Month/Year	Date Report Submitted	Source Water Type(s)
Brookhaven National Laboratory	08/2006	8/31/2006	☐ Surface ☑ Ground ☐ GWUDI
Public Water System ID	**County**	**Town, Village, or City**	☐ Purchase with subsequent chlorination
5111891	Suffolk	Upton, New York 11973	☐ Purchase w/out subsequent chlorination

DATE	Source(s) in Use Well No.: 12	Treated water volume (1,000 gallons/day)	Chlorination				Other Treatments / Readings			
			Gaseous		Liquid					
			Cylinder weight (lbs.)	Chlorine used per day (lbs.)	Hypochlorite (gallons Hypochlorite in Tank)	Free chlorine residual at entry point (mg/l)	Hypochlorite used/day	pH Sodium Hydroxide		Daily Totalizer
					69					811,065
1	12	-	NA	NA	69	NR	NR	NR		811,065
2	12	242	NA	NA	63+18=81	NR	6	NR		811,307
3	12	281	NA	NA	78	NR	5	NR		811,588
4		519								812,107
5		-								
6	12	-	NA	NA	78	NR	NR	NR		812,107
7	12	-	NA	NA	78	NR	NR	NR		812,107
8	12	-	NA	NA	78	NR	NR	NR		812,107
9	12	-	NA	NA	78+36	NR	NR	NR		812,107
10	12	-	NA	NA	114	NR	NR	NR		812,107
11		-								
12		-								
13	12	-	NA	NA	114	NR	NR	NR		812,107
14	12	-	NA	NA	114+36	NR	NR	NR		812,107
15	12	44	NA	NA	150	NR		NR		812,151
16	12	1,283	NA	NA	125	0.86	25	6.5		813,434
17	12	1,034	NA	NA	109	0.80	16	6.5		814,468
18		-								
19		-								
20	12	3,719	NA	NA	54	0.61	55	6.5		818,187
21	12	11	NA	NA	51	NR	3	NR		818,198
22	12	1,322	NA	NA	42+72	0.08	9	6.1		819,520
23	12	1,360	NA	NA	98	NR	16	NR		820,880
24	12	15	NA	NA	96	NR	2	NR		820,895
25		-								
26		-								
27		4	NA	NA	96	0.23		NR		820,899
28	12	1,141	NA	NA	84	0.20	12	NR		822,040
29	12	54	NA	NA	84			NR		822,094
30	12	-	NA	NA	84			NR		822,094
31		-								
Total		11,029	Days	31			149			
AVG.		355.77				0.3971	4.8064516			

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: 9-6-06 Operator Grade Level 1A-SW/GUI

Microbiological Samples and Free Chlorine Residual

Building Location (Sample ID)	Date of Sample	Sample Type 1.Routine 2.Repeat	Total Coliform Positive	E.coli Positive	Free Chlorine Residual (mg/l)
B-49 Water Tower (094-273)	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B640Water Tower076-408	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B-1005-RHIC 045-12	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B-363 Aprt. Laundry 109-19	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B-725-NSLS. 075-602	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B-490 -BLOCK 084-69	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
B490 Block # 4 084-68	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
Field Dupl.BLDG 490 .084-69	8/4/2006	1	☐ Yes ☑ No	☐ Yes ☑ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	
			☐ Yes ☐ No	☐ Yes ☐ No	

Population Served: 3,500

Number of microbiological monitoring samples required: 8

Number of microbiological monitoring samples taken:

Did an M&R violation occur? ☐ Yes ☐ No

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.

Did an MCL violation occur? ☐ Yes ☐ No

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).

___ 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).

___ The original sample was E.coli positive and at least 1 repeat sample was positive for total coliform (= E.coli MCL violation).

Reminder: System must collect a minimum of five (5) routine microbiological monitoring samples during the month following a repeat sample collection.

As required by 5-1.72, "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.

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:

Date	Well 4	Well 6	Well 7	Well10	Well11	Well12	Daily Total
1	0	0	1,388	0	0	0	1,388
2	0	2	1,147	0	0	242	1,391
3	0	1	1,260	0	65	281	1,607
4	0	1	1,109	0	113	519	1,742
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	4	4,247	0	196	0	4,447
8	0	2	1,513	0	5	0	1,520
9	0	1	1,413	0	8	0	1,422
10	0	1	1,326	0	0	0	1,327
11	0	0	1,265	0		0	1,265
12	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
14	0	6	2,998	0	25	0	3,029
15	0	1	1,295	0	2	44	1,342
16	0	0	1,225	0	0	1,283	2,508
17	0	0	0	0	1	1,034	1,035
18	0	0	0	0	3	0	3
19	0	0	0	0	0	0	0
20	0	0	0	0	0	3,719	3,719
21	0	0	0	3	30	11	44
22	0	0	0	0	1,256	1,322	2,578
23	0	0	0	0	110	1,360	1,470
24	0	0	0	0	176	15	191
25	0	0	0	0	1,341	0	1,341
26	0	0	0	0	0	0	0
27	0	0	0	0	0	4	4
28	0	0	0	0	3,467	1,141	4,608
29	0	0	0	0	22	54	76
30	0	0	0	0	1,099	0	1,099
31	0	0	0	0	1,122	0	1,122
Total	0	19	20,186	3	9,041	11,029	40,278

	Totalizer This Month	Totalizer Last Month	Total(x1,000) Gallons
Well 4	1,648,622	1,648,622	0
Well 6	654,948	654,929	19
Well 7	2,101,228	2,081,042	20,186
Well 10	772,460	772,457	3
Well 11	732,098	723,057	9,041
Well 12	822,094	811,065	11,029
AGS Water Supply Meter	614,007	612,506	1501.00
Medical Reactor - Well 105	0	0	0.00

Biology Building - Well 9	6,793,150	6,793,150

ATTACHMENT II

Brookhaven National Laboratory

Potable Water Supply

August 2006 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
August 2006

Sample Location	Sample Date	pH (SU)	Temperature (Degrees F)	Conductivity (μmhos)	Alkalinity (mg/L)	Calcium (mg/L)
WTP	8/1/06	7.5	56	148	ANR	ANR
WTP	8/3/06	7.5	51	148	ANR	ANR
WTP	8/8/06	7.5	58	142	ANR	ANR
WTP	8/10/06	7.5	58	145	ANR	ANR
WTP	8/15/06	7.5	58	148	ANR	ANR
WTP	8/17/06	6.5	66	200	ANR	ANR
WTP	8/22/06	9.5	56	247	ANR	ANR
WTP	8/24/06	6.3	56	175	ANR	ANR
WTP	8/29/06	6.8	68	206	ANR	ANR
WTP	8/31/06	7	64	180	ANR	ANR
Well 11	8/22/06	9.5	55	199	ANR	ANR
Well 11	8/24/06	9.4	55	193	ANR	ANR
Well 11	8/29/06	6.9	55	151	ANR	ANR
Well 11	8/31/06	6.8	56	164	ANR	ANR
Well 12	8/17/06	6.5	56	198	ANR	ANR
Well 12	8/29/06	6.8	56	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

August 2006 Stage 1 Disinfectants & Disinfection Byproduct Rule

Monitoring Data and Bacteriological Analyses for the BNL Distribution System

Attachment III

August 2006 Stage 1 Disinfectants & Disinfection Byproduct Rule Monitoring Data
Table II - Maximum Residual Disinfectant Level (MRDL) Compliance

	Total Residual Chlorine (mg/L)											
Location	**Sept. 05**	**Oct. 05**	**Nov. 05**	**Dec. 05**	**Jan. 06**	**Feb. 06**	**Mar. 06**	**Apr. 06**	**May 06**	**June 06**	**July 06**	**Aug. 06**
Bldg. 49 Water Tower	0.5	0.7	0.9	0.9	1.0	0.8	1.2	0.7	0.6	0.8	0.6	0.6
Bldg. 640 Water Tower	0.7	1.2	0.4	0.4	0.9	0.7	0.9	0.4	0.5	0.8	0.8	0.6
Bldg. 363 Apt. Laundry	0.3	0.6	1.0	0.3	0.5	0.5	0.3	0.5	0.4	0.7	0.5	0.6
Bldg. 1005 RHIC	0.7	0.5	0.6	0.7	0.8	0.7	0.6	0.3	0.6	0.3	0.7	0.5
Bldg. 930 LINAC	0.8	NS	0.8	NS	0.9	NS	0.8	NS	0.7	NS	0.6	NS
Bldg. 725 NSLS	NS	0.8	NS	0.4	NS	0.8	NS	1.0	NS	0.7	NS	0.7
Bldg. 490 Outpatient Clinic	0.6	NS	0.5	NS	0.7	NS	0.9	NS	0.5	NS	0.6	NS
Bldg. 490 Block 11	0.3	NS	0.9	NS	0.5	NS	0.8	NS	0.4	NS	0.5	NS
Bldg. 490 Block 1 ACF	NS	0.5	NS	0.8	NS	0.6	NS	1.1	NS	0.5	NS	0.5
Bldg. 490 Block 4 MRC	NS	1.0	NS	0.4	NS	0.5	NS	0.9	NS	0.4	NS	0.6
Monthly Average	0.6	0.8	0.7	0.6	0.8	0.7	0.8	0.7	0.5	0.6	0.6	0.6

NA - Not Applicable

NS- Not Scheduled for sampling

Running Annual Average (mg/L) **0.7** (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 NYSDOH ID # 10478

LABORATORY RESULTS

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

Lab No. : 0608483-001A

Sample Information...
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Client ID. : 21973-001
Collected : 8/4/06 9:00:00 AM
Point No : 094-273
Received : 8/4/06 3:15:00 PM
Location : B-49 Water Tower
Collected By : CLIENT
Copy : PRELIMINARY REPORT
CC ; Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.6		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040. FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

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

Lab No. : 0608483-002A

Sample Information...
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Client ID. : 21973-002
Collected : 8/4/06 6:50:00 AM
Point No : 076-408
Received : 8/4/06 3:15:00 PM
Location : B-640 Water Tower
Collected By : CLIENT
Copy : PRELIMINARY REPORT
CC ; Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.6		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

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

Lab No. : 0608483-007A

Sample Information...
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Client ID. : 21973-007
Collected : 8/4/06 10:30:00 AM
Point No : 109-19
Received : 8/4/06 3:15:00 PM
Location : B-363 Apt.Laundry
Collected By : CLIENT
Copy : **PRELIMINARY REPORT**
CC ; Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.6		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

M LABS, INC.
oad Hollow Road, Melville NY 11747
)694-3040. FAX (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

Lab No. : 0608483-003A

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

Sample Information
Type : Potable Water
Origin : Distribution
Routine

ederal ID 5111891

Client ID. : 21973-003

:ollected : 8/4/06 6:45:00 AM
Point No : 045-12
teceived : 8/4/06 3:15:00 PM
Location : B-1005 RHIC
Collected By : CLIENT
Copy : **PRELIMINARY REPORT**
CC : Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported

M LABS, INC.
oad Hollow Road, Melville NY 11747
)694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

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

Lab No. : 0608483-004A

Sample Information
Type : Potable Water
Origin : Distribution
Routine

ederal ID 5111891
ollected : 8/4/06 9:15:00 AM
eceived : 8/4/06 3:15:00 PM
ollected By : CLIENT
opy : PRELIMINARY REPORT
CC ; Original

Client ID. : 21973-004
Point No : 075-602
Location : B-725 NSLS

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.7		1	mg/L		M4500-Cl G	08/04/2006

Result(s) reported meet(s) Regulatory Limit(s).
Result(s) flagged with * Exceed Regulatory Limit(s). No Limit noted.
D.F. = Dilution Factor

PRELIMINARY

Date Reported :

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

LABORATORY RESULTS

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

Lab No. : 0608483-005A

Sample Information
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Collected : 8/4/06 10:50:00 AM
Received : 8/4/06 3:15:00 PM
Collected By : CLIENT
Copy : **PRELIMINARY REPORT**
CC ; Original

Client ID. : 21973-005
Point No : 084-69
Location : B-490 Block 1 ACF

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

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

Lab No. : 0608483-006A

Sample Information...
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Client ID. : 21973-006
Collected : 8/4/06 11:00:00 AM
Point No : 084-68
Received : 8/4/06 3:15:00 PM
Location : B-490 Block 4 MRC
Collected By : CLIENT
Copy : PRELIMINARY REPORT
CC ; Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.6		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

H2M LABS, INC.
575 Broad Hollow Road, Melville NY 11747
(631) 694-3040 . FAX: (631) 420-8436 NYSDOH ID# 10478

LABORATORY RESULTS

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

Lab No. : 0608483-008A

Sample Information...
Type : Potable Water
Origin : Distribution
Routine

Federal ID 5111891
Client ID. : 21973-008
Collected : 8/4/06 10:50:00 AM
Point No : 084-69
Received : 8/4/06 3:15:00 PM
Location : B-490 Block 1 ACF
Collected By : CLIENT
Copy : PRELIMINARY REPORT
CC ; Original

Parameter(s)	Results	Qualifier	D.F.	Units	Limit	Method Number	Analyzed
Total Coliform	Negative		1	N/A	Negative	M9223	08/05/2006 12:00 PM
E_Coliform	Absent		1	N/A	Absent	M9223	08/05/2006 12:00 PM
Total Residual Chlorine	0.5		1	mg/L		M4500-Cl G	08/04/2006

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

PRELIMINARY

Date Reported :

ATTACHMENT IV

Brookhaven National Laboratory

Potable Water Supply

2006 Third Quarter Radiological Analyses

for the BNL Potable Water Wells

ATTACHMENT IV

Table 3
Summary of 2006 Third Quarter Radiological Analyses for the BNL Potable Water Wells

Well ID	Sample Date	Gross Alpha (pCi/L)	Gross Beta (pCi/L)	Tritium (pCi/L)	Sr-90 (pCi/L)
Well # 6	7/27/06	< 1.02	< 2.65	< 499	< 0.60
Well # 7	7/27/06	< 1.18	< 2.54	< 511	< 0.51
Well #11	7/27/06	< 1.94	< 3.33	< 500	< 0.57
Well #12	7/27/06	< 1.62	< 2.69	< 507	< 0.52
Well # 12 (Duplicate)	7/27/06	< 1.19	< 3.28	< 511	< 0.56

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.

GENERAL ENGINEERING 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

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-003
Sample ID: 168059003
Matrix: Water
Collect Date: 27-JUL-06 09:50
Receive Date: 28-JUL-06 09:15
Collector: Client

Project: BRKL00401
Client ID: BRKL004
COC: 22964
Samp Recv.:
Client Desc.: Well 6

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Americium-241	U	0.808	+/-2.86	4.88	20.0	pCi/L		MJH1 08/10/06	1421	555094	1
Beryllium-7	U	2.33	+/-14.7	26.8	200	pCi/L					
Cesium-134	U	-0.254	+/-1.73	3.02	10.0	pCi/L					
Cesium-137	U	1.54	+/-1.46	2.78	12.0	pCi/L					
Cobalt-57	U	-0.0659	+/-1.11	1.99	10.0	pCi/L					
Cobalt-60	U	-0.0488	+/-1.71	3.12	22.0	pCi/L					
Europium-152	U	1.68	+/-4.35	7.64	40.0	pCi/L					
Europium-154	U	0.174	+/-4.47	8.30	20.0	pCi/L					
Europium-155	U	-0.323	+/-4.18	7.56	30.0	pCi/L					
Manganese-54	U	-0.486	+/-1.70	2.90	10.0	pCi/L					
Sodium-22	U	0.0709	+/-1.60	2.97	10.0	pCi/L					
Zinc-65	U	-2.73	+/-4.46	6.48	20.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	0.230	+/-0.454	1.02	2.00	pCi/L		FXW1 08/07/06	1432	553737	2
Beta	U	1.10	+/-1.21	2.65	4.00	pCi/L					
GFPC, Sr90, liquid											
Strontium-90	U	-0.218	+/-0.200	0.603	0.800	pCi/L		BXF1 08/03/06	1148	553170	3
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	212	+/-338	576	1000	pCi/L		DFA1 08/11/06	0437	557371	4
Tritium	U	213	+/-295	499	1000	pCi/L		DFA1 08/15/06	1036	557813	5

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	
5	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, liquid			92	(25%-125%)

GENERAL ENGINEERING 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

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-003 Project: BRKL00401
Sample ID: 168059003 Client ID: BRKL004

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Notes:
The Qualifiers in this report are defined as follows :

* A quality control analyte recovery is outside of specified acceptance criteria
< Result is less than value reported
> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
DL Failed required detection limit.
E **Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria**
H Analytical holding time was exceeded
H Holding time exceeded
J **Estimated value; the result was greater than the MDA but less than the required detection limit.**
J Value is estimated
JN Presumptive evidence of the analyte at an estimated quantity.
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
R **The data are unusable (radionuclide may or may not be present).**
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
U Undetected; sample result < MDA
UI Uncertain identification for gamma spectroscopy.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded

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.

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Reviewed by

GENERAL ENGINEERING 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

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-004
Sample ID: 168059004
Matrix: Water
Collect Date: 27-JUL-06 09:40
Receive Date: 28-JUL-06 09:15
Collector: Client

Project: BRKL00401
Client ID: BRKL004
COC: 22964
Samp Recv.:
Client Desc.: Well 7

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Americium-241	U	-4.04	+/-11.3	20.0	20.0	pCi/L		MJH1 08/11/06	0709	555094	1
Beryllium-7	U	-6.58	+/-17.5	31.1	200	pCi/L					
Cesium-134	U	-0.0166	+/-2.09	3.78	10.0	pCi/L					
Cesium-137	U	0.109	+/-1.83	3.37	12.0	pCi/L					
Cobalt-57	U	0.442	+/-1.67	2.98	10.0	pCi/L					
Cobalt-60	U	0.903	+/-1.74	3.62	22.0	pCi/L					
Europium-152	J-UI	13.4	+/-8.81	9.68	40.0	pCi/L					
Europium-154	U	0.163	+/-4.88	9.47	20.0	pCi/L					
Europium-155	U	6.51	+/-6.75	12.6	30.0	pCi/L					
Manganese-54	U	-1.5	+/-1.80	2.91	10.0	pCi/L					
Sodium-22	U	0.0519	+/-1.75	3.39	10.0	pCi/L					
Zinc-65	U	-1.19	+/-4.35	7.94	20.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	1.03	+/-0.773	1.18	2.00	pCi/L		FXW1 08/07/06	1432	553737	2
Beta	U	1.90	+/-1.25	2.54	4.00	pCi/L					
GFPC, Sr90, liquid											
Strontium-90	U	0.0149	+/-0.205	0.508	0.800	pCi/L		BXF1 08/03/06	1148	553170	3
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	110	+/-324	563	1000	pCi/L		DFA1 08/11/06	0453	557371	4
Tritium	U	72.6	+/-291	511	1000	pCi/L		DFA1 08/15/06	1052	557813	5

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	
5	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, liquid			100	(25%-125%)

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Certificate of Analysis

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

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-004 Project: BRKL00401
Sample ID: 168059004 Client ID: BRKL004

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Notes:
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< Result is less than value reported
> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
DL Failed required detection limit.
E **Metals--%difference of sample** and SD is >10%. Sample concentration must meet flagging criteria
H Analytical holding time was exceeded
H Holding time exceeded
J **Estimated value; the result** was greater than the MDA but less than the required detection limit.
J Value is estimated
JN Presumptive evidence of the analyte at an estimated quantity.
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
R **The data are unusable** (radionuclide may or may not be present).
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
U Undetected; sample result < MDA
UI Uncertain identification for gamma spectroscopy.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded

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Address : Building 51
Upton, New York 11973--5000

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-002
Sample ID: 168059002
Matrix: Water
Collect Date: 27-JUL-06 09:30
Receive Date: 28-JUL-06 09:15
Collector: Client

Project: BRKL00401
Client ID: BRKL004
COC: 22964
Samp Recv.:
Client Desc.: Well 11

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Americium-241	U	-0.116	+/-5.91	10.5	20.0	pCi/L		MJH1 08/10/06	1533	555094	1
Beryllium-7	U	5.13	+/-9.30	17.0	200	pCi/L					
Cesium-134	U	-0.441	+/-1.12	1.90	10.0	pCi/L					
Cesium-137	U	0.537	+/-1.06	1.91	12.0	pCi/L					
Cobalt-57	U	0.656	+/-1.51	1.56	10.0	pCi/L					
Cobalt-60	U	0.765	+/-1.20	2.02	22.0	pCi/L					
Europium-152	U	-1.97	+/-2.90	5.07	40.0	pCi/L					
Europium-154	U	1.68	+/-2.73	5.22	20.0	pCi/L					
Europium-155	U	1.56	+/-3.70	6.52	30.0	pCi/L					
Manganese-54	U	0.403	+/-1.00	1.79	10.0	pCi/L					
Sodium-22	U	0.618	+/-0.977	1.87	10.0	pCi/L					
Zinc-65	U	-1.03	+/-2.14	3.75	20.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	-0.53	+/-0.488	1.94	2.00	pCi/L		FXW1 08/07/06	1241	553737	2
Beta	U	1.03	+/-1.47	3.33	4.00	pCi/L					
GFPC, Sr90, liquid											
Strontium-90	U	-0.0253	+/-0.220	0.570	0.800	pCi/L		BXF1 08/03/06	1148	553170	3
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	-274	+/-334	627	1000	pCi/L		DFA1 08/11/06	1137	557371	4
Tritium	U	249	+/-299	500	1000	pCi/L		DFA1 08/15/06	1019	557813	5

The following Analytical Methods were performed

Method	Description	Analyst Comments
	EPA 901.1	
	EPA 900.0	
	EPA 905.0 Modified	
	EPA 906.0 Modified	
	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, liquid			84	(25%-125%)

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Certificate of Analysis

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

Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-002 Project: BRKL00401
Sample ID: 168059002 Client ID: BRKL004

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Notes:
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B Target analyte was detected in the associated blank
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
DL Failed required detection limit.
E **Metals--%difference of sample** and SD is >10%. Sample concentration must meet flagging criteria
H Analytical holding time was exceeded
H Holding time exceeded
J **Estimated value; the result was greater than the MDA but less than the required detection limit.**
J Value is estimated
JN **Presumptive evidence** of the analyte at an estimated quantity.
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
R **The data are unusable** (radionuclide may or may not be present).
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
U Undetected; sample result < MDA
UI Uncertain identification for gamma spectroscopy.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded

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Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-001
Sample ID: 168059001
Matrix: Water
Collect Date: 27-JUL-06 09:20
Receive Date: 28-JUL-06 09:15
Collector: Client

Proiect: BRKL00401
Client ID: BRKL004
COC: 22964
Samp Recv.:
Client Desc.: Well 12

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Americium-241	U	-1.43	+/-3.90	6.84	20.0	pCi/L		MJH1 08/10/06	1512	555094	1
Beryllium-7	U	-3.43	+/-20.1	35.7	200	pCi/L					
Cesium-134	U	-1.47	+/-2.82	4.74	10.0	pCi/L					
Cesium-137	U	3.06	+/-2.44	4.72	12.0	pCi/L					
Cobalt-57	U	-0.918	+/-1.33	2.25	10.0	pCi/L					
Cobalt-60	U	0.847	+/-2.46	4.71	22.0	pCi/L					
Europium-152	U	-0.0912	+/-5.43	9.84	40.0	pCi/L					
Europium-154	U	0.290	+/-6.89	12.8	20.0	pCi/L					
Europium-155	U	5.54	+/-5.43	9.90	30.0	pCi/L					
Manganese-54	U	-0.779	+/-2.29	3.91	10.0	pCi/L					
Sodium-22	U	0.0977	+/-2.47	4.57	10.0	pCi/L					
Zinc-65	U	2.04	+/-8.51	10.0	20.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	-0.809	+/-0.285	1.62	2.00	pCi/L		FXW1 08/07/06	1406	553737	2
Beta	U	1.13	+/-1.23	2.69	4.00	pCi/L					
GFPC, Sr90, liquid											
Strontium-90	U	0.0737	+/-0.222	0.524	0.800	pCi/L		BXF1 08/03/06	1148	553170	3
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	-273	+/-333	624	1000	pCi/L		DFA1 08/11/06	1121	557371	4
Tritium	U	36.1	+/-286	507	1000	pCi/L		DFA1 08/15/06	1002	557813	5

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	
5	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, liquid			91	(25%-125%)

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Certificate of Analysis

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Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-001 Project: BRKL00401
Sample ID: 168059001 Client ID: BRKL004

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

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C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
DL Failed required detection limit.
E **Metals--%difference of sample** and SD is >10%. Sample concentration must meet flagging criteria
H Analytical holding time was exceeded
H Holding time exceeded
J **Estimated value; the result** was greater than the MDA but less than the required detection limit.
J Value is estimated
JN **Presumptive evidence** of the analyte at an estimated quantity.
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
R **The data are unusable (radionuclide may or may not be present).**
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
U Undetected; sample result < MDA
UI Uncertain identification for gamma spectroscopy.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded

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Report Date: August 15, 2006

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

Client Sample ID: 22964-005
Sample ID: 168059005
Matrix: Water
Collect Date: 27-JUL-06 12:00
Receive Date: 28-JUL-06 09:15
Collector: Client

Project: BRKL00401
Client ID: BRKL004
COC: 22964
Samp Recv.:
Client Desc.: BD-1 Well #12 Duplicate

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Americium-241	U	-3.91	+/-10.7	18.9	20.0	pCi/L		MJH1 08/11/06	0709	555094	1
Beryllium-7	U	1.52	+/-16.8	30.6	200	pCi/L					
Cesium-134	U	-0.191	+/-2.10	3.70	10.0	pCi/L					
Cesium-137	U	-0.0154	+/-1.71	3.08	12.0	pCi/L					
Cobalt-57	U	0.505	+/-1.67	2.95	10.0	pCi/L					
Cobalt-60	U	-0.981	+/-1.90	3.28	22.0	pCi/L					
Europium-152	U	2.29	+/-5.15	9.65	40.0	pCi/L					
Europium-154	U	-3.3	+/-5.12	8.72	20.0	pCi/L					
Europium-155	U	6.04	+/-6.98	12.8	30.0	pCi/L					
Manganese-54	U	-0.438	+/-1.93	3.06	10.0	pCi/L					
Sodium-22	U	-1.19	+/-1.83	3.12	10.0	pCi/L					
Zinc-65	U	-1.27	+/-3.52	6.31	20.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	0.515	+/-0.630	1.19	2.00	pCi/L		FXW1 08/07/06	1432	553737	2
Beta	U	3.22	+/-1.63	3.28	4.00	pCi/L					
GFPC, Sr90, liquid											
Strontium-90	U	-0.143	+/-0.192	0.564	0.800	pCi/L		BXF1 08/03/06	1324	553170	3
Rad Liquid Scintillation Analysis											
LSC, Tritium Dist, Liquid											
Tritium	U	-259	+/-332	621	1000	pCi/L		DFA1 08/11/06	1153	557371	4
Tritium	U	85.4	+/-292	511	1000	pCi/L		DFA1 08/15/06	1109	557813	5

The following Analytical Methods were performed

Method	Description	Analyst Comments
	EPA 901.1	
	EPA 900.0	
	EPA 905.0 Modified	
	EPA 906.0 Modified	
	EPA 906.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium-90	GFPC, Sr90, liquid			85	(25%-125%)

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Company : Brookhaven National Laboratory
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Report Date: August 15, 2006

Contact: Mr. John Burke

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

Client Sample ID: 22964-005
Sample ID: 168059005

Project: BRKL00401
Client ID: BRKL004

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Notes:
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C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
DL Failed required detection limit.
E **Metals--%difference of sample** and SD is >10%. Sample concentration must meet flagging criteria
H Analytical holding time was exceeded
H Holding time exceeded
J **Estimated value; the result** was greater than the MDA but less than the required detection limit.
J Value is estimated
JN Presumptive evidence of the analyte at an estimated quantity.
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
R The data are unusable (radionuclide may or may not be present).
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
U Undetected; sample result < MDA
UI Uncertain identification for gamma spectroscopy.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
d 5-day BOD--The 2:1 depletion requirement was not met for this sample
h Preparation or preservation holding time was exceeded

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