Stream Pats Branch O-0.5

- Pats Branch was on the 1996 303(d) list. The pollutant of concern was metals and the listed length was 0.87 miles.
- The AN code was incorrectly stated on the 1996 303(d) list as BST-40-E. The correct AN code is OG-0.5. Coordinates at the mouth are 38 25' 04", -82 23' 23". The drainage is identified on the USGS 7 ½ minute topographic map as Dietz Hollow.
- Review of recent data shows that the water quality criterion for copper is violated in 36 percent of the samples both above and below the tailings storage area.
- Water quality criterion for fluoride is violated in 14 percent of the samples above the tailings storage area and 43 percent below the tailings storage area.

DEP proposes to list 0.87 miles of Pats Branch for violation of the water quality criterion for copper and 0.2 miles for violations of the water quality criterion for fluoride.

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME INCO ALLOYS INTERNATIONAL, INC. PERMIT No. IWL-6325-91

LOCATION HUNTINGTON, WV

TYPE OF ACTIVITY: ____ LANDFILL ____ SPRAY IRRIGATION XX OTHER (DESCRIBE) TAILINGS STORAGE AREA

STREAM SAMPLE IDENTIFICATION S1 UPSTREAM SAMPLE

METHOD OF SAMPLING: XX GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 12/11/92 STREAM FLOW 20 CFM

STREAM SAMPLE IDENTIFICATION S2 DOWNSTREAM SAMPLE

METHOD OF SAMPLING XX GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 12/11/92 STREAM FLOW 20 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	6.95	SU.	pH	7.08	SU.
TEMPERATURE	45.0	F.	TEMPERATURE	45.0	F.
ALKALINITY	160.00	MG/L	ALKALINITY	135.00	MG/L
T. D. S.	430.00	MG/L	T. D. S.	378.00	MG/L
T. S. S.	36.00	MG/L	T. S. S.	46.00	MG/L
SPEC CONDUCTANCE	558.00	M/OM	SPEC CONDUCTANCE	569.00	M/OM
C. O. D.	18.00	MG/L	C. O. D.	30.00	MG/L
FLUORIDE	1.07	MG/L	FLUORIDE	1.80	MG/L
CALCIUM	43.40	MG/L	CALCIUM	37.00	MG/L
NICKEL	0.02	UG/L	NICKEL	0.18	UG/L
COPPER	0.01	UG/L	COPPER	0.04	UG/L
TOTAL CHROMIUM	0.01	UG/L	TOTAL CHROMIUM	0.04	UG/L
HEX. CHROMIUM	<0.02	UG/L	HEX. CHROME	<0.02	UG/L
TOTAL IRON	2.39	UG/L	TOTAL IRON	2.04	UG/L
HARDNESS	235.00	MG/L	HARDNESS	190.00	MG/L

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME INCO ALLOYS INTERNATIONAL, INC. PERMIT No. IWL-6325-91

LOCATION HUNTINGTON, WV

TYPE OF ACTIVITY: _____ LANDFILL _____ SPRAY IRRIGATION XX OTHER (DESCRIBE)

TAILINGS STORAGE AREA

STREAM SAMPLE IDENTIFICATION S1

UPSTREAM SAMPLE

METHOD OF SAMPLING: XX GRAB ___ COMPOSITE

OTHER (DESCRIBE) _____

DATE: 3/17/93 STREAM FLOW 200.5 CFM

STREAM SAMPLE IDENTIFICATION S2

DOWNSTREAM SAMPLE

METHOD OF SAMPLING XX GRAB ___ COMPOSITE

OTHER (DESCRIBE) _____

DATE: 3/17/93 STREAM FLOW 200.5 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	7.56	SU.	pH	7.45	SU.
TEMPERATURE	40	F.	TEMPERATURE	40	F.
ALKALINITY	110.00	MG/L	ALKALINITY	115.00	MG/L
T. D. S.	300.00	MG/L	T. D. S.	404.00	MG/L
T. S. S.	168.00	MG/L	T. S. S.	187.00	MG/L
SPEC CONDUCTANCE	261	M/OM	SPEC CONDUCTANCE	267	M/OM
C. O. D.	21.00	MG/L	C. O. D.	25.00	MG/L
FLUORIDE	0.73	MG/L	FLUORIDE	0.71	MG/L
CALCIUM	55.80	MG/L	CALCIUM	53.60	MG/L
NICKEL	100.0	UG/L	NICKEL	100.0	UG/L
COPPER	30.0	UG/L	COPPER	40.0	UG/L
TOTAL CHROMIUM	< 10.0	UG/L	TOTAL CHROMIUM	< 10.0	UG/L
HEX. CHROMIUM	< 20.0	UG/L	HEX. CHROME	< 20.0	UG/L
TOTAL IRON	4,770.	UG/L	TOTAL IRON	5,750.	UG/L
HARDNESS	150.00	MG/L	HARDNESS	165.00	MG/L

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

OMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-9

LOCATION Huntington, WV

TYPE OF ACTIVITY: LANDFILL SPRAY IRRIGATION XX OTHER (DESC

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB COMPOSITE

OTHER (DESCRIBE)

DATE: 6/18/93 STREAM FLOW 10.0 CFM

PARAMETER	CONC.	UNIT
pH	7.80	SU.
TEMPERATURE	73.	°F
ALKALINITY	285.00	MG/L
T. D. S.	682.00	MG/L
T. S. S.	5.00	MG/L
SPEC CONDUCTANCE	1338.	M/OM
C. O. D.	46.00	MG/L
FLUORIDE	2.43	MG/L
CALCIUM	107.10	MG/L
NICKEL	70.	UG/L
COPPER	20.0	UG/L
TOTAL CHROMIUM	3.	UG/L
HEX. CHROMIUM	<20.	UG/L
TOTAL IRON	310.	UG/L
HARDNESS	275.00	MG/L

STREAM SAMPLE IDENTIFICATION

METHOD OF SAMPLING X GRAB COMPO

OTHER (DESCRIBE)

DATE: 6/18/93 STREAM FLOW 10.0

PARAMETER	CONC.	UNI
pH	8.46	SU.
TEMPERATURE	70.	°F
ALKALINITY	290.00	MG/
T. D. S.	770.00	MG/
T. S. S.	7.00	MG/
SPEC CONDUCTANCE	1432.	M/O
C. O. D.	46.00	MG/
FLUORIDE	3.09	MG/
CALCIUM	88.90	MG/
NICKEL	70.	UG/
COPPER	10.	UG/
TOTAL CHROMIUM	2.	UG/
HEX. CHROME	<20.	UG/
TOTAL IRON	160.	UG/
HARDNESS	235.00	MG/

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: LANDFILL SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB COMPOSITE

OTHER (DESCRIBE)

DATE: 9/2/93 STREAM FLOW .67 CFM

STREAM SAMPLE IDENTIFICATION S2

METHOD OF SAMPLING X GRAB COMPOSITE

OTHER (DESCRIBE)

DATE: 9/2/93 STREAM FLOW .67 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	8.87	SU.	pH	7.88	SU.
TEMPERATURE	74	°F	TEMPERATURE	75	°F
ALKALINITY	250.00	MG/L	ALKALINITY	198.00	MG/L
T. D. S.	538.00	MG/L	T. D. S.	502.00	MG/L
T. S. S.	18.00	MG/L	T. S. S.	13.00	MG/L
SPEC CONDUCTANCE	830	M/OM	SPEC CONDUCTANCE	919	M/OM
C. O. D.	13.00	MG/L	C. O. D.	11.00	MG/L
FLUORIDE	2.05	MG/L	FLUORIDE	6.65	MG/L
CALCIUM	77.80	MG/L	CALCIUM	56.20	MG/L
NICKEL	80	UG/L	NICKEL	80	UG/L
COPPER	10	UG/L	COPPER	30	UG/L
TOTAL CHROMIUM	1	UG/L	TOTAL CHROMIUM	6	UG/L
HEX. CHROMIUM	<20	UG/L	HEX. CHROME	<20	UG/L
TOTAL IRON	410	UG/L	TOTAL IRON	290	UG/L
HARDNESS	310.00	MG/L	HARDNESS	215.00	MG/L

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STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

MPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: ____ LANDFILL ____ SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 11/3/93 STREAM FLOW 1.6 CFM

STREAM SAMPLE IDENTIFICATION S2

METHOD OF SAMPLING X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 11/3/93 STREAM FLOW 1.6 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	7.52	SU.	pH	8.58	SU.
TEMPERATURE	50	°F	TEMPERATURE	50	°F
ALKALINITY	225.00	MG/L	ALKALINITY	245.00	MG/L
T. D. S.	632.00	MG/L	T. D. S.	640.00	MG/L
T. S. S.	18.00	MG/L	T. S. S.	18.00	MG/L
SPEC CONDUCTANCE	1092	M/OM	SPEC CONDUCTANCE	1115	M/OM
C. O. D.	25.00	MG/L	C. O. D.	33.00	MG/L
FLUORIDE	3.41	MG/L	FLUORIDE	6.90	MG/L
CALCIUM	119.40	MG/L	CALCIUM	145.00	MG/L
NICKEL	60.0	UG/L	NICKEL	<60.0	UG/L
COPPER	40.0	UG/L	COPPER	20.0	UG/L
TOTAL CHROMIUM	<10.0	UG/L	TOTAL CHROMIUM	<10.0	UG/L
HEX. CHROMIUM	<10.0	UG/L	HEX. CHROME	<10.0	UG/L
TOTAL IRON	310.	UG/L	TOTAL IRON	470.	UG/L
HARDNESS	310.00	MG/L	HARDNESS	285.00	MG/L

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

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COMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: LANDFILL SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB COMPOSITE

OTHER (DESCRIBE)

DATE: 5/20/94 STREAM FLOW 8.0 CFM

STREAM SAMPLE IDENTIFICATION S2

METHOD OF SAMPLING X GRAB COMPOSITE

OTHER (DESCRIBE)

DATE: 5/20/94 STREAM FLOW 8.0 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	7.63	SU.	pH	8.62	SU.
TEMPERATURE	61	°F	TEMPERATURE	61	°F
ALKALINITY	185.00	MG/L	ALKALINITY	200.00	MG/L
T. D. S.	466.00	MG/L	T. D. S.	462.00	MG/L
T. S. S.	2.00	MG/L	T. S. S.	2.00	MG/L
SPEC CONDUCTANCE	755	M/OM	SPEC CONDUCTANCE	786	M/OM
C. O. D.	17.00	MG/L	C. O. D.	16.00	MG/L
FLUORIDE	1.62	MG/L	FLUORIDE	3.32	MG/L
CALCIUM	102.00	MG/L	CALCIUM	110.00	MG/L
NICKEL	70.00	UG/L	NICKEL	110.00	UG/L
COPPER	<10.00	UG/L	COPPER	30.00	UG/L
TOTAL CHROMIUM	20.00	UG/L	TOTAL CHROMIUM	10.00	UG/L
HEX. CHROMIUM	<10.00	UG/L	HEX. CHROME	<10.00	UG/L
TOTAL IRON	120.00	UG/L	TOTAL IRON	100.00	UG/L
HARDNESS	295.00	MG/L	HARDNESS	268.00	MG/L

STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: ____ LANDFILL ____ SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 3/23/95 STREAM FLOW 3.34 CFM

STREAM SAMPLE IDENTIFICATION S2

METHOD OF SAMPLING X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 3/23/95 STREAM FLOW 3.34 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	8.35	SU.	pH	9.00	SU.
TEMPERATURE	55.0	°F	TEMPERATURE	54.3	°F
ALKALINITY	130.00	MG/L	ALKALINITY	140.00	MG/L
T. D. S.	348.00	MG/L	T. D. S.	338.00	MG/L
T. S. S.	10.00	MG/L	T. S. S.	11.00	MG/L
SPEC CONDUCTANCE	572	M/OM	SPEC CONDUCTANCE	567	M/OM
C. O. D.	13.0	MG/L	C. O. D.	23.00	MG/L
FLUORIDE	1.0	MG/L	FLUORIDE	1.80	MG/L
CALCIUM	57.60	MG/L	CALCIUM	63.40	MG/L
NICKEL	<50	UG/L	NICKEL	<50	UG/L
COPPER	90	UG/L	COPPER	90	UG/L
TOTAL CHROMIUM	<60	UG/L	TOTAL CHROMIUM	<60	UG/L
HEX. CHROMIUM	<20	UG/L	HEX. CHROME	<20	UG/L
TOTAL IRON	300	UG/L	TOTAL IRON	270	UG/L
HARDNESS	190.00	MG/L	HARDNESS	182.50	MG/L

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STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: ____ LANDFILL ____ SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

METHOD OF SAMPLING: X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 6/2/95 STREAM FLOW 33.4 CFM

STREAM SAMPLE IDENTIFICATION S2

METHOD OF SAMPLING X GRAB ___ COMPOSITE

OTHER (DESCRIBE) ____

DATE: 6/2/95 STREAM FLOW 33.4 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	7.39	SU.	pH	8.00	SU.
TEMPERATURE	70.5	°F	TEMPERATURE	71.1	°F
ALKALINITY	210.00	MG/L	ALKALINITY	200.00	MG/L
T. D. S.	398.00	MG/L	T. D. S.	350.00	MG/L
T. S. S.	230.00	MG/L	T. S. S.	236.00	MG/L
SPEC CONDUCTANCE	691	M/OM	SPEC CONDUCTANCE	668	M/OM
C. O. D.	23.0	MG/L	C. O. D.	124.00	MG/L
FLUORIDE	0.77	MG/L	FLUORIDE	1.50	MG/L
CALCIUM	74.60	MG/L	CALCIUM	75.70	MG/L
NICKEL	<50	UG/L	NICKEL	260	UG/L
COPPER	50	UG/L	COPPER	100	UG/L
TOTAL CHROMIUM	<60	UG/L	TOTAL CHROMIUM	<60	UG/L
HEX. CHROMIUM	<20	UG/L	HEX. CHROME	<20	UG/L
TOTAL IRON	7320	UG/L	TOTAL IRON	4490	UG/L
HARDNESS	240.00	MG/L	HARDNESS	255.00	MG/L

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STATE OF WEST VIRGINIA

QUARTERLY STREAM SAMPLING REPORT FORM

COMPANY NAME Inco Alloys International Inc. PERMIT No. IWL-6325-91

LOCATION Huntington, WV

TYPE OF ACTIVITY: _____ LANDFILL _____ SPRAY IRRIGATION XX OTHER (DESCRIBE)

Tailings Storage Area

STREAM SAMPLE IDENTIFICATION S1

SAMPLING METHOD: X GRAB ___ COMPOSITE

OTHER (DESCRIBE) _____

DATE: 9/1/95 STREAM FLOW 0.13 CFM

STREAM SAMPLE IDENTIFICATION S2

SAMPLING METHOD X GRAB ___ COMPOSITE

OTHER (DESCRIBE) _____

DATE: 9/1/95 STREAM FLOW 0.13 CFM

PARAMETER	CONC.	UNIT	PARAMETER	CONC.	UNIT
pH	7.46	SU.	pH	8.22	SU.
TEMPERATURE	73.9	°F	TEMPERATURE	71.6	°F
ALKALINITY	310	MG/L	ALKALINITY	285	MG/L
T. D. S.	542	MG/L	T. D. S.	604	MG/L
T. S. S.	1	MG/L	T. S. S.	46	MG/L
SPEC CONDUCTANCE	1,193	M/OM	SPEC CONDUCTANCE	1,324	M/OM
C. O. D.	30	MG/L	C. O. D.	17	MG/L
FLUORIDE	1.5	MG/L	FLUORIDE	12	MG/L
CALCIUM	87.9	MG/L	CALCIUM	50.7	MG/L
NICKEL	<50	UG/L	NICKEL	<50	UG/L
COPPER	150	UG/L	COPPER	170	UG/L
TOTAL CHROMIUM	<60	UG/L	TOTAL CHROMIUM	<60	UG/L
HEX. CHROMIUM	<20	UG/L	HEX. CHROME	<20	UG/L
TOTAL IRON	<40	UG/L	TOTAL IRON	280	UG/L
HARDNESS	270	MG/L	HARDNESS	46	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc. **Permit No.** IWL-6325-91

Location Huntington, WV

Type of Activity _____ **Landfill** _____ **Spray Irrigation** XX **Other** (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method X **Grab** ___ **Composite**

Other (Describe) _____

Date 12/6/95 **Stream Flow** 0.80 **CFM**

Stream Sample Identification S2

Sampling Method X **Grab** ___ **Composite**

Other (Describe) _____

Date 12/6/95 **Stream Flow** 0.80 **CFM**

Parameter	Conc.	Unit	Parameter	Conc.	Unit
ph	7.64	SU.	pH	8.81	SU.
Temperature	39.2	°F	Temperature	41.9	°F
Alkalinity	250	MG/L	Alkalinity	265	MG/L
T.D.S.	536	MG/L	T.D.S.	556	MG/L
T.S.S.	1	MG/L	T.S.S.	1	MG/L
Spec Conductance	1,321	M/OM	Spec Conductance	1,395	M/OM
C.O.D.	46	MG/L	C.O.D.	46	MG/L
Fluoride	2.8	MG/L	Fluoride	7.1	MG/L
Calcium	105	MG/L	Calcium	72	MG/L
Nickel	<50	UG/L	Nickel	50	UG/L
Copper	<10	UG/L	Copper	<10	UG/L
Total Chromium	8	UG/L	Total Chromium	9	UG/L
Hex. Chromium	<20	UG/L	Hex. Chromium	<20	UG/L
Total Iron	200	UG/L	Total Iron	80	UG/L
Hardness	310	MG/L	Hardness	275	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc. **Permit No.** IWL-6325-91

Location Huntington, WV

Type of Activity _____ **Landfill** _____ **Spray Irrigation** XX **Other** (Describe)

Tailings Storage Area

Stream Sample Identification S1 **Stream Sample Identification** S2

Sampling Method X **Grab** ___ **Composite** **Sampling Method** X **Grab** ___ **Composite**

Other (Describe) _____ **Other** (Describe) _____

Date 3/14/96 **Stream Flow** 3.5 **CFM** **Date** 3/14/96 **Stream Flow** 3.5 **CFM**

Parameter	Conc.	Unit	Parameter	Conc.	Unit
ph	8.8	SU.	pH	9.12	SU.
Temperature	62	°F	Temperature	59	°F
Alkalinity	120	MG/L	Alkalinity	130	MG/L
T.D.S.	344	MG/L	T.D.S.	374	MG/L
T.S.S.	20	MG/L	T.S.S.	11	MG/L
Spec Conductance	665	M/OM	Spec Conductance	699	M/OM
C.O.D.	14	MG/L	C.O.D.	14	MG/L
Fluoride	0.88	MG/L	Fluoride	1.45	MG/L
Calcium	47.6	MG/L	Calcium	46.4	MG/L
Nickel	70	UG/L	Nickel	80	UG/L
Copper	<10	UG/L	Copper	10	UG/L
Total Chromium	3	UG/L	Total Chromium	10	UG/L
Hex. Chromium	<20	UG/L	Hex. Chromium	<20	UG/L
Total Iron	210	UG/L	Total Iron	240	UG/L
Hardness	200	MG/L	Hardness	140	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc. Permit No. IWL-6325-91

Location Huntington, WV

Type of Activity _____ Landfill _____ Spray Irrigation XX Other (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 6/12/96 Stream Flow 9.4 CFM

Stream Sample Identification S2

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 6/12/96 Stream Flow 9.4 CFM

Parameter	Conc.	Unit	Parameter	Conc.	Unit
pH	7.5	SU.	pH	7.9	SU.
Temperature	69	°F	Temperature	67	°F
Alkalinity	165	MG/L	Alkalinity	175	MG/L
T.D.S.	376	MG/L	T.D.S.	416	MG/L
T.S.S.	11	MG/L	T.S.S.	2	MG/L
Spec Conductance	736	M/OM	Spec Conductance	775	M/OM
C.O.D.	<1	MG/L	C.O.D.	<1	MG/L
Fluoride	0.84	MG/L	Fluoride	1.40	MG/L
Calcium	46	MG/L	Calcium	50	MG/L
Nickel	<50	UG/L	Nickel	<50	UG/L
Copper	10	UG/L	Copper	10	UG/L
Total Chromium	<1	UG/L	Total Chromium	2	UG/L
Hex. Chromium	<20	UG/L	Hex. Chromium	<20	UG/L
Total Iron	440	UG/L	Total Iron	290	UG/L
Hardness	212	MG/L	Hardness	225	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc.

Location Huntington, WV

Permit No. IWL-6325-91

Type of Activity _____ Landfill _____ Spray Irrigation XX Other (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 8/1/96 Stream Flow 10.7 CFM

Stream Sample Identification S2

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 8/1/96 Stream Flow 10.7 CFM

Parameter	Conc.	Unit	Parameter	Conc.	Unit
pH	7.5	SU.	pH	7.3	SU.
Temperature	74	°F	Temperature	73	°F
Alkalinity	185	MG/L	Alkalinity	180	MG/L
T.D.S.	388	MG/L	T.D.S.	386	MG/L
T.S.S.	23	MG/L	T.S.S.	22	MG/L
Spec Conductance	776	M/OM	Spec Conductance	785	M/OM
C.O.D.	50	MG/L	C.O.D.	26	MG/L
Fluoride	0.89	MG/L	Fluoride	1.3	MG/L
Calcium	56	MG/L	Calcium	55	MG/L
Nickel	70	UG/L	Nickel	70	UG/L
Copper	10	UG/L	Copper	20	UG/L
Total Chromium	3	UG/L	Total Chromium	6	UG/L
Hex. Chromium	<20	UG/L	Hex. Chromium	<20	UG/L
Total Iron	1,110	UG/L	Total Iron	1,160	UG/L
Hardness	230	MG/L	Hardness	225	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc. Permit No. IWL-6325-91

Location Huntington, WV

Type of Activity _____ Landfill _____ Spray Irrigation XX Other (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method ___ Grab ___ Composite

Other (Describe) High Water and Flood Conditions Unable to collect samples or measure flow.

Date 12/13/96 Stream Flow ___ CFM

Stream Sample Identification S2

Sampling Method ___ Grab ___ Composite

Other (Describe) High Water and Flood Conditions Unable to collect samples or measure flow.

Date 12/13/96 Stream Flow ___ CFM

Parameter	Conc.	Unit	Parameter	Conc.	Unit
pH		SU.	pH		SU.
Temperature		°F	Temperature		°F
Alkalinity		MG/L	Alkalinity		MG/L
T.D.S.		MG/L	T.D.S.		MG/L
T.S.S.		MG/L	T.S.S.		MG/L
Spec Conductance		M/OM	Spec Conductance		M/OM
C.O.D.		MG/L	C.O.D.		MG/L
Fluoride		MG/L	Fluoride		MG/L
Calcium		MG/L	Calcium		MG/L
Nickel		UG/L	Nickel		UG/L
Copper		UG/L	Copper		UG/L
Total Chromium		UG/L	Total Chromium		UG/L
Hex. Chromium		UG/L	Hex. Chromium		UG/L
Total Iron		UG/L	Total Iron		UG/L
Hardness		MG/L	Hardness		MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

Company Name Inco Alloys International Inc. Permit No. IWL-6325-91

Location Huntington, WV

Type of Activity _____ Landfill _____ Spray Irrigation XX Other (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 9/23/97 Stream Flow 1.0 CFM

Stream Sample Identification S2

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 9/23/97 Stream Flow 1.0 CFM

Parameter	Conc.	Unit	Parameter	Conc.	Unit
pH	8.20	SU.	pH	7.70	SU.
Temperature	65	°F	Temperature	64	°F
Alkalinity	210	MG/L	Alkalinity	220	MG/L
T.D.S.	480	MG/L	T.D.S.	520	MG/L
T.S.S.	26	MG/L	T.S.S.	10	MG/L
Spec Conductance	779	M/OM	Spec Conductance	764	M/OM
C.O.D.	<10	MG/L	C.O.D.	<10	MG/L
Fluoride	1.2	MG/L	Fluoride	4.8	MG/L
Calcium	67	MG/L	Calcium	67	MG/L
Nickel	<40	UG/L	Nickel	<40	UG/L
Copper	<20	UG/L	Copper	<20	UG/L
Total Chromium	<25	UG/L	Total Chromium	<25	UG/L
Hex. Chromium	<10	UG/L	Hex. Chromium	<10	UG/L
Total Iron	620	UG/L	Total Iron	620	UG/L
Hardness	260	MG/L	Hardness	240	MG/L

State of West Virginia

Quarterly Stream Sampling Report Form

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Office of Water Resources
Engineering Branch

Company Name Inco Alloys International Inc. Permit No. IWL-6325-91

Location Huntington, WV

Type of Activity _____ Landfill _____ Spray Irrigation XX Other (Describe)

Tailings Storage Area

Stream Sample Identification S1

Sampling Method X Grab ___ Composite

Other (Describe) _____

Date 12/18/97 Stream Flow 1.0 CFM

Stream Sample Identification S2

Sampling Method X Grab ___ Composite

Other (Describe) _____

High Water Prevented Sampling a Flowing Stream.

Date 12/18/97 Stream Flow 1.0 CFM

Parameter	Conc.	Unit	Parameter	Conc.	Unit
pH	7.38	SU.	pH	NA	SU.
Temperature	42.1	°F	Temperature	NA	°F
Alkalinity	230	MG/L	Alkalinity	NA	MG/L
T.D.S.	600	MG/L	T.D.S.	NA	MG/L
T.S.S.	<5	MG/L	T.S.S.	NA	MG/L
Spec Conductance	347	M/OM	Spec Conductance	NA	M/OM
C.O.D.	15	MG/L	C.O.D.	NA	MG/L
Fluoride	1.2	MG/L	Fluoride	NA	MG/L
Calcium	78	MG/L	Calcium	NA	MG/L
Nickel	<40	UG/L	Nickel	NA	UG/L
Copper	<20	UG/L	Copper	NA	UG/L
Total Chromium	<25	UG/L	Total Chromium	NA	UG/L
Hex. Chromium	<10	UG/L	Hex. Chromium	NA	UG/L
Total Iron	800	UG/L	Total Iron	NA	UG/L
Hardness	310	MG/L	Hardness	NA	MG/L