WATER QUALITY & HYDROLOGY GROUP (ESH-18)

FAX TRANSMITTAL SHEET

FAX #: (505) 665-9344 **VERIFICATION #: (505) 665-0453**

DATE: August 17, 2000 LOG NO: ESH-18:00-FAX-

TO:		FAX #:		PHONE #		GRP ORG	
TO:	S. Yanicak	FAX #:	(505) 672-0466	PHONE #	(505) 672-0448	GRP ORG	NMED/AIP
TO:	M. Johansen	FAX #:	(505) 665-4872	PHONE #	(505) 665-5046	GRP ORG	DOE/LAAO
TO:		FAX #:		PHONE #		GRP ORG	
TO:		FAX #:		PHONE #		GRP ORG	
TO:	J. Mullany	FAX #	(505) 827-2965	PHONE #	(505) 827-1765	GRP ORG	NMED/GWQB
TO:	John Young	FAX #:	(505) 827-1544	PHONE #	(505) 827-1557	GRP ORG	NMED/HRMB
TO:		FAX #:		PHONE #		GRP ORG	
TO:		FAX #:		PHONE #		GRP ORG	

1/4/13 HSWA LANL

FROM: Harvey Decker, ESH-18, MS K497 PHONE #: (505) 665-2014

Report for discovery of Hg in trap of sink at SM-22 and data of TA-46 data for water and sludge for Hg.

NUMBER OF PAGES TO FOLLOW: 14 Please call me at 5-2014 if you have any questions

Cy: ESH-18 FAX FILE
CRM-4, MS A150
ESH-18, spill file

GROUP LEADER/TEAM LEADER

H.D for M.S

5620

RELEASE / DISCHARGE NOTIFICATION

LOS ALAMOS NATIONAL LABORATORY

Permit Number: NM0028355

Calendar Year: 2000

NPDES or Operational Spill/Release: ☑
ER Spill/Release: ☐
Other Spill/Release: ☐
Indicate with "X" in appropriate box.

Release ID Number: 98

Responsible Facility/User Group: FMU 80

Contact Person: Dave Padilla

Pager #:

Phone #: 7-2408

Cell Phone #:

Release/Discharge Location:

TA: 3

Building: 22-100C

Concrete floor in room 100C near custodial sink.

If the release/discharge is associated with a NPDES Outfall, Potential Release Site (PRS) or Solid Waste Management Unit (SWMU), indicate the site/unit number and its relationship to the release/discharge:

NPDES Outfall: ☑ PRS: ☐ SWMU: ☐ PRS/SWMU Number:

Indicate with "X" in appropriate box(es

Relationship of the Discharge to a SWMU or PRS:

Custodial sink is connected to SWS Plant at TA-46. Possibility exists that some Hg was flushed into the waste line from the p-trap.

Discharge Occurred: 8/1/2000 12:30pm (Date & Time)

Discharge Discovered: 8/1/2000 12:30pm (Date & Time)

Discharge Stopped: 8/1/2000 12:30pm (Date & Time)

Cleanup Started: 8/1/2000 2:30pm (Date & Time)

Cleanup Completed: 8/2/2000 12:00pm (Date & Time)

Material(s) Released / Discharged:

Hg in p-trap of sink was released to the concrete floor when the p-trap was removed and placed on the floor.

Release/Discharge Mitigation Method:

Area was closed. EM&R was called to the scene for evaluation and contacted JCNNM-Environmental Rehabilitation Restoration Team for clean-up. Hg was vacuumed and contained. Residual Hg was sprayed with Mercon X and left overnight. Clean-up was completed the following morning.

Weather Conditions:

N/A- inside

Duration of Release/ Discharge, in HOURS: 2

Est. Volume Released/ Discharged, in GAL.: 0.06

Est. Volume Recovered, in GAL.: 0.06

Corrective Actions Taken (ie, type of BMPs, etc):

Legacy contamination- Meeting by JCNNM to determine what additional p-traps and drain lines in the building must be inspected for Hg. JCNNM construction modified their Activity Hazard Analysis to address future p-trap removals.

Nearest Watercourse (Canyon Name): NONE

If the release/discharge reached a watercourse, describe the estimated surface area affected, presence of release/discharge now in the watercourse, and the media the release/discharge was detected in:

N/A

Depth to Groundwater, in FT, if known: N/A

Distance to Nearest Drinking Water Well, in FT, if known: N/A **Well ID#**

24-HOUR RELEASE / DISCHARGE NOTIFICATIONS

	Contact Person	Phone	Fax	Date & Time (or Comment)	
EPA:	E. Spencer	214-665-6475	214-665-6490	8/1/2000	16:14
NMED/SWQB:	Glenn Saums	827-0596	827-0160	8/1/2000	16:17
NMED/GWQB:	Jim Mullany	827-0212	8272965	8/16/2000	14:30
NMED/HRMB:	John Young	827-1557	827-1544	8/17/2000	9:30
NMED/DOE-OB:	S. Yanicak	672-0448	672-0466	8/17/2000	10:45
ESH-18:	H. Decker	665-2014	665-9344	8/1/2000	
DOE:					
OTHER:					
OTHER:	R. Brake			8/1/2000	18:30

Comments: Glen Saums fom NMED notified 8/1/00 at 16:17. No Hg released to the environment. The entire contents of the p-trap spilled on the floor. Total voulme was contained.

Form Completed By: Marc Bailey

7 DAY RELEASE / DISCHARGE ACTIONS

7 Day Notice ☑ **7 Day Notice Date:** **7 Day Notice By:**

Mark "X" when done.

Comments: Notified Glen Saums 8/11/00 9:21am that this notification is being submitted late.

15 DAY RELEASE / DISCHARGE ACTIONS

15 day Follow-up Due: **15-day Follow-Up By:** Marc Bailey

Comments: This report is both the 7 day and 15 day follow-up notification.

NMED 30 DAY APPROVAL / DISAPPROVAL

NMED 30 Day Response Date:

Comments:

David Gurule, Area Manager
Los Alamos Area Office
Department of Energy
Los Alamos, New Mexico 87544
(505) 667-5105

Dennis J. Erickson, ESH Division Director
University of California
Los Alamos National Laboratory
P.O. Box 1663, MS K491
Los Alamos, New Mexico 87544
(505) 667-4218

Rubel Martinez, 09:37 AM 08/14/20, Mercury Spill

X-Sender: u111758@esh-mail.lanl.gov
X-Mailer: QUALCOMM Windows Eudora Pro Version 3.0.3 (32)
Date: Mon, 14 Aug 2000 09:37:19 -0600
To: marc@lanl.gov
From: Rubel Martinez <rubel@lanl.gov>
Subject: Mercury Spill

On the afternoon of Tuesday, August 1, 2000, while a pipe fitter was removing a p-trap from the janitor's sink at Technical Area 3, SM-22, about a cup of Mercury spilled from the p-trap onto the floor. The employee stopped work and the area was closed off. Benchmark, JCNNM Environmental Rehabilitation Restoration Team (ERRT), and Emergency Management and Response were notified. The spill was contained on the cement floor. Initial clean up was done by the ERRT team that afternoon. Mercon X was then sprayed on the floor and left over night. The ERRT Team completed clean-up the following morning and the area was monitored again to ensure it was clear of mercury before the it was returned to normal service. JCNNM held a meeting to determine what additional p-traps and drains lines in the building must be inspected. JCNNM construction also modified their Activity Hazard Analysis to address future p-trap removals.

JCNNM personnel could not determine where the mercury came from. Mercury was used in the building approximately 10 years ago and previous repairs to this sink had been more than 10 years.

Bob Beers of ESH-18 attended the critique and had monitoring data from SWSC indicating there have been no recent mercury concerns at SWSC.

If you have any questions don't hesitate to give me a call.

Rubel E. Martinez, ESH-7 Occurrence Investigator
Los Alamos National Laboratory, MS K999
phone: (505) 667-0622
pager: (505) 996-1251
E-mail address: rubel@lanl.gov

James K. Stanton, Re: Final Draft of the Spill GZ Report

To: "James K. Stanton" <jks@lanl.gov>
From: Harvey Decker <hld@lanl.gov>
Subject: Re: Final Draft of the Spill GZ Report
Cc: marc@lanl.gov
Bcc:
Attached:

Good idea! Perhaps we could incorporate this method for other drains in areas of known Hg use or contamination at the Laboratory as part of a comprehensive investigation. If you would, please let me know the results of this SM-22 investigation.
HLD

At 10:53 AM 8/17/00 -0600, you wrote:
>Harvey,
>
>If we disturb the p-trap of a drain (e.g., by running some water through
>the drain), any Hg in the trap would be disturbed enough to give off
>vapors. JCNNM HSFT, ESH-5 and HAZMAT should all have the necessary
>equipment to detect the Hg vapors and determine if Hg is in a drain.
>Disturbance is necessary to remove a layer of film from the Hg. SM-22 has
>about 25 drains that we're looking at surveying in this fashion.
>
>Jim

WWS Facility Sanitary Treatment Solids TCLP and Total Mercury Results 1993-1999

DRAFT

Sample ID #	Sample Type	Date	TCLP Mercury (mg/L)	Total Mercury (mg/kg)
93.02698	Sludge	3/18/93	< 0.001	5.4
93.02735	Sludge	6/4/93		8.1
93.02730	Sludge	6/4/93		5.9
93.02732	Sludge	6/4/93		4
93.02733	Sludge	6/4/93		3.9
93.02734	Sludge	6/4/93		3.5
93.02771	Sludge	9/10/93	0.001	5.4
94.02811	Sludge	12/8/93		5.8
94.02859	Sludge	4/19/94		3.3
94.02861	Sludge	4/19/94		1.2
94.02860	Sludge	4/19/94	< 0.001	
94.03005	Sludge	9/8/94		3.5
94.03006	Sludge	9/8/94		3.2
95.00282	Sludge	12/13/94		8.8
95.00283	Sludge	12/13/94		8.8
95.00400	Sludge	4/7/95	< 0.002	
95.00398	Sludge	4/7/95		3.9
95.00399	Sludge	4/7/95		4.7
96.00003	Sludge	10/3/95		4.9
96.00004	Sludge	10/3/95		3.91
96.00030	Sludge	12/13/95		4.61
96.00031	Sludge	12/13/95		2.88
96.00069	Sludge	4/9/96		3.65
96.00070	Sludge	4/9/96		3.66
96.00071	Sludge	4/9/96	< 0.004	
96.00272	Sludge	8/13/96		9.84
96.00273	Sludge	8/13/96		7.07
96.00314	Sludge	12/11/96		8.4
96.00315	Sludge	12/11/96		9.59
97.0391	Sludge	4/29/97	0.003	
97.0392	Sludge	4/29/97	< 0.002	
97.0393	Sludge	4/29/97	0.003	
97.0394	Sludge	4/29/97	< 0.002	
97.0395	Sludge	4/29/97	< 0.002	
97.0396	Sludge	4/29/97	< 0.002	
97.0397	Sludge	4/29/97	< 0.002	
97.0400	Sludge	4/29/97		14.1
97.0401	Sludge	4/29/97		4.25
97.051306	Sludge	8/29/97	< 0.02	
97.061201	Sludge	8/29/97	< 0.02	
98.120501	Sludge	5/1/98	< 0.002	5.07
98.110501	Sludge	5/1/98	< 0.002	0.92
98.030501	Sludge	5/1/98	< 0.002	2.47
99.46S1204	Sludge	4/20/99	0.0004	
99.46S1104	Sludge	4/20/99	0.0015	
99.46S204	Sludge	4/20/99	< 0.0011	
99.46S604	Sludge	4/20/99	0.0008	
99.46S2D	Sludge	4/20/99	0.0011	

TOTAL Hg
MAX - 14.1 mg/kg
MIN - 0.92
MEAN - 5.6

WS Facility Sanitary Treatment Solids
TCLP and Total Mercury Results
1993-1999

Sample ID #	Sample Type	Date	TCLP Mercury (mg/L)	Total Mercury (mg/kg)
93.02715	Grit & Screenings	4/8/93	< 0.001	
93.02716	Grit & Screenings	4/8/93	< 0.001	
94.02831	Grit & Screenings	2/16/94	< 0.001	
94.03007	Grit & Screenings	9/9/94	< 0.001	
96.00001	Grit & Screenings	10/3/95	< 0.002	
96.00002	Grit & Screenings	10/3/95	< 0.002	
96.00029	Grit & Screenings	12/13/95	< 0.002	
95.00401	Grit & Screenings	4/12/95	< 0.001	
96.00068	Grit & Screenings	4/9/96	< 0.004	
96.00274	Grit & Screenings	8/13/96	< 0.002	
96.00303	Grit & Screenings	10/24/96	< 0.002	
97.0402	Grit & Screenings	4/29/97	< 0.02	
97.0490	Grit & Screenings	8/29/97	< 0.002	
98.SR0501	Screenings	5/1/98	< 0.002	
98.G0501	Grit	5/1/98	< 0.002	
99.GRS04A	Grit & Screenings	4/20/99	0.0005	
99.GRS04B	Grit & Screenings	4/20/99	0.0007	

Notes:
The regulatory limit for land application under the 40CFR Part 503 Regulations is 57 mg/kg of Total Mercury.

April 12, 2000

TCLP	Total (mg/kg)	
0.0003	2.3	Sludge
< 0.0002	3.01	
< 0.0002	3.73	
< 0.0002	3.81	
< 0.0002	4.44	
< 0.0002	3.56	
< 0.0002	2.74	

MAX: 4.44
MIN: 2.3
MEAN (EST): ~3.5

< 0.0002 — 0.49 — Grit

0.0003 — 0.22 — Screenings

submission: 10003870S
Sample id: 200102790

SPECIAL SAMPLE FORM
LANL ESH-18

99.77322

Send this completed form to: HARVEY DECKER

EPA Serial No. [redacted] ← High lights not x outs Sample No. [redacted]

Date Sampled 7-14-99

TA/Bldg. 46 CCC Sampled by H. Dech

Flow .2 gpm mgd Estimated [redacted] Measured O'

N/A Time

Discharge description:

color: clear slight green hue foam or floating solids: none

odor: slight chl Highlight

Comments: for Hg analysis only [redacted]

Preservative(s): HNO3 Refrigeration Yes

Parameter	Results/Concentration	Time Collected	Date Began	Time Began	Method*	Analyzed by
Hg Total	[redacted]	9:15 AM	8-16-99	11:10	245.2	JEY

0.00005 mg/L

preservation checked by KD! 7/20/99

*Enter method used to perform analysis
See reverse for Chain-of-Custody Record

REVIEWED BY [signature] DATE 8/18/99 (ESH-18)

5/8/96

This result was inadvertently not included in attached WQ (98-99)- DMR. Revised DMR submitted to EPA 9-21-99 cj

99.77318

SPECIAL SAMPLE FORM
LANL ESH-18

Submission: 100357
Sample id: 200102-78

Send this completed form to: HARVEY DECKER

EPA Serial No. EPA 135 Sample No. SPHgD

Date Sampled 7-14-99

TA/Bldg. 46 CCC Sampled by H. Decker

Flow ~2 ~~MGD~~ Estimated X Measured O

NA Time

Discharge description:

color: Clear Slight green haze foam or floating solids: NO

odor: Slight Cl2

Comments: for Dissolved Hg analysis only
Please filter + preserve with HNO3 before analysis

Preservative(s): @ 4°C til filtration Refrigeration Yes
Then Please add HNO3

Parameter	Results/Concentration	Time Collected	Date Began	Time Began	Method*	Analyzed by
HG Dissolved	<0.03 µg/L	9:15AM	8-10-99	15:54	245.2	JCY

*Enter method used to perform analysis
See reverse for Chain-of-Custody Record

preservation checked at TA-50
by [illegible]
date 7/20/99

REVIEWED BY [signature] DATE 8/13/99 (ESH-18)

5/8/96

Not included in DMR report.

99.77314

SPECIAL SAMPLE FORM
LANL ESH-18

Submission: 100387
Sample id: 20010278

Send this completed form to: Harvey Decker

EPA Serial No. EPA 135 Sample No. Sp Hg SW

Date Sampled 7-14-99

TA/Bldg. 46 CCC Sampled by H. Peck

Flow .2 ~~gpm~~ MGD Estimated ☒ Measured ○

NA Time

Discharge description:

color: ~~Sl~~ Clear Slight Green haze foam or floating solids: NO

odor: Slight Cl2

Comments: For SW846 Analysis of Hg only

Preservative(s): HNO3 Refrigeration Yes

Parameter	Results/Concentration	Time Collected	Date Began	Time Began	Method*	Analyzed by
Hg by SW846 only	<0.03 µg/l	9:15 AM	8-9-99	11:30	SW846	JEY

*Enter method used to perform analysis
See reverse for Chain-of-Custody Record

Preservative Check at TA-50 by KD. Date 7/20/99 pH < 2

REVIEWED BY [signature] DATE 8/13/99 (ESH-18)

5/8/96

Not included in DMR Report

NPDES Sanitary Discharge Monitoring

Yearly Water Quality Parameters

99.77306

Cost Code 7C18 Program Code WE3E

TA Serial No. EPASSS13S Sample No. 200096095

Date Sampled 4/29/99 Submission No. 100036872

TA/Bldg. TA46-CCC Sampled by MBailey

ISCO Refrigerator temp.: start 3.2°C end 2.5°C

Auto Sampler Collection Setting: start 10 aliquots/40 samples Total samples collected 35

Date Auto Sampler Started 4/28/99 Time 2:59pm By MB

Date Auto Sampler Checked 4/29/99 Time 10.42am By MB

Date Sample Picked Up 4/29/99 Time 2:56pm By MB

Comments: 30 Samples at 10:42 am 4/29/99

FLOW at set up = 0.347 MG/day ; 0.302 MG/day at check ; 0.247 at pick up MG/day

Analytical Laboratory Only: Sample Collection Quality Check ✔ ☑ Checked By: KEstrada

Date Checked: 5/3/99

CAUTION: POSSIBLE BIOHAZARD- TREATED SANITARY EFFLUENT

Analysis	Results/Concentration	Time Picked up (24 hr composite)	Preserv. Added ✔ ☑	Date Began	Time Began	Method	Analyzed by
As(T)	4±3 ug/L ✓	2:56pm	HNO_3	5.4.99	4:00PM	206.2	KAD
B(T)	0.09±0.03 mg/L ✓			5/10/99	2:00pm	200.7	MAH
Cd(T)	<0.9 µg/L ✓			5/11/99	9am	200.8	MMO
Cr(T)	<0.003±0 mg/L ✓			5/10/99	2:00pm	200.7	MAH
Co(T)	<0.02±0 mg/L ✓			↓	↓	200.7	↓
Cu(T)	0.007±0.004 mg/L			↓	↓	200.7	↓
Pb(T)	3±3 µg/L ✓			5/11/99	9am	200.8	MMO
V(T)	<0.02±0 mg/L ✓			5/10/99	2:00pm	200.7	MAH
Zn(T)	0.11±0.04 mg/L			↓	↓	200.7	↓
Al(T)	<0.2±0 mg/L			↓	↓	200.7	↓
Se(T)	<2 µg/L ✓			5.4.99	4:00PM	270.2	KAD
Hg(T)	<0.10 µg/L ✓			5.5.99	4:00PM	245.2	KAD

See reverse for Chain-of-Custody Record

REVIEWED BY SK Doorn **DATE** 5/14/99 **(CST-9)**

REVIEWED BY _____ **DATE** _____ **(ESH-18)**

8/18/98

12 bottles used inc. extra collected

NPDES Sanitary Discharge Monitoring

Yearly Water Quality Parameters

Treated Sanitary effluent

EPA Serial No. SSS135 Sample No. ~~98.77314~~ 98.77315

Date Sampled 6/1/98

TA/Bldg. TA-46-CCC Sampled by D.Bailey/T.Decker

Flow: composite gpm N/A time Estimated ☐ N/A Measured ☐

CAUTION - POSSIBLE BIOHAZARD

Discharge description:
color: greenish brown foam or floating solids: NONE
odor: slight chlorine smell

Comments: ISCO started at 8:46am 6/3/98 (10 pulses/40 samples). 3.5°C inside refrigerator. 36 samples collected. 3.8°C inside refrigerator at pickup

Analytical Laboratory Only: Sample Collection Quality Check ✔ ☑ Checked By: M. Rodriguez
Date Checked: 7/7/98

Analysis	Results/Concentration	Time Collected	Preserv. Added ✔	Date Began	Time Began	Method	Analyzed by
As(T)	2.0 ± 0.9 ug/L	8:18am	HNO_3 ☑	8-11-98	8:00AM	206.2	MBG
B(T)	0.0977 ± 0.0023 mg/L			8/14/98	1339	200.7	CAB
Cd(T)	< 0.9 ug/L			8-11-98	8:00AM	200.8	MBG
Cr(T)	0.0025 ± 0.0007 mg/L			8/14/98	1339	200.7	CAB
Co(T)	0.0024 ± 0.0005 mg/L			8/14/98	1339	200.7	CAB
Cu(T)	0.0009 ± 0.0007 mg/L			8/14/98	1339	200.7	CAB
Pb(T)	3.3 ± 1.0 ug/L			8-11-98	8:00AM	200.8	MBG
V(T)	0.0100 ± 0.0004 mg/L			8/14/98	1339	200.7	CAB
Zn(T)	0.0954 ± 0.0007 mg/L			8/14/98	1339	200.7	CAB
Al(T)	0.1524 ± 0.0078 mg/L			8/14/98	1339	200.7	CAB
Se(T)	< 2 ug/L			8-11-98	8:00AM	270.2	MBG
Hg(T)	0.124 ± 0.086 ug/L	↓	↓	7/31/98	2:00PM	245.2	M. Lozano

(2)

See reverse for Chain-of-Custody Record

REVIEWED BY [signature] DATE 8/21/98 (CST-9)
REVIEWED BY _____ DATE _____ (ESH-18)

12/17/96

NPDES Sanitary Discharge Monitoring
Yearly Water Quality Parameters

10001995

TA Serial No. SSS135
Date Sampled 6/26/97
TA/Bldg. TA46-ECC
Sample No. 97.77310 (20003118L)
Sampled by Marc Bailey
Flow: N/A - composite sample gpm
N/A time
Estimated ☐ Measured ☐

Discharge description:
color: greenish/brown foam or floating solids: -some white globs at baffle 4
odor: slight chlorine smell

Comments: Composite (flow weighted) started 6/25/97 9:27am Temp inside sampler: start=3.9°C
Sampler stopped: 6/26/97 9:42am 29 samples collected Temp " " end=3.8°C
(250ml @1)

Analytical Laboratory Only: Sample Collection Quality Check ✔ ☐ Checked By: mca
Date Checked: 6/27/97

Analysis	Results/Concentration	Time Collected	Preserv. Added ✔	Date Began	Time Began	Method	Analyzed by
As(T)	<3 ug/L ✓	9:42am	HNO3 ☑	7-3-97	8 AM	206.2	MBG
B(T)	0.10 ± 0.01 mg/L ✓			7/3/97	3:00 PM	200.7	Y.D
Cd(T)	< 1.3 ug/L ✓			7-11-97	8 AM	200.8	MBG
Cr(T)	0.003 ± 0.003 mg/L			7/3/97	3:00PM	200.7	Y.D
Co(T)	< 0.0030 mg/L ✓			7/3/97	3:00PM	200.7	Y.D
Cu(T)	< 0.010 mg/L ✓			7/3/97	3:00PM	200.7	Y.D
Pb(T)	<2.0 ug/L ✓			7-11-97	8 AM	200.8	MBG
V(T)	0.015 ± 0.003 mg/L ✓			7/3/97	3:00PM	200.7	Y.D
Zn(T)	0.10 ± 0.05 mg/L			7/3/97	3:00PM	200.7	Y.D
Al(T)	0.10 ± 0.05 mg/L ✓			7/3/97	3:00PM	200.7	Y.D
Se(T)	<2 ug/L ✓			7-3-97	8 PM	270.2	MBG
Hg(T)	<0.200 ng/L ✓	✓	↓	7/7/97	1:30PM	245.2	M.L

See reverse for Chain-of-Custody Record

Treated Sanitary Effluent
POSSIBLE BIOHAZARD

REVIEWED BY [signature] DATE 7/14/97 (CST-9)
REVIEWED BY [signature] DATE 7-22-97 (ESH-18)

12/17/96

NPDES Industrial Discharge Monitoring

Yearly Water Quality Parameters

KC 8-9-96

EPA Serial No. EPA SSS0135 ~~035~~ we 7/19/96 Sample No. 95.77419

Date Sampled 11/2/95

TA/Bldg. TA46 SWISH Sampled by Marc Bailey

Flow varied - See comments ~~gpm~~ Estimated O Measured ●

By plant Flow meter

Time

Discharge description:

color: clear foam or floating solids: NONE

odor: NONE.

Comments: composite of 4 grab samples. Flow = 0.18 MGD – 0.43 MGD

Preservative(s): HNO_3 to pH <2 ✓ Refrigeration ✓

Analysis	Results/Concentration	Time Collected	Date Began	Time Began	Method	Analyzed by
As(T)	3.3 ± 2.0 ~~ug/L~~ 0.0033 mg/L	1:20pm	11/30/95	3:26 PM	206.2	BL
B(T)	0.092 ± 0.049 Mg/L		12/1/95	11:51 am	200.7	
Cd(T)	< 0.002 Mg/L		12/1/95	11:51 am	200.7	
Cr(T)	< 0.01 Mg/L				200.7	
Co(T)	0.009 ± 0.003 Mg/L				200.7	
Cu(T)	< 0.013 Mg/L				200.7	
12/7/95 Pb(T)	~~0.004 ± 0.003~~ < 0.016 Mg/L		12/7/95	10:35 am	~~200.7~~ 239.2	MSBrulin
V(T)	0.011 ± 0.006 Mg/L		12/1/95	11:51 am	200.7	
Zn(T)	0.16 ± 0.02 Mg/L				200.7	
Al(T)	< 0.09 Mg/L				200.7	
Se(T)	< 1. ug/L ± 0		11/30/95	8:00 AM	270.2	
Hg(T)	< 0.2 ± 0 ug/L		12/5/95	9:00 AM	245.2	

See reverse for Chain-of-Custody Record

REVIEWED BY [signature] DATE 12/11/95 (CST-9)

REVIEWED BY C. Gurgue DATE 12/13/95 (ESH-18)

10/2/95

NPDES Industrial Discharge Monitoring
Yearly Water Quality Parameters

EPA Serial No. SSS13S Sample No. 95-77364

Date Sampled 6/20/95

TA/Bldg. TA-3 Sampled by M. Bailey

Flow 160.6 gpm Estimated O✓ Measured O

3:29pm Time

Discharge description:

color: Clear foam or floating solids: NONE

odor: NONE

Comments:

Preservative(s): HNO_3 to pH <2 ✓ Refrigeration ✓

Analysis	Results/Concentration	Time Collected	Date Began	Time Began	Method	Analyzed by
Al(T)	0.2±0.1 mg/L	3:31pm	6-28-95	9:00 AM	200.7	MBG
As(T)	3ug/l ± 3	↓	6/29	8:00	206.2	PEC
B(T)	0.1±0.01 mg/L		6-28	9:00	200.7	MBG
Cd(T)	<0.003 mg/L		"	"	~~200.7~~	200.7 MBG MBG
Cr(T)	<0.004 mg/L		"	"	200.7	MBG
Co(T)	0.005 ±0.004 mg/L		"	"	200.7	MBG
Cu(T)	0.004 ±0.004 mg/L		"	"	200.7	MBG
Pb(T)	<0.03 mg/L		"	"	~~239.2~~ 200.7 MBG	MBG
Hg(T)	<.2ug/l ±0		6/23	8:00	245.2	PEC
Se(T)	<2ug/l ±0		6/29	8:00	270.2	PEC
V(T)	0.014±0.004 mg/L		6-28	9:00	200.7	MBG
Zn(T)	0.14 ±0.02 mg/L	↓	" ↓	" ↓	200.7	MBG

See reverse for Chain-of-Custody Record

V= verified sample submitted ✓

REVIEWED BY MMKolby DATE 7/11/95 (CST-9)

REVIEWED BY ______ DATE ______ (ESH-18)

3/2/95

Results reviewed 7/12/95 J Schulantz