Central Hudson
Gas & Electric Corporation
284 SOUTH AVENUE, POUGHKEEPSIE, N.Y. 12601-4879
(914) 452-2000

February 16, 1989

Paul R. Counterman, P.E.
Director
Bureau of Hazardous Facility Permitting
Division of Hazardous Substances Regulations
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233

Attention: Ms. Luanne F. Whitbeck
Engineering Geologist

Dear Mr. Counterman:

Re: December 1988 Sampling Results
Post-Operational Groundwater Monitoring Program
Danskammer Electric Generating Station
(NYD98052612)

Enclosed are the analytical results and required statistical analyses of groundwater samples collected on December 19, 1988 at five wells associated with the former RCRA surface impoundments at Danskammer. Also enclosed are quality control/quality assurance documents which DEC has previously requested.

The water chemistry data are provided in Table 1. As shown in Table 2, the Hotellings T-Square analyses indicated significant differences between operational and post-operational data. However, pairwise Students t-tests were significant only when there was a significant decrease in the post-operational concentration of water quality parameters. These observations indicate that the trend of improved water quality that has previously been observed is continuing.

If you or your staff have any questions, or require any further information, please do not hesitate to call me.

Very truly yours,

Jeffrey A. Clock
Director
Environmental Affairs

JAC332/jsc
Enclosures

cc: Mr. S. Potter (NYSDEC-Region 3) - w/attach.
Mr. B. Sieving - w/o attach.
Mr. R. Lokys - w/attach.
Ms. G. Cooper - w/attach.

File Admin I-13.39.3

Lawler, Matusky & Skelly Engineers

Environmental Science & Engineering Consultants

JOHN P. LAWLER, P. E.
FELIX E. MATUSKY, P. E.
MICHAEL J. SKELLY, P. E.
KARIM A. ABOOD, P. E.
PATRICK J. LAWLER, P. E.
FRANCIS M. McGOWAN, P. E.
THOMAS L. ENGLERT, P. E.
PETER M. McGRODDY, P. E.

ONE BLUE HILL PLAZA
P.O.BOX 1509
PEARL RIVER, NEW YORK 10965
(914) 735-8300
FACSIMILE (914) 735-7466

1 February 1989
File No. 176-248

Mr. Jeffrey A. Clock
Director, Environmental Affairs Division
Central Hudson Gas & Electric Corp.
248 South Avenue
Poughkeepsie, NY 12601-4879

Dear Mr. Clock:

Enclosed are the analytical results and required statistical analyses for groundwater samples collected 19 December 1988 from the "M-Wells" at the Danskammer Point Generating Station.

Analytical results for the two upgradient wells (M-4 and M-6) and the three downgradient wells (M-1, M-3, and M-8s) are presented in Table 1. Monitoring for pH, water temperature, and specific conductance was done at the time the well samples were collected. All other analytical tests were done by CAMO Laboratories. Copies of the field survey sheets (Attachment 1) and analytical results (Attachment 2) are attached. Quality control and quality assurance information requested by the NYSDEC are included as part of the analytical results (Attachment 2).

Significant differences were obtained between pre- and post-operational values based on Hotelling's T-square analysis for all three downgradient wells (Table 2). Plots of the Hotelling's T-square values for the three downgradient wells covering the pre- and post-operational periods are presented in Figures 1 and 2.

Pair-wise students T-tests were calculated for each well (Table 2). Parameters monitored at Well M-1 with the exception of fluoride were consistently lower than pre-closure values; fluoride was slightly higher. Sodium was determined to be significantly lower in December compared to pre-closure values. The five parameters monitored at Well M-3 were lower based on the 19 December 1988 samples compared to pre-closure values with the exception of sulphate which was slightly higher. Chloride sodium and conductivity were determined to be significantly lower at Well M-3 compared to pre-closure values. All parameters evaluated at Well M-8s were lower

TABLE 1

GROUNDWATER ANALYTICAL RESULTS
RCRA POST-OPERATIONAL GROUNDWATER MONITORING PROGRAM

Danskammer Point Generating Station

19 December 1988

CHEMICAL/PHYSICAL PARAMETER	UNITS	UPGRADIENT WELLS		DOWNGRADIENT WELLS		
		M-4	M-6	M-1	M-3	M-8s
Chloride	mg/l	13	5	84	20	37
Chromium	mg/l	<0.01	<0.01	<0.01	<0.01	0.02
Fluoride	mg/l	0.1	0.1	7.4	0.1	0.3
Lead	mg/l	<0.005	<0.005	<0.005	<0.005	0.024
Sodium	mg/l	89	90	219	92	71
Sulfate	mg/l	600	1000	500	2300	1050
Total suspended solids (TSS)	mg/l	49	228	28	16	1212
Temperature	^{o}C	11.9	11.3	14.1	13.0	9.2
pH	units	9.5	6.7	7.5	9.7	7.1
Specific Conductance	umhos/cm	1198	1926	1376	1795	2300

TABLE 2

STATISTICAL EVALUATION OF DOWNGRADIENT M-WELLS
RCRA POST-OPERATIONAL GROUNDWATER MONITORING PROGRAM

Danskammer Point Generating Station

19 December 1988

WELL DESIGNATION	HOTELLING'S T-SQUARE VALUE*	CRITICAL VALUE (CV)
WELL M-1	5653.297	405.9
WELL M-3	270.310	105.2
WELL M-8s	420.025	105.2

*Significant if $T^2 \geq CV$ at $p \leq 0.05$

PAIR - WISE STUDENT'S T-TEST

WELL M-1

PARAMETER	Obs.	Ln Obs.	Ln Mean	Diff.	t-Value	Prob.
Chloride (mg/l)	84.0	4.4308	4.7159	-0.2851	-0.76	0.2360
Fluoride (mg/l)	7.4	2.0015	1.5618	0.4397	0.32	0.3800
Sodium (mg/l)	219.0	5.3891	5.9626	-0.5735	-2.13	0.0352*
Sulfate (mg/l)	500.0	6.2146	6.7957	-0.5811	-1.17	0.1405
pH	7.5	7.5000	7.5750	0.0750	-0.22	0.8312
Conductivity (umhos/cm)	1376.0	7.2269	7.7068	-0.4799	-1.18	0.1385

WELL M-3

PARAMETER	Obs.	Ln Obs.	Ln Mean	Diff.	t-Value	Prob.
Chloride (mg/l)	20.0	2.9957	4.4126	-1.4169	-4.72	0.0011**
Sodium (mg/l)	92.0	4.5218	6.5751	-2.0533	-4.35	0.0017*
Sulfate (mg/l)	2300.0	7.7407	7.5811	0.1596	0.23	0.4133
pH	9.7	9.7000	10.3250	-0.6250	-0.78	0.4599
Conductivity (umhos/cm)	1795.0	7.4928	8.4742	-0.9814	-2.89	0.0117*

WELL M-8s

PARAMETER	Obs.	Ln Obs.	Ln Mean	Diff.	t-Value	Prob.
Chloride (mg/l)	37.0	3.6109	3.8255	-0.2146	-0.72	0.2487
Sodium (mg/l)	71.0	4.2627	6.6941	-2.4314	-5.15	0.0007**
Sulfate (mg/l)	1050.0	6.9565	7.4844	-0.5279	-0.75	0.2383
pH	7.1	7.1000	7.2000	-0.1000	-0.13	0.9040
Conductivity (umhos/cm)	2300.0	7.7407	7.9791	-0.2384	-0.70	0.2528

NOTE: pH not log transformed and t-test with 2-tailed probability.
All other tests based on natural log and 1-tailed probability.

*Significant if $p \leq 0.05$
**Significant if $p \leq 0.01$

Figure – 1

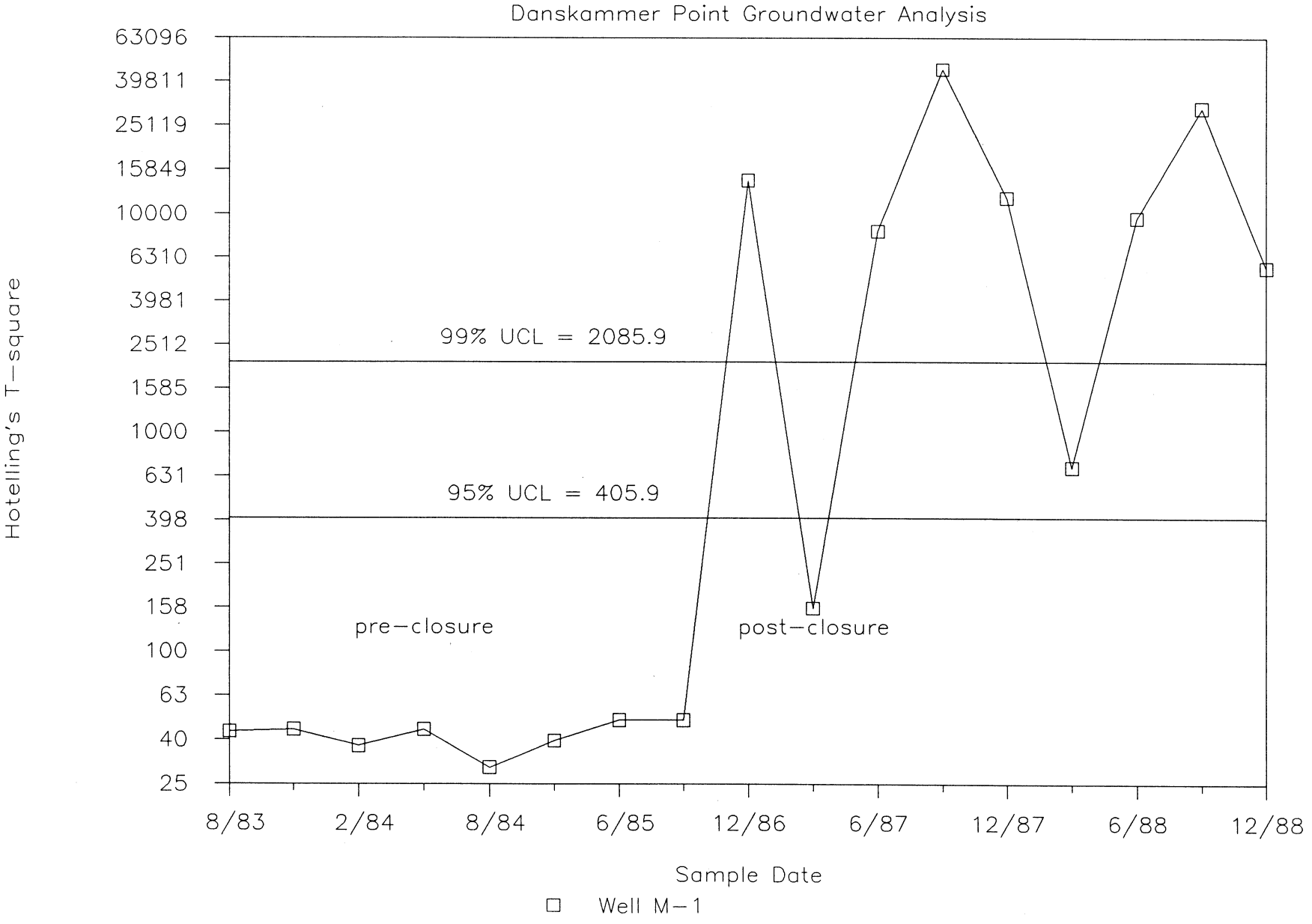
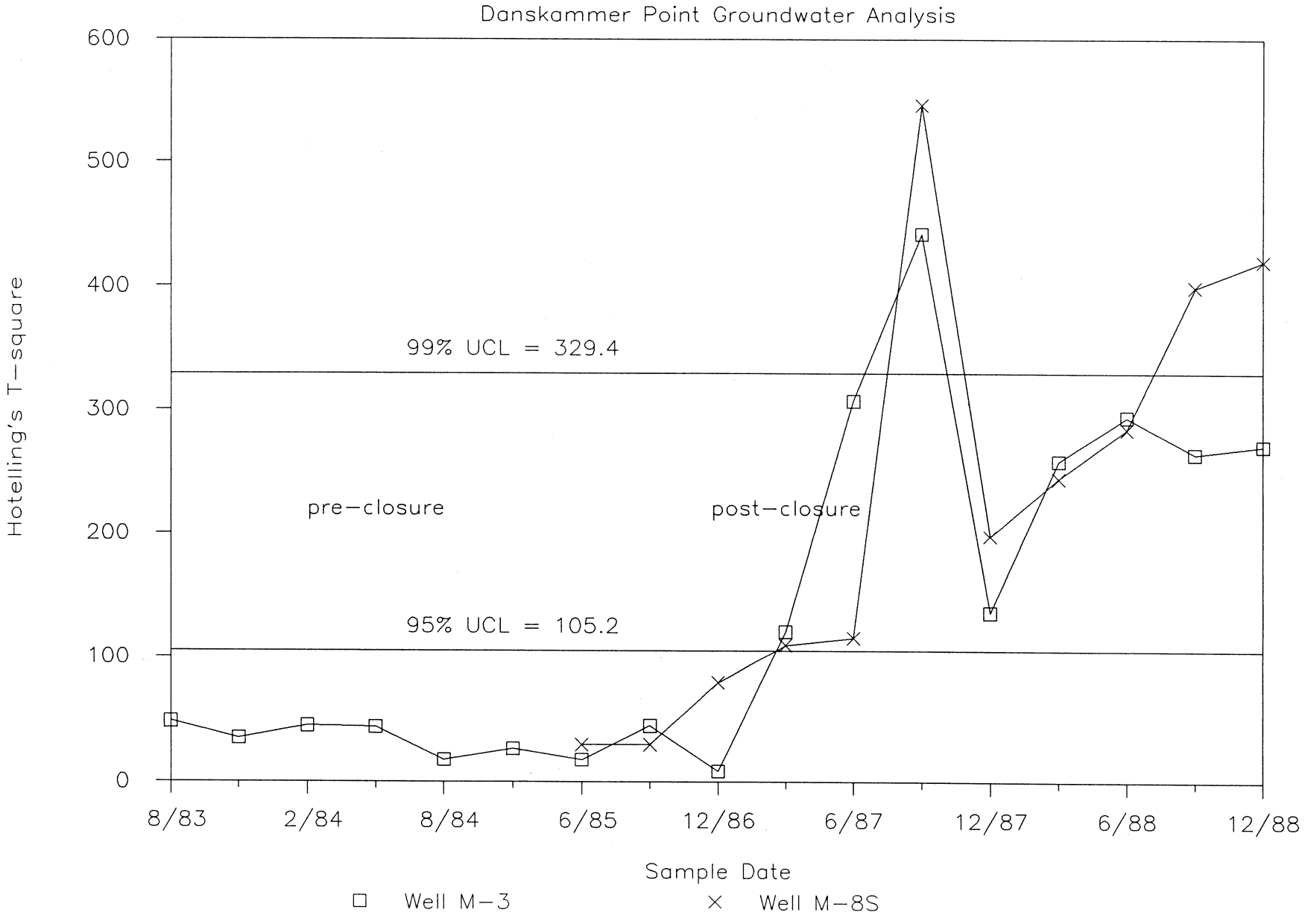

Danskammer Point Groundwater Analysis
Hotelling's T–square
63096
39811
25119
15849
10000
6310
3981
2512
1585
1000
631
398
251
158
100
63
40
25
99% UCL = 2085.9
95% UCL = 405.9
pre–closure
post–closure
8/83
2/84
8/84
6/85
12/86
6/87
12/87
6/88
12/88
Sample Date
Well M–1

Figure – 2


Danskammer Point Groundwater Analysis
Hotelling's T-square
600
500
400
300
200
100
0
99% UCL = 329.4
95% UCL = 105.2
pre-closure
post-closure
8/83
2/84
8/84
6/85
12/86
6/87
12/87
6/88
12/88
Sample Date
Well M-3
Well M-8S

during the 19 December 1988 sampling compared to pre-closure with sodium significantly lower. Generally the statistical results reported for Wells M-3 and M-8s have been consistent for all 1988 sampling periods.

If you have any questions or comments concerning the quarterly M-Well sampling program, analytical results or statistical analyses please do not hesitate to call.

Sincerely,

John A. Matousek

John A. Matousek
Project Manager

JAM/rp

Enclosures

ATTACHMENT 1

WELL SAMPLING LOGS

19 DECEMBER 1988

Date: 12-19-88
Crew: JmG DM
Job No: 176-248

pH Meter: —
Therm. No: —
Cond. No: —

WELL SAMPLING LOG

WELL No: Trip Blank
LOCATION: CHG&E/Dansk ammer
WELL TYPE: —
WELL DIAMETER: —
WELL DEPTH: —
SCREENED INTERVAL: —
CASING HT.: —
DEPTH TO WATER: (Static Water Level) —
REFERENCE POINT: —
DATE/TIME PURGED: —
PURGING METHOD: —
PURGING DEPTH(s): —
PURGE RATES (gpm): —
PURGED VOLUME: —
DIW AFTER PURGING: —
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: —
WATER BEARING FORMATION(s): —
SAMPLE DATE/TIME: 12-19-88 / —
SAMPLING METHOD: —
DIW BEFORE SAMPLING: —
SAMPLING DEPTH(s): —
WELL CONDITION: —
SAMPLE OBSERVATIONS: —

WET CHEMISTRIES

SAMPLE TEMPERATURE: —
SAMPLE pH: —
SAMPLE SP. COND: —

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	SP. CONDUCTIVITY
X			

SAMPLE ANALYSIS (List Sample Jar Parameters) INVENT.

Total Metals:
Pb Cr-T, Na L-13901

Cl, F, SO_4, TSS L-13911

COMMENTS:

LMS Supplied Trip Blank H_2O

Crew Chief Signature: John M Gyzwicl Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG DM
Job No: 176-248

pH Meter: CP#06
Therm. No: 656
Cond. Meter: TLC#10

WELL SAMPLING LOG

WELL No: "MW-11" (Blind Dup of M-1)
LOCATION: CH6+E / Denskammer
WELL TYPE: See M-1 Log
WELL DIAMETER:
WELL DEPTH:
SCREENED INTERVAL:
CASING HT.:
DEPTH TO WATER: (Static Water Level)
REFERENCE POINT:
DATE/TIME PURGED:
PURGING METHOD:
PURGING DEPTH(s):
PURGE RATES (gpm):
PURGED VOLUME:
DTW AFTER PURGING:
EST. YIELD RATE:
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: —
WATER BEARING FORMATION(s):
SAMPLE DATE/TIME: 12-19-88 / "1330"
SAMPLING METHOD: See M-1 Log
DTW BEFORE SAMPLING:
SAMPLING DEPTH(s):
Well Condition:
SAMPLE OBSERVATIONS:

WET CHEMISTRIES

SAMPLE TEMPERATURE: See M-1 Log
SAMPLE pH:
SAMPLE SP. Cond.:

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	CONDUCTIVITY
X			

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
Total Metals: Pb, Cr-T, Na	L-13908
Cl, F, SO4, TSS	L-13913

COMMENTS:

Blind Duplicate of M-1
" " = fictional info for Labels + CofC.

Crew Chief Signature: John M Gryewich Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG DM
Job No: 176-248

pH Meter: —
Therm. No: —
Cond. Meter: —

WELL SAMPLING LOG

WELL No: Field Blank
LOCATION: CH6+E / Danskammer
WELL TYPE: —
WELL DIAMETER: —
WELL DEPTH: —
SCREENED INTERVAL: —
CASING HT.: —
DEPTH TO WATER: (Static Water Level) —
REFERENCE POINT: —
DATE/TIME PURGED: —
PURGING METHOD: —
PURGING DEPTH(s): —
PURGE RATES (gpm): —
PURGED VOLUME: —
DTW AFTER PURGING: —
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: —
WATER BEARING FORMATION(s): —
SAMPLE DATE/TIME: 12-19-88 / 1355
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: —
SAMPLING DEPTH(s): —
Well Condition: —
SAMPLE OBSERVATIONS: —

WET CHEMISTRIES

SAMPLE TEMPERATURE: —
SAMPLE pH: —
SAMPLE Sp. Cond.: —

PURGE CHEMISTRIES

TIME/VOLUME	TEMP.	pH	CONDUCTIVITY
X			

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
Total Metals: Pb Cr-T, Na	L-13902
Cl, F, SO_4, TSS	L-13915

COMMENTS:

Field blank water supplied by LMS. It was poured through the M-4 bailer. The bailer was then used to sample M-4

Crew Chief Signature: John M Gruzenski Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG, DM
Job No: 176-248

pH Meter: CP #06
Therm. No: 656
Cond. Meter: TCC #10

WELL SAMPLING LOG

WELL No: M-4
LOCATION: CHG+E / Danskammer
WELL TYPE: PVC
WELL DIAMETER: 2"
WELL DEPTH: 16.20'
SCREENED INTERVAL: Bottom 10'
CASING HT.: steel 2.27', PVC 2.13'
DEPTH TO WATER: (Static Water Level) 7.48'
REFERENCE POINT: Top of PVC Casing
DATE/TIME PURGED: 12-19-88/1002-1022
PURGING METHOD: Vacuum Sys w/ Dedicated Teflon Tubing
PURGING DEPTH(s): Surf → Mid
PURGE RATES (gpm): .75-1.0 gpm
PURGED VOLUME: 13 gal.
DTW AFTER PURGING: 9.98'
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): Overburden
SAMPLE DATE/TIME: 12-19-88/1400-1410
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 7.48'
SAMPLING DEPTH(s): 1' Below Surface
Well Condition: Good
SAMPLE OBSERVATIONS: slightly turbid, slight sulfur odor

WET CHEMISTRIES

SAMPLE TEMPERATURE:	11.9°C
SAMPLE pH:	9.5
SAMPLE Sp. Cond.:	1198

PURGE CHEMISTRIES

TIME/VOLUME	TEMP. °C	pH	CONDUCTIVITY
1 gal.	11.6°	9.5	993
8 gal.	13.7°	9.3	1220
12 gal.	13.7°	9.3	1272

SAMPLE ANALYSIS (List Sample Jar Parameters) — INVENT. #

Total Metals: Pb Cr-T, Na — L-13903

Cl, F, SO_4, TSS — L-13909

COMMENTS:
16.20 - 7.48' = 8.7 x 1.22 = 10.6 gal
x .154 = 1.3
11.9 gal
Purge water rather clear

Crew Chief Signature: John M Grzywacz Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG DM
Job No: 176-248

pH Meter: CP#06
Therm. No: 656
Cond. Meter: TLC#10

WELL SAMPLING LOG

WELL No: M-3
LOCATION: CH6+E / Danskammer
WELL TYPE: PVC
WELL DIAMETER: 2"
WELL DEPTH: 16.58'
SCREENED INTERVAL: Bottom 10'
CASING HT.: steel 2.77' PVC 1.60'
DEPTH TO WATER: (Static Water Level) 7.76'
REFERENCE POINT: Top of PVC Casing
DATE/TIME PURGED: 12-19-88 / 1046-1113
PURGING METHOD: Vacuum Sys. w/ Dedicated Teflon Tubing
PURGING DEPTH(s): Surf → Mid
PURGE RATES (gpm): .75-1.0 gpm
PURGED VOLUME: 14 gal.
DTW AFTER PURGING: 10.46'
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): Overburden
SAMPLE DATE/TIME: 12-19-88 / 1425-1435
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 7.75'
SAMPLING DEPTH(s): 1' Below Surface
Well Condition: Good
SAMPLE OBSERVATIONS:
Rather Clear, no noticeable odor

WET CHEMISTRIES

SAMPLE TEMPERATURE: 13.0° C
SAMPLE pH: 9.7
SAMPLE Sp. Cond.: 1795

PURGE CHEMISTRIES

TIME/VOLUME	TEMP. °C	pH	CONDUCTIVITY
1 gal.	13.2°	9.3	1872
8 gal	13.9°	9.4	1910
12 gal.	14.1°	9.5	1897

SAMPLE ANALYSIS (List Sample Jar Parameters) — INVENT. #

Total Metals: Pb, Cr-T, Na — L-13904

Cl, SO_4, F, TSS — L-13910

COMMENTS:

16.58' - 7.76' = 8.82' × 1.22 = 10.8
.154 = 1.4
13.2 gal

purge H_2O clear, no odor

Crew Chief Signature: John M Gyzenis Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG DM
Job No: 176-248

pH Meter: CP#06 / CP#07
Therm. No: 656 / 479
Cond. Meter: TCC#10

WELL SAMPLING LOG

WELL No: M-1
LOCATION: CHG&E / Danskammer
WELL TYPE: PVC
WELL DIAMETER: 2"
WELL DEPTH: 16.65'
SCREENED INTERVAL: Bottom 10'
CASING HT.: Steel 2.13' PVC 1.78'
DEPTH TO WATER: (Static Water Level) 10.32'
REFERENCE POINT: Top of PVC
DATE/TIME PURGED: 12-19-88 / 1155-1219
PURGING METHOD: Vacuum Sys w/ Dedicated Teflon Tubing
PURGING DEPTH(s): Surf → Mid
PURGE RATES (gpm): .75-1.0 gpm
PURGED VOLUME: 14 gal.
DTW AFTER PURGING: 10.68'
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): Overburden
SAMPLE DATE/TIME: 12-19-88 / 1440 - 1500
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 10.56'
SAMPLING DEPTH(s): 1' Below Surface
Well Condition: Good
SAMPLE OBSERVATIONS: Rather clear, sulfur odor

WET CHEMISTRIES

SAMPLE TEMPERATURE: 14.1°/14.1°
SAMPLE pH: 7.5/7.5
SAMPLE Sp. Cond.: 1376

PURGE CHEMISTRIES

TIME/VOLUME	TEMP. °C	pH	CONDUCTIVITY
1 gal.	14.6°	7.1	1406
8 gal.	15.7°	7.9	1677
12 gal.	15.8°	8.1	1669

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
Total Metals	
- Pb, Cr-T, Na	L 13906
- Cl, SO4, F, TSS	L 13916

COMMENTS:
16.65' - 10.32' = 6.33 x 1.96 = 12.4 gal
x .154 = 1.0
13.4 gal.
purge water clear, sulfur type-odor

Crew Chief Signature: John M Gayewich Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JMG DM
Job No: 176-248

pH Meter: CP #06 / CP #07
Therm. No: 656 / 479
Cond. Meter: TLC #10

WELL SAMPLING LOG

WELL No: M-8S
LOCATION: CHG&E / Danskammer
WELL TYPE: PVC
WELL DIAMETER: 2"
WELL DEPTH: 11.15'
SCREENED INTERVAL: Bottom 10'
CASING HT.: Steel 1.18' PVC 1.08'
DEPTH TO WATER: (Static Water Level) 6.07'
REFERENCE POINT: Top of PVC Casing
DATE/TIME PURGED: 12-19-88 / 0919-0927, 1125-1131, 1229-1235
PURGING METHOD: Vacuum Sys w/ Dedicated Teflon Tubing
PURGING DEPTH(s): Surf → Bottom (Dryness)
PURGE RATES (gpm): .75-1.0 gpm
PURGED VOLUME: 13.25 gal.
DTW AFTER PURGING: Dryness
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): Overburden
SAMPLE DATE/TIME: 12-19-88 / 1510-1520
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 6.14'
SAMPLING DEPTH(s): 1' Below Surf.
Well Condition: Good
SAMPLE OBSERVATIONS: Turbid, no noticeable odor

WET CHEMISTRIES

SAMPLE TEMPERATURE: 9.2°C
SAMPLE pH: 7.1
SAMPLE SP. Cond.: 2300

PURGE CHEMISTRIES

TIME/VOLUME	TEMP. °C	pH	CONDUCTIVITY
1 gal	8.6°	7.0	2360
4.5 gal	9.4°	7.1	2310
9.25 gal	9.8°/9.8°	7.2/7.1	2310
13.25 gal	9.9°	7.2	2300

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
- Total Metals Pb Cr-T, Na	L-13907
- Cl, F, SO_4, TSS	L-13914

COMMENTS:
11.15 - 6.07 = 5.07' x 1.96' = 9.9
- Purge water turbid x .154 = 0.8
gray-black @ first, no odor 10.7 gal.
cleared up as we purged. Purged to dryness @ 4.5 gal; let well recover
Purged to dryness again (4.75 gal more)
Purged to dryness a 3rd Time (4 more gal)

Crew Chief Signature: John M Gaynor Date: 12-19-88

Lawler, Matusky & Skelly Engineers

Date: 12-19-88
Crew: JmG DM
Job No: 176-248

pH Meter: CP#06 / CP#07
Therm. No: 656 / 479
Cond. Meter: TC #10

WELL SAMPLING LOG

WELL No: M-6
LOCATION: CH6+E / Danskammer
WELL TYPE: PVC
WELL DIAMETER: 2"
WELL DEPTH: 12.83'
SCREENED INTERVAL: Bottom 10'
CASING HT.: steel 2.95' PVC 2.70'
DEPTH TO WATER: (Static Water Level) 8.74
REFERENCE POINT: Top of PVC Casing
DATE/TIME PURGED: 12-19-88 / 0944-0946, 1141-1142, 1242-1243
PURGING METHOD: Vacuum Sys. w/ Dedicated Teflon Tubing
PURGING DEPTH(S): Surface → Bottom (Dryness)
PURGE RATES (gpm): .75-1.0 gpm
PURGED VOLUME: 2.5 gal
DTW AFTER PURGING: Dryness
EST. YIELD RATE: —
SEAL No: —
CHAIN OF CUSTODY No: —

TYPE OF SCREENING CASING: PVC
WATER BEARING FORMATION(s): Overburden
SAMPLE DATE/TIME: 12-19-88 / 1525-1535
SAMPLING METHOD: Teflon Bailer
DTW BEFORE SAMPLING: 8.86'
SAMPLING DEPTH(S): 1' Below Surf.
Well Condition: Good
SAMPLE OBSERVATIONS: Turbid, tan-yellow color
Sulfur + fuel-type odor

WET CHEMISTRIES

SAMPLE TEMPERATURE: 11.3 °C
SAMPLE pH: 6.7
SAMPLE SP. Cond.: 1926

PURGE CHEMISTRIES

TIME/VOLUME	TEMP. °C	pH	CONDUCTIVITY
1 gal.	10.3°/10.3°	4.8/4.7	2790
2 gal.	11.1°	6.4	2280
2.5 gal	11.2°/11.2°	6.8/6.7	1956

SAMPLE ANALYSIS (List Sample Jar Parameters)

	INVENT. #
Total Metals: Pb, Cr-T, Na	L-13905
Cl, F, SO4, TSS	L-13912

COMMENTS:
12.83' - 8.74' = 4.09 x 1.22 = 5.0 g
x .154 = .6
5.6 gal.
Purge water turbid, orange tan color, musty fuel odor
Purged to dryness @ 1.0 gal.; let recover
Purged to dryness again (1.0 more gal.)

Crew Chief Signature: John M Gruzenski Date: 12.19.88

Lawler, Matusky & Skelly Engineers

LAWLER, MATUSKY & SKELLY ENGINEERS
CHAIN OF CUSTODY RECORD

PROJECT No. 176-249/248

LMS FACILITY Nyack

PROJECT CH6+F Quarterly Well COLLECTION
SITE CH6+F / Dansk Kammer
FIELD PERSONNEL JMG DM

SAMPLE TYPE (Circle):
Drinking Water, Industrial Waste, Coliform (T / F), Stream/Pond, River/Ocean, Leachate, (Monitoring Wells), Treatment Facility, Other_____, Bottom Sediment, Soil

SAMPLE ID NUMBER	DATE	TIME	SAMPLE SITE	PARAMETERS	SAMPLE PREP PRESERVATIVE	SAMPLE PREP FILTER (Y/N)
L-13908	12-19-88	1330	[redacted] M-11	Total Metals Pb, Cr-T, Na	HNO_3	N
L-13913		↓	↓	Cl, F, SO_4, TSS	4°C	
L-13902		1355	Field Blank	Total Metals Pb, Cr-T, Na	HNO_3	
L-13915		↓	↓	Cl F SO_4 TSS	4°C	
L-13903		1400	M-4	Total Metals Pb, Cr-T, Na	HNO_3	
L-13909		↓	↓	Cl F SO_4 TSS	4°C	
L-13904		1425	M-3	Total Metals Pb, Cr-T, Na	HNO_3	
L-13910		↓	↓	Cl F SO_4 TSS	4°C	
L-13906		1440	M-1	Total Metals Pb Cr-T, Na	HNO_3	
L-13916		↓	↓	Cl F SO_4 TSS	4°C	
L-13907		1510	M-8s	Total Metals Pb, Cr-T, Na	HNO_3	
L-13914		↓	↓	Cl F SO_4 TSS	4°C	
L-13905		1525	M-6	Total Metals Pb, Cr-T, Na	HNO_3	
L-13912		↓	↓	Cl F SO_4 TSS	4°C	
L-13901		—	Trip Blank	Total Metals Pb, Cr-T Na	HNO_3	
L-13911	↓	—	↓	Cl F SO_4 TSS	4°C	↓

Relinquished By: | Date/Time: | No. Bottles: 16 | Received By:

Relinquished By: John M Guyewich | Date/Time: 12-20-88 / x | Received By: x

Relinquished By: x | Date/Time: | Received By:

Messenger: | Shipped To: | Received at Laboratory By:

Remarks:

One Blue Hill Plaza, Pearl River, New York 10965
(914) 735-8300
Sample Drop-Off: 53 Hudson Avenue, Nyack, New York 10960

Crew: JMG DM
Date: 12-19-88
Job No: 176-248

LAWLER, MATUSKY & SKELLY ENGINEERS
FIELD METER CALIBRATION AND/OR CHECK
DATA SHEET

Site: CH&E / Dam Skimmer
Oper: Well Sampling
Calib. By: DM

METER No./ PROBE No.	TIME	THERM No./ TEMP. (°C)	EXPECTED VALUE		OBSERVED VALUE		ADJ TO[a]		% DIFF.[b]	COMMENTS
CP / #06	1650	656 / 7.9°	7.0	—	7.1	—	7.0			END OF THE DAY CALIBRATION
	↓	↓	4.0	10.0	4.3	9.8				
CP / #07	1650	7.9°	7.0	—	7.0	—	—			END OF THE DAY CALIBRATION
	↓	↓	4.0	10.0	4.2	9.8				
CP # / 06	0905	656 / 10.1°	7.0	—	7.1	—	7.0	—		
	↓	↓	4.0	10.0	4.3	9.7	—	—		
MID-DAY CALIBRATION →	1315	8.7°	7.0	—	6.9	—	7.0			
	↓	↓	4.0	10.0	4.2	9.8				
CP * / 07	0905	10.1°	7.0	—	7.2	—	7.0	—		
	↓	↓	4.0	10.0	4.2	9.8	—	—		
MID-DAY CALIBRATION →	1315	8.7°	7.0	—	6.9	—	7.0			
	↓	↓	4.0	10.0	4.2	9.9				

[a] For dissolved oxygen and pH meter calibrations, record adjustments (include % and ppm readings for dissolved oxygen meter calibration).

[b] Include % Diff. calculation for conductivity calibration checks: $\% \text{ Diff} = \frac{Ex - Ob}{Ex} \times 100$

ATTACHMENT 2

ANALYTICAL RESULTS

DANSKAMMER POINT M-WELL PROGRAM

19 DECEMBER 1988

CAMO LABORATORIES
367 VIOLET AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1514539
NYS LAB ID NO.: 10310

Lawler, Matusky & Skelly Engineers
53 Hudson Avenue
Nyack, New York 10960

Attn: QA Department

Date of Invoice: 1-17-89
P.O. #: 24279
Typed by: smo
Invoice #: 88-12-5657

LMS Project No.: 176-249

CORRECTED
Analytical Report

Date Samples Collected: 12-19-88
Date Samples Received: 12-21-88
Samples Collected By: Client
Samples Delivered By: Client
Matrix: Water

Sample Identification

A. M-1
B. M-3
C. M-4
D. M-6
E. M-8S
F. M-11
G. Field Blank
H. Trip Blank

Parameters	Unit/ Measure	A	B	C	D	E	F	G	H
Lead, Total *	mg/L	<0.005	<0.005	<0.005	<0.005	0.024	<0.005	<0.005	<0.005
Chromium, Total *	mg/L	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Sodium, Total *	mg/L	219	92	89	90	71	201	<1	<1
Chloride	mg/L	84	20	13	5	37	92	<1	<1
Fluoride	mg/L	7.4	0.1	0.1	0.1	0.3	9.3	0.1	0.1
TSS	mg/L	28	16	49	228	1,212	13	3	2
Sulfate	mg/L	500	2,300	600	1,000	1,050	440	<1	<1

Analysis Comments: * NYSDEC Protocol.

Comments: All samples will be discarded after twenty-one (21) days or EPA Holding time, whichever is shorter, unless we are notified otherwise.

Hazardous waste samples will be returned to client.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methods

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

SOW No.:

LMS Sample No.	Lab Sample ID.
M-1	5657A
M-3	5657B
M-4	5657C
M-6	5657D
M-8S	5657E
M-11	5657F
Field Blank	5657G
Trip Blank	5657H

Were ICP interelement corrections applied? Yes/(No)

Were ICP background corrections applied? Yes/(No)

If yes - were raw data generated before application of background corrections? Yes/No

Comments:

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette has been authorized by the Laboratory Manager of the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 2/3/89

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-1

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Lab Sample ID: 5657A

Level (low/med): low Dated Received: 12/21/88

Percent Solids: 0

ug/L or ug/kg (circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	219,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-3

Laboratory Name: CAMO Laboratories Contract:
Laboratory Code: Case No.: 5657 SAS No.: SDG No.:
Matrix (soil/water): water Lab Sample ID: 5657B
Level (low/med): low Dated Received: 12/21/88
Percent Solids: 0

ug/L or ug/kg
(Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	92,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-4

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Lab Sample ID: 5657C

Level (low/med): low Dated Received: 12/21/88

Percent Solids: 0

ug/L or ug/kg
(Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	89,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: grey Clarity Before: cloudy Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-6

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Lab Sample ID: 5657D

Level (low/med): low Dated Received: 12/21/88

Percent Solids: 0

ug/L or ug/kg (Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	90,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-8S

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Lab Sample ID: 5657E

Level (low/med): low Dated Received: 12/21/88

Percent Solids: 0

ug/L or ug/kg (Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	20		A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	24		F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	71,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: grey Clarity Before: opaque Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

M-11

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Lab Sample ID: 5657F

Level (low/med): low Dated Received: 12/21/88

Percent Solids: 0

ug/L or ug/kg (Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	201,000		A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

| Field Blank |

Laboratory Name: CAMO Laboratories Contract:
Laboratory Code: Case No.: 5657 SAS No.: SDG No.:
Matrix (soil/water): water Lab Sample ID: 5657G
Level (low/med): low Dated Received: 12/21/88
Percent Solids: R

ug/L or ug/kg
(Circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	1,000	B	A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP

1

Inorganic Analysis Data Sheet

LMS SAMPLE NO.

| Trip Blank |

Laboratory Name: CAMO Laboratories Contract:
Laboratory Code: Case No.: 5657 SAS No.: SDG No.:
Matrix (soil/water): water Lab Sample ID: 5657H
Level (low/med): low Dated Received: 12/21/88
Percent Solids: R

ug/L or ug/kg (circle One)

CAS No.	Analyte	Concentration	C	M	Q
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium	10	U	A	
7440-48-4	Cobalt				
7440-50-8	Copper				
7440-89-6	Iron				
7439-92-1	Lead	5	U	F	
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium	1,000	B	A	
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
-----	Cyanide				

Color Before: colorless Clarity Before: clear Texture:

Color After: colorless Clarity After: clear Artifacts:

Comments:

U.S. EPA - CLP
5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.
M-3

Laboratory Name: CAMO Laboratories Contract No.:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Level (low/med): low

ug/L or mg/kg
(Circle one)

Analyte	Control Limit Percent Recovery (ug/L)	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	Percent Recovery	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium	85-115	390		10	U	400	98		A
Cobalt									
Copper									
Iron									
Lead	85-115	42		5	U	40	105		F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium	85-115	205,000		110,000		100,000	95		A
Thallium									
Vanadium									
Zinc									
Cyanide									

Comments:

U.S. EPA - CLP
6
DUPLICATES

EPA SAMPLE NO.
M-3

Laboratory Name: [illegible] Contract No.:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): [illegible] Level (low/med): low

Percent Solids for Sample: [illegible] Percent Solids for Duplicate: 0

ug/L or mg/kg
(circle one)

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium		390		400		2.5		A
Cobalt								
Copper								
Iron								
Lead		42		44		4.7		F
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium		205,000		205,000		NC		A
Thallium								
Vanadium								
Zinc								
Cyanide								

Comments:

LATORY CONTROL SAMPLE

Laboratory Name: CAMO Laboratories

Laboratory Code: : 5657 SAS No.: SDG No.:

Solid LCS Source:

Aqueous LCS Source: EPA 9918

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	C	True	Found	C	Limits	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	99	100						
Cobalt								
Copper								
Iron								
Lead	169	169						
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium	259,000	250,000						
Thallium								
Vanadium								
Zinc								
Cyanide								

U.S. EPA - CLP

5A

SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

M-3

Laboratory Name: CAMO Laboratories Contract No.:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): water Level (low/med): low

ug/L or mg/kg (circle one)

Analyte	Control Limit Percent Recovery (ug/L)	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA) 3	Percent Recovery	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium	85-115	390		10	U	400	98		A
Cobalt									
Copper									
Iron									
Lead	85-115	42		5	U	40	105		F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium	85-115	205,000		110,000		100,000	95		A
Thallium									
Vanadium									
Zinc									
Cyanide									

Comments:

U.S. EPA - CLP
6
DUPLICATES

EPA SAMPLE NO.
M-3

Laboratory Name: [illegible] Contract No.:

Laboratory Code: Case No.: 5657 SAS No.: SDG No.:

Matrix (soil/water): [illegible] Level (low/med): low

Percent Solids for Sample: [illegible] Percent Solids for Duplicate: 0

ug/L or mg/kg
(circle one)

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium		390		400		2.5		A
Cobalt								
Copper								
Iron								
Lead		42		44		4.7		F
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium		205,000		205,000		NC		A
Thallium								
Vanadium								
Zinc								
Cyanide								

Comments:

LATORY CONTROL SAMPLE

Laboratory Name: CAMO Laboratories

Laboratory Code: : 5657 SAS No.: SDG No.:

Solid LCS Source:

Aqueous LCS Source: EPA 9918

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found		True	Found	C	Limits	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium	99	100						
Cobalt								
Copper								
Iron								
Lead	169	169						
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium	259,000	250,000						
Thallium								
Vanadium								
Zinc								
Cyanide								

CLP

INSTRUMENT DET[illegible]MITS (QUARTERLY)

Laboratory Name: CAMO Laboratories Contract:

Laboratory Code: Case No.: 56[illegible] SAS No.: SDG No.:

ICP ID Number: Date: 12/21/88

Flame AA ID Number: PE 460

Furnace AA ID Number: PE HGA 600

Analyte	Wave-length (nm)	CRDL	IDL (ug/L)	M
Aluminum		200		
Antimony		60		
Arsenic		10		
Barium		200		
Beryllium		5		
Cadmium		5		
Calcium		5,000		
Chromium	357.9	10	10	A
Cobalt		50		
Copper		25		
Iron		100		
Lead	283.3	5	5	F
Magnesium		5,000		
Manganese		15		
Mercury		0.2		
Nickel		40		
Potassium		5,000		
Selenium		5		
Silver		10		
Sodium	589,1	5,000	500	A
Thallium		10		
Vanadium		50		
Zinc		20		