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June 06, 2019

Jennifer Schmidt
Kuraray America, Inc.
11500 Bay Area Blvd.
Pasadena, TX 77507

Work Order: **HS19051780**

Laboratory Results for: **Nickel WW**

Dear Jennifer,

ALS Environmental received 1 sample(s) on May 29, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Corey Grandits
Project Manager

Client: Kuraray America, Inc.
Project: Nickel WW
Work Order: HS19051780

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19051780-01	Nickel WW	Water		28-May-2019 14:15	29-May-2019 15:45	☐

Client: Kuraray America, Inc. **CASE NARRATIVE**
Project: Nickel WW
Work Order: HS19051780

Work Order Comments

• Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method TX1005

Batch ID: 141464

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Semivolatiles by Method SW8270

Batch ID: 141401

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R339643,R339940

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method E245.1

Batch ID: 141542

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method E200.8

Batch ID: 141489

Sample ID: Nickel WW (HS19051780-01)

• Beryllium reported without Internal standard 6 due to high in Lithium. Sample ran at 500x due to high in Nickel.

WetChemistry by Method SW1010

Batch ID: R339688

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7.3.3.2

Batch ID: R339679

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7.3.4.2

Batch ID: R339676

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9040C

Batch ID: R339672

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Kuraray America, Inc.
Project: Nickel WW
Work Order: HS19051780

CASE NARRATIVE

WetChemistry by Method SW9040C

Client: Kuraray America, Inc.
Project: Nickel WW
Sample ID: Nickel WW
Collection Date: 28-May-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19051780
Lab ID:HS19051780-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**				Analyst: AKP
1,1,1-Trichloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,1,2,2-Tetrachloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,1,2-Trichlor-1,2,2-trifluoroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,1,2-Trichloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,1-Dichloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,1-Dichloroethene	ND		0.010	mg/L	10	31-May-2019 18:13
1,2,4-Trichlorobenzene	ND		0.010	mg/L	10	31-May-2019 18:13
1,2-Dibromo-3-chloropropane	ND		0.010	mg/L	10	31-May-2019 18:13
1,2-Dibromoethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,2-Dichlorobenzene	ND		0.010	mg/L	10	31-May-2019 18:13
1,2-Dichloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
1,2-Dichloropropane	ND		0.010	mg/L	10	31-May-2019 18:13
1,3-Dichlorobenzene	ND		0.010	mg/L	10	31-May-2019 18:13
1,4-Dichlorobenzene	ND		0.010	mg/L	10	31-May-2019 18:13
2-Butanone	**0.33**		**0.020**	**mg/L**	10	31-May-2019 18:13
2-Hexanone	ND		0.020	mg/L	10	31-May-2019 18:13
4-Methyl-2-pentanone	ND		0.020	mg/L	10	31-May-2019 18:13
Acetone	**400**		**20**	**mg/L**	10000	05-Jun-2019 21:07
Benzene	ND		0.010	mg/L	10	31-May-2019 18:13
Bromodichloromethane	ND		0.010	mg/L	10	31-May-2019 18:13
Bromoform	ND		0.010	mg/L	10	31-May-2019 18:13
Bromomethane	ND		0.010	mg/L	10	31-May-2019 18:13
Carbon disulfide	ND		0.020	mg/L	10	31-May-2019 18:13
Carbon tetrachloride	ND		0.010	mg/L	10	31-May-2019 18:13
Chlorobenzene	ND		0.010	mg/L	10	31-May-2019 18:13
Chloroethane	ND		0.010	mg/L	10	31-May-2019 18:13
Chloroform	ND		0.010	mg/L	10	31-May-2019 18:13
Chloromethane	ND		0.010	mg/L	10	31-May-2019 18:13
cis-1,2-Dichloroethene	ND		0.010	mg/L	10	31-May-2019 18:13
cis-1,3-Dichloropropene	ND		0.010	mg/L	10	31-May-2019 18:13
Cyclohexane	ND	n	0.010	mg/L	10	31-May-2019 18:13
Dibromochloromethane	ND		0.010	mg/L	10	31-May-2019 18:13
Dichlorodifluoromethane	ND		0.010	mg/L	10	31-May-2019 18:13
Ethylbenzene	ND		0.010	mg/L	10	31-May-2019 18:13
Isopropylbenzene	ND		0.010	mg/L	10	31-May-2019 18:13
m,p-Xylene	ND		0.020	mg/L	10	31-May-2019 18:13
Methyl acetate	ND		0.010	mg/L	10	31-May-2019 18:13
Methyl tert-butyl ether	ND		0.010	mg/L	10	31-May-2019 18:13
Methylcyclohexane	**0.023**		**0.010**	**mg/L**	10	31-May-2019 18:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kuraray America, Inc.
Project: Nickel WW
Sample ID: Nickel WW
Collection Date: 28-May-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19051780
Lab ID:HS19051780-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Methylene chloride	ND		0.020	mg/L	10	31-May-2019 18:13
o-Xylene	ND		0.010	mg/L	10	31-May-2019 18:13
Styrene	ND		0.010	mg/L	10	31-May-2019 18:13
Tetrachloroethene	ND		0.010	mg/L	10	31-May-2019 18:13
Toluene	ND		0.010	mg/L	10	31-May-2019 18:13
trans-1,2-Dichloroethene	ND		0.010	mg/L	10	31-May-2019 18:13
trans-1,3-Dichloropropene	ND		0.010	mg/L	10	31-May-2019 18:13
Trichloroethene	ND		0.010	mg/L	10	31-May-2019 18:13
Trichlorofluoromethane	ND		0.010	mg/L	10	31-May-2019 18:13
Vinyl chloride	ND		0.010	mg/L	10	31-May-2019 18:13
Xylenes, Total	ND		0.010	mg/L	10	31-May-2019 18:13
Surr: 1,2-Dichloroethane-d4	*101*		*70-126*	*%REC*	*10*	*31-May-2019 18:13*
Surr: 1,2-Dichloroethane-d4	*98.2*		*70-126*	*%REC*	*10000*	*05-Jun-2019 21:07*
Surr: 4-Bromofluorobenzene	*96.2*		*81-113*	*%REC*	*10*	*31-May-2019 18:13*
Surr: 4-Bromofluorobenzene	*96.8*		*81-113*	*%REC*	*10000*	*05-Jun-2019 21:07*
Surr: Dibromofluoromethane	*103*		*77-123*	*%REC*	*10*	*31-May-2019 18:13*
Surr: Dibromofluoromethane	*97.5*		*77-123*	*%REC*	*10000*	*05-Jun-2019 21:07*
Surr: Toluene-d8	*102*		*82-127*	*%REC*	*10*	*31-May-2019 18:13*
Surr: Toluene-d8	*98.0*		*82-127*	*%REC*	*10000*	*05-Jun-2019 21:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kuraray America, Inc.
Project: Nickel WW
Sample ID: Nickel WW
Collection Date: 28-May-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19051780
Lab ID:HS19051780-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**		Prep:SW3510 / 30-May-2019		Analyst: GEY
1,1´-Biphenyl	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,4,5-Trichlorophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,4,6-Trichlorophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,4-Dichlorophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,4-Dimethylphenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,4-Dinitrophenol	ND		1.0	ug/L	1	01-Jun-2019 19:12
2,4-Dinitrotoluene	ND		0.20	ug/L	1	01-Jun-2019 19:12
2,6-Dinitrotoluene	ND		0.20	ug/L	1	01-Jun-2019 19:12
2-Chloronaphthalene	ND		0.20	ug/L	1	01-Jun-2019 19:12
2-Chlorophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
2-Methylnaphthalene	ND		0.10	ug/L	1	01-Jun-2019 19:12
2-Methylphenol	**0.88**		**0.20**	**ug/L**	1	01-Jun-2019 19:12
2-Nitroaniline	ND		0.20	ug/L	1	01-Jun-2019 19:12
2-Nitrophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
3&4-Methylphenol	**0.38**		**0.20**	**ug/L**	1	01-Jun-2019 19:12
3,3´-Dichlorobenzidine	ND		0.20	ug/L	1	01-Jun-2019 19:12
3-Nitroaniline	ND		0.20	ug/L	1	01-Jun-2019 19:12
4,6-Dinitro-2-methylphenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Bromophenyl phenyl ether	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Chloro-3-methylphenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Chloroaniline	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Chlorophenyl phenyl ether	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Nitroaniline	ND		0.20	ug/L	1	01-Jun-2019 19:12
4-Nitrophenol	ND		1.0	ug/L	1	01-Jun-2019 19:12
Acenaphthene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Acenaphthylene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Acetophenone	**3.0**		**0.20**	**ug/L**	1	01-Jun-2019 19:12
Anthracene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Atrazine	ND		0.20	ug/L	1	01-Jun-2019 19:12
Benz(a)anthracene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Benzaldehyde	**79**	n	**2.0**	**ug/L**	10	03-Jun-2019 20:16
Benzo(a)pyrene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Benzo(b)fluoranthene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Benzo(g,h,i)perylene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Benzo(k)fluoranthene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Bis(2-chloroethoxy)methane	ND		0.20	ug/L	1	01-Jun-2019 19:12
Bis(2-chloroethyl)ether	ND		0.20	ug/L	1	01-Jun-2019 19:12
Bis(2-chloroisopropyl)ether	ND		0.20	ug/L	1	01-Jun-2019 19:12
Bis(2-ethylhexyl)phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kuraray America, Inc.
Project: Nickel WW
Sample ID: Nickel WW
Collection Date: 28-May-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19051780
Lab ID:HS19051780-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**			Prep:SW3510 / 30-May-2019		Analyst: GEY
Butyl benzyl phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12
Caprolactam	ND		0.20	ug/L	1	01-Jun-2019 19:12
Carbazole	ND		0.20	ug/L	1	01-Jun-2019 19:12
Chrysene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Dibenz(a,h)anthracene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Dibenzofuran	ND		0.10	ug/L	1	01-Jun-2019 19:12
Diethyl phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12
Dimethyl phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12
Di-n-butyl phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12
Di-n-octyl phthalate	ND		0.20	ug/L	1	01-Jun-2019 19:12
Fluoranthene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Fluorene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Hexachlorobenzene	ND		0.20	ug/L	1	01-Jun-2019 19:12
Hexachlorobutadiene	ND		0.20	ug/L	1	01-Jun-2019 19:12
Hexachlorocyclopentadiene	ND		0.20	ug/L	1	01-Jun-2019 19:12
Hexachloroethane	ND		0.20	ug/L	1	01-Jun-2019 19:12
Indeno(1,2,3-cd)pyrene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Isophorone	ND		0.20	ug/L	1	01-Jun-2019 19:12
Naphthalene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Nitrobenzene	ND		0.20	ug/L	1	01-Jun-2019 19:12
N-Nitrosodi-n-propylamine	ND		0.20	ug/L	1	01-Jun-2019 19:12
N-Nitrosodiphenylamine	ND		0.20	ug/L	1	01-Jun-2019 19:12
Pentachlorophenol	ND		0.20	ug/L	1	01-Jun-2019 19:12
Phenanthrene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Phenol	**2.4**		**0.20**	**ug/L**	1	01-Jun-2019 19:12
Pyrene	ND		0.10	ug/L	1	01-Jun-2019 19:12
Surr: 2,4,6-Tribromophenol	*96.6*		*34-129*	*%REC*	*1*	*01-Jun-2019 19:12*
Surr: 2,4,6-Tribromophenol	*110*		*34-129*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: 2-Fluorobiphenyl	*86.2*		*40-125*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: 2-Fluorobiphenyl	*76.1*		*40-125*	*%REC*	*1*	*01-Jun-2019 19:12*
Surr: 2-Fluorophenol	*87.4*		*20-120*	*%REC*	*1*	*01-Jun-2019 19:12*
Surr: 2-Fluorophenol	*74.2*		*20-120*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: 4-Terphenyl-d14	*111*		*40-135*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: 4-Terphenyl-d14	*100*		*40-135*	*%REC*	*1*	*01-Jun-2019 19:12*
Surr: Nitrobenzene-d5	*68.4*		*41-120*	*%REC*	*1*	*01-Jun-2019 19:12*
Surr: Nitrobenzene-d5	*83.8*		*41-120*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: Phenol-d6	*113*		*20-120*	*%REC*	*10*	*03-Jun-2019 20:16*
Surr: Phenol-d6	*36.9*		*20-120*	*%REC*	*1*	*01-Jun-2019 19:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Kuraray America, Inc.
Project: Nickel WW
Sample ID: Nickel WW
Collection Date: 28-May-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19051780
Lab ID:HS19051780-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**		Prep:TX1005PR / 31-May-2019		Analyst: MBG
nC6 to nC12	ND		0.45	mg/L	1	31-May-2019 20:25
>nC12 to nC28	ND		0.45	mg/L	1	31-May-2019 20:25
>nC28 to nC35	ND		0.45	mg/L	1	31-May-2019 20:25
Total Petroleum Hydrocarbon	ND		0.45	mg/L	1	31-May-2019 20:25
Surr: 2-Fluorobiphenyl	*107*		*70-130*	*%REC*	*1*	*31-May-2019 20:25*
Surr: Trifluoromethyl benzene	*107*		*70-130*	*%REC*	*1*	*31-May-2019 20:25*
TOTAL METALS BY E200.8		**Method:E200.8**		Prep:E200.8 / 31-May-2019		Analyst: JHD
Antimony	ND		2500	ug/L	500	04-Jun-2019 12:06
Arsenic	ND		1000	ug/L	500	04-Jun-2019 12:06
Barium	ND		2000	ug/L	500	04-Jun-2019 12:06
Beryllium	ND		2500	ug/L	500	04-Jun-2019 12:06
Cadmium	ND		1000	ug/L	500	04-Jun-2019 12:06
Chromium	ND		2000	ug/L	500	04-Jun-2019 12:06
Cobalt	**5,040**		**2500**	**ug/L**	500	04-Jun-2019 12:06
Copper	ND		1000	ug/L	500	04-Jun-2019 12:06
Lead	ND		1000	ug/L	500	04-Jun-2019 12:06
Nickel	**11,400,000**		**20000**	**ug/L**	10000	03-Jun-2019 21:14
Selenium	ND		1000	ug/L	500	04-Jun-2019 12:06
Silver	ND		1000	ug/L	500	04-Jun-2019 12:06
Tin	ND		2500	ug/L	500	04-Jun-2019 12:06
Titanium	ND		2500	ug/L	500	04-Jun-2019 12:06
Vanadium	ND		2500	ug/L	500	04-Jun-2019 12:06
Zinc	**2,020**		**2000**	**ug/L**	500	04-Jun-2019 12:06
MERCURY BY E245.1		**Method:E245.1**		Prep:E245.1 / 03-Jun-2019		Analyst: FO
Mercury	ND		0.00200	mg/L	1	03-Jun-2019 15:17
FLASH POINT BY PENSKY-MARTENS SW1010A		**Method:SW1010**				Analyst: KAH
Ignitability	> 212		70.0	°F	1	03-Jun-2019 14:20
REACTIVE CYANIDE		**Method:SW7.3.3.2**		Prep:SW7.3.3.2		Analyst: MZD
Reactive Cyanide	ND	n	100	mg/Kg	1	03-Jun-2019 14:00
REACTIVE SULFIDE		**Method:SW7.3.4.2**				Analyst: MZD
Reactive Sulfide	ND	n	100	mg/Kg	1	03-Jun-2019 11:30
PH BY SW9040C		**Method:SW9040C**				Analyst: MWG
pH	**2.70**	H	**0.100**	**pH Units**	1	03-Jun-2019 11:00
Temp Deg C @pH	**20.1**	H	**0**	**DEG C**	1	03-Jun-2019 11:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

Batch ID: 141401 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19051780-01	1	990	1 (mL)	0.00101

Batch ID: 141464 **Method:** LOW-LEVEL TEXAS TPH BY TX1005 **Prep:** TX 1005_W PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19051780-01	1	33.16	3 (mL)	0.09047

Batch ID: 141489 **Method:** TOTAL METALS BY E200.8 **Prep:** 200.8PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19051780-01	1	10	10 (mL)	1

Batch ID: 141542 **Method:** MERCURY BY E245.1 **Prep:** HG_WW_245PR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19051780-01	1	1	10 (mL)	10

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 141401	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15		30 May 2019 10:22	03 Jun 2019 20:16	10
HS19051780-01	Nickel WW	28 May 2019 14:15		30 May 2019 10:22	01 Jun 2019 19:12	1
Batch ID 141464	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15		31 May 2019 10:30	31 May 2019 20:25	1
Batch ID 141489	**Test Name :** TOTAL METALS BY E200.8			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15		31 May 2019 13:30	04 Jun 2019 12:06	500
HS19051780-01	Nickel WW	28 May 2019 14:15		31 May 2019 13:30	03 Jun 2019 21:14	10000
Batch ID 141542	**Test Name :** MERCURY BY E245.1			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15		03 Jun 2019 11:00	03 Jun 2019 15:17	1
Batch ID R339643	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			31 May 2019 18:13	10
Batch ID R339672	**Test Name :** PH BY SW9040C			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			03 Jun 2019 11:00	1
Batch ID R339676	**Test Name :** REACTIVE SULFIDE			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			03 Jun 2019 11:30	1
Batch ID R339679	**Test Name :** REACTIVE CYANIDE			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			03 Jun 2019 14:00	1
Batch ID R339688	**Test Name :** FLASH POINT BY PENSKY-MARTENS SW1010A			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			03 Jun 2019 14:20	1
Batch ID R339940	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS19051780-01	Nickel WW	28 May 2019 14:15			05 Jun 2019 21:07	10000

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141464 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-141464** Units: **mg/L** Analysis Date: **31-May-2019 17:03**
Client ID: Run ID: **FID-12_339626** SeqNo: **5102425** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	ND	0.50								
>nC12 to nC28	ND	0.50								
>nC28 to nC35	ND	0.50								
Total Petroleum Hydrocarbon	ND	0.50								
Surr: 2-Fluorobiphenyl	*2.38*	*0*	*2.5*	*0*	*95.2*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.401*	*0*	*2.5*	*0*	*96.0*	*70 - 130*				

LCS Sample ID: **LCS-141464** Units: **mg/L** Analysis Date: **31-May-2019 17:32**
Client ID: Run ID: **FID-12_339626** SeqNo: **5102426** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	21.98	0.50	25	0	87.9	75 - 125				
>nC12 to nC28	24.05	0.50	25	0	96.2	75 - 125				
Surr: 2-Fluorobiphenyl	*2.574*	*0*	*2.5*	*0*	*103*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.402*	*0*	*2.5*	*0*	*96.1*	*70 - 130*				

LCSD Sample ID: **LCSD-141464** Units: **mg/L** Analysis Date: **31-May-2019 18:01**
Client ID: Run ID: **FID-12_339626** SeqNo: **5102427** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	24.42	0.50	25	0	97.7	75 - 125	21.98	10.5	20	
>nC12 to nC28	24.58	0.50	25	0	98.3	75 - 125	24.05	2.17	20	
Surr: 2-Fluorobiphenyl	*2.751*	*0*	*2.5*	*0*	*110*	*70 - 130*	*2.574*	*6.66*	*20*	
Surr: Trifluoromethyl benzene	*2.636*	*0*	*2.5*	*0*	*105*	*70 - 130*	*2.402*	*9.3*	*20*	

MS Sample ID: **HS19051798-01MS** Units: **mg/L** Analysis Date: **31-May-2019 18:58**
Client ID: Run ID: **FID-12_339626** SeqNo: **5102429** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25	0.49	24.48	0	102	75 - 125				
>nC12 to nC28	23.91	0.49	24.48	0	97.7	75 - 125				
Surr: 2-Fluorobiphenyl	*2.8*	*0*	*2.448*	*0*	*114*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.682*	*0*	*2.448*	*0*	*110*	*70 - 130*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141464 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS19051798-01MSD** Units: **mg/L** Analysis Date: **31-May-2019 19:27**
Client ID: Run ID: **FID-12_339626** SeqNo: **5102430** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	26.86	0.49	24.47	0	110	75 - 125	25	7.18	20	
>nC12 to nC28	26.89	0.49	24.47	0	110	75 - 125	23.91	11.7	20	
Surr: 2-Fluorobiphenyl	*2.847*	*0*	*2.447*	*0*	*116*	*70 - 130*	*2.8*	*1.66*	*20*	
Surr: Trifluoromethyl benzene	*2.696*	*0*	*2.447*	*0*	*110*	*70 - 130*	*2.682*	*0.522*	*20*	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

MBLK Sample ID: **MBLK-141489** Units: **ug/L** Analysis Date: **03-Jun-2019 20:56**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104474** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	ND	5.00								
Arsenic	ND	2.00								
Barium	ND	4.00								
Beryllium	ND	5.00								
Cadmium	ND	2.00								
Chromium	ND	4.00								
Cobalt	ND	5.00								
Copper	ND	2.00								
Lead	ND	2.00								
Nickel	ND	2.00								
Selenium	ND	2.00								
Silver	ND	2.00								
Tin	ND	5.00								
Titanium	ND	5.00								
Vanadium	ND	5.00								
Zinc	ND	4.00								

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

LCS Sample ID: **LCS-141489** Units: **ug/L** Analysis Date: **03-Jun-2019 20:58**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104475** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	51.52	5.00	50	0	103	85 - 115				
Arsenic	52.31	2.00	50	0	105	85 - 115				
Barium	47.44	4.00	50	0	94.9	85 - 115				
Beryllium	49.7	5.00	50	0	99.4	85 - 115				
Cadmium	47.78	2.00	50	0	95.6	85 - 115				
Chromium	50.49	4.00	50	0	101	85 - 115				
Cobalt	50.17	5.00	50	0	100	85 - 115				
Copper	53.54	2.00	50	0	107	85 - 115				
Lead	46.96	2.00	50	0	93.9	85 - 115				
Nickel	52.54	2.00	50	0	105	85 - 115				
Selenium	55.06	2.00	50	0	110	85 - 115				
Silver	53.8	2.00	50	0	108	85 - 115				
Tin	102.6	5.00	100	0	103	85 - 115				
Titanium	159.5	5.00	150	0	106	85 - 115				
Vanadium	49.59	5.00	50	0	99.2	85 - 115				
Zinc	54.15	4.00	50	0	108	85 - 115				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

MS Sample ID: **HS19051761-01MS** Units: **ug/L** Analysis Date: **03-Jun-2019 21:03**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104478** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	50.48	5.00	50	0.135	101	70 - 130				
Arsenic	52.66	2.00	50	1.552	102	70 - 130				
Barium	93.09	4.00	50	49.07	88.0	70 - 130				
Beryllium	48.29	5.00	50	0.011	96.6	70 - 130				
Cadmium	45.54	2.00	50	0.025	91.0	70 - 130				
Chromium	48.7	4.00	50	0.09	97.2	70 - 130				
Cobalt	47.89	5.00	50	0.086	95.6	70 - 130				
Copper	54.57	2.00	50	4.041	101	70 - 130				
Lead	46.24	2.00	50	0.161	92.2	70 - 130				
Nickel	50.9	2.00	50	0.884	100	70 - 130				
Selenium	53.24	2.00	50	0.53	105	70 - 130				
Silver	50.94	2.00	50	-0.017	102	70 - 130				
Tin	99.85	5.00	100	-0.022	99.9	70 - 130				
Titanium	153.7	5.00	150	0.71	102	70 - 130				
Vanadium	49.67	5.00	50	1.316	96.7	70 - 130				
Zinc	129.3	4.00	50	84	90.5	70 - 130				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

MSD Sample ID: **HS19051761-01MSD** Units: **ug/L** Analysis Date: **03-Jun-2019 21:05**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104479** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Antimony	52.38	5.00	50	0.135	104	70 - 130	50.48	3.69	20	
Arsenic	54.4	2.00	50	1.552	106	70 - 130	52.66	3.25	20	
Barium	96.66	4.00	50	49.07	95.2	70 - 130	93.09	3.76	20	
Beryllium	48.58	5.00	50	0.011	97.1	70 - 130	48.29	0.601	20	
Cadmium	48.9	2.00	50	0.025	97.7	70 - 130	45.54	7.11	20	
Chromium	50.15	4.00	50	0.09	100	70 - 130	48.7	2.95	20	
Cobalt	49.37	5.00	50	0.086	98.6	70 - 130	47.89	3.05	20	
Copper	56.43	2.00	50	4.041	105	70 - 130	54.57	3.35	20	
Lead	47.62	2.00	50	0.161	94.9	70 - 130	46.24	2.93	20	
Nickel	52.32	2.00	50	0.884	103	70 - 130	50.9	2.74	20	
Selenium	55.4	2.00	50	0.53	110	70 - 130	53.24	3.98	20	
Silver	52.33	2.00	50	-0.017	105	70 - 130	50.94	2.69	20	
Tin	101.7	5.00	100	-0.022	102	70 - 130	99.85	1.85	20	
Titanium	159.7	5.00	150	0.71	106	70 - 130	153.7	3.87	20	
Vanadium	50.75	5.00	50	1.316	98.9	70 - 130	49.67	2.15	20	
Zinc	133.8	4.00	50	84	99.5	70 - 130	129.3	3.41	20	

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

PDS Sample ID: **HS19051761-01PDS** Units: **ug/L** Analysis Date: **03-Jun-2019 21:07**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104480** PrepDate: **31-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	105.6	5.00	100	0.135	105	70 - 130				
Arsenic	110.8	2.00	100	1.552	109	70 - 130				
Barium	149.1	4.00	100	49.07	100	70 - 130				
Beryllium	112.5	5.00	100	0.011	113	70 - 130				
Cadmium	101	2.00	100	0.025	101	70 - 130				
Chromium	105.6	4.00	100	0.09	106	70 - 130				
Cobalt	101.8	5.00	100	0.086	102	70 - 130				
Copper	111.2	2.00	100	4.041	107	70 - 130				
Lead	99.76	2.00	100	0.161	99.6	70 - 130				
Nickel	106.9	2.00	100	0.884	106	70 - 130				
Selenium	111.7	2.00	100	0.53	111	70 - 130				
Silver	101.2	2.00	100	-0.017	101	70 - 130				
Titanium	126.6	5.00	100	0.71	126	70 - 130				
Vanadium	105.6	5.00	100	1.316	104	70 - 130				
Zinc	185	4.00	100	84	101	70 - 130				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141489 (0) **Instrument: ICPMS06** **Method: TOTAL METALS BY E200.8**

SD Sample ID: **HS19051761-01SD** Units: **ug/L** Analysis Date: **03-Jun-2019 21:01**
Client ID: Run ID: **ICPMS06_339705** SeqNo: **5104477** PrepDate: **31-May-2019** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	ND	25.0					0.135	0	10	
Arsenic	1.333	10.0					1.552	0	10	J
Barium	48.96	20.0					49.07	0.23	10	
Beryllium	ND	25.0					0.011	0	10	
Cadmium	ND	10.0					0.025	0	10	
Chromium	ND	20.0					0.09	0	10	
Cobalt	ND	25.0					0.086	0	10	
Copper	3.239	10.0					4.041	0	10	J
Lead	ND	10.0					0.161	0	10	
Nickel	1.112	10.0					0.884	0	10	J
Selenium	ND	10.0					0.53	0	10	
Silver	ND	10.0					-0.017	0	10	
Tin	ND	25.0					-0.022	0	10	
Titanium	ND	25.0					0.71	0	10	
Vanadium	ND	25.0					1.316	0	10	
Zinc	80.94	20.0					84	3.64	10	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141542 (0) **Instrument: HG03** **Method: MERCURY BY E245.1**

MBLK Sample ID: **MBLK-141542** Units: **mg/L** Analysis Date: **03-Jun-2019 15:05**
Client ID: Run ID: **HG03_339690** SeqNo: **5104105** PrepDate: **03-Jun-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.000200								

LCS Sample ID: **LCS-141542** Units: **mg/L** Analysis Date: **03-Jun-2019 15:07**
Client ID: Run ID: **HG03_339690** SeqNo: **5104106** PrepDate: **03-Jun-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.000200	0.005	0	97.0	85 - 115				

MS Sample ID: **HS19051798-01MS** Units: **mg/L** Analysis Date: **03-Jun-2019 15:10**
Client ID: Run ID: **HG03_339690** SeqNo: **5104108** PrepDate: **03-Jun-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00487	0.000200	0.005	-0.000023	97.9	70 - 130				

MSD Sample ID: **HS19051798-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2019 15:12**
Client ID: Run ID: **HG03_339690** SeqNo: **5104109** PrepDate: **03-Jun-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00481	0.000200	0.005	-0.000023	96.7	70 - 130	0.00487	1.24	20	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-141401** Units: **ug/L** Analysis Date: **30-May-2019 15:27**
Client ID: Run ID: **SV-7_339394** SeqNo: **5099150** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1´-Biphenyl	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.10								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.10								
Acenaphthylene	ND	0.10								
Acetophenone	ND	0.20								
Anthracene	ND	0.10								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.10								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.10								
Benzo(b)fluoranthene	ND	0.10								
Benzo(g,h,i)perylene	ND	0.10								

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-141401** Units: **ug/L** Analysis Date: **30-May-2019 15:27**
Client ID: Run ID: **SV-7_339394** SeqNo: **5099150** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	ND	0.10								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Caprolactam	ND	0.20								
Carbazole	ND	0.20								
Chrysene	ND	0.10								
Dibenz(a,h)anthracene	ND	0.10								
Dibenzofuran	ND	0.10								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
Di-n-butyl phthalate	ND	0.20								
Di-n-octyl phthalate	ND	0.20								
Fluoranthene	ND	0.10								
Fluorene	ND	0.10								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.10								
Isophorone	ND	0.20								
Naphthalene	ND	0.10								
Nitrobenzene	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Pentachlorophenol	ND	0.20								
Phenanthrene	ND	0.10								
Phenol	ND	0.20								
Pyrene	ND	0.10								
Surr: 2,4,6-Tribromophenol	*3.553*	*0.20*	*5*	*0*	*71.1*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.08*	*0.20*	*5*	*0*	*81.6*	*40 - 125*				
Surr: 2-Fluorophenol	*3.361*	*0.20*	*5*	*0*	*67.2*	*20 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-141401** Units: **ug/L** Analysis Date: **30-May-2019 15:27**
Client ID: Run ID: **SV-7_339394** SeqNo: **5099150** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*4.517*	*0.20*	*5*	*0*	*90.3*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.733*	*0.20*	*5*	*0*	*74.7*	*41 - 120*				
Surr: Phenol-d6	*3.819*	*0.20*	*5*	*0*	*76.4*	*20 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:30**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098683** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1´-Biphenyl	5.159	0.20	5	0	103	45 - 125				
2,4,5-Trichlorophenol	5.57	0.20	5	0	111	46 - 120				
2,4,6-Trichlorophenol	5.363	0.20	5	0	107	42 - 120				
2,4-Dichlorophenol	5.341	0.20	5	0	107	49 - 120				
2,4-Dimethylphenol	4.835	0.20	5	0	96.7	35 - 120				
2,4-Dinitrophenol	3.477	1.0	5	0	69.5	15 - 120				
2,4-Dinitrotoluene	5.449	0.20	5	0	109	50 - 122				
2,6-Dinitrotoluene	5.582	0.20	5	0	112	50 - 120				
2-Chloronaphthalene	5.501	0.20	5	0	110	50 - 120				
2-Chlorophenol	4.86	0.20	5	0	97.2	40 - 120				
2-Methylnaphthalene	5.078	0.10	5	0	102	50 - 120				
2-Methylphenol	5.074	0.20	5	0	101	45 - 120				
2-Nitroaniline	5.113	0.20	5	0	102	28 - 139				
2-Nitrophenol	4.871	0.20	5	0	97.4	40 - 120				
3&4-Methylphenol	4.759	0.20	5	0	95.2	35 - 120				
3,3´-Dichlorobenzidine	4.713	0.20	5	0	94.3	15 - 120				
3-Nitroaniline	5.905	0.20	5	0	118	30 - 120				
4,6-Dinitro-2-methylphenol	3.974	0.20	5	0	79.5	25 - 121				
4-Bromophenyl phenyl ether	5.174	0.20	5	0	103	45 - 120				
4-Chloro-3-methylphenol	5.5	0.20	5	0	110	47 - 120				
4-Chloroaniline	5.338	0.20	5	0	107	20 - 120				
4-Chlorophenyl phenyl ether	5.324	0.20	5	0	106	50 - 120				
4-Nitroaniline	5.754	0.20	5	0	115	30 - 133				
4-Nitrophenol	5.316	1.0	5	0	106	30 - 130				
Acenaphthene	4.926	0.10	5	0	98.5	45 - 120				
Acenaphthylene	5.12	0.10	5	0	102	47 - 120				
Acetophenone	4.589	0.20	5	0	91.8	40 - 120				
Anthracene	5.16	0.10	5	0	103	45 - 120				
Atrazine	5.691	0.20	5	0	114	40 - 130				
Benz(a)anthracene	5.056	0.10	5	0	101	40 - 120				
Benzaldehyde	1.509	0.20	5	0	30.2	15 - 120				
Benzo(a)pyrene	5.469	0.10	5	0	109	45 - 120				
Benzo(b)fluoranthene	5.507	0.10	5	0	110	50 - 120				
Benzo(g,h,i)perylene	4.976	0.10	5	0	99.5	42 - 127				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:30**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098683** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(k)fluoranthene	5.331	0.10	5	0	107	45 - 127				
Bis(2-chloroethoxy)methane	5.07	0.20	5	0	101	45 - 120				
Bis(2-chloroethyl)ether	5.42	0.20	5	0	108	37 - 121				
Bis(2-chloroisopropyl)ether	5.102	0.20	5	0	102	40 - 120				
Bis(2-ethylhexyl)phthalate	5.83	0.20	5	0	117	40 - 139				
Butyl benzyl phthalate	5.814	0.20	5	0	116	47 - 123				
Caprolactam	5.956	0.20	5	0	119	35 - 134				
Carbazole	5.779	0.20	5	0	116	42 - 128				
Chrysene	5.629	0.10	5	0	113	43 - 120				
Dibenz(a,h)anthracene	5.269	0.10	5	0	105	45 - 125				
Dibenzofuran	5.42	0.10	5	0	108	50 - 120				
Diethyl phthalate	5.509	0.20	5	0	110	41 - 120				
Dimethyl phthalate	5.419	0.20	5	0	108	40 - 122				
Di-n-butyl phthalate	5.539	0.20	5	0	111	45 - 123				
Di-n-octyl phthalate	5.837	0.20	5	0	117	45 - 129				
Fluoranthene	5.61	0.10	5	0	112	45 - 125				
Fluorene	5.441	0.10	5	0	109	49 - 120				
Hexachlorobenzene	4.863	0.20	5	0	97.3	48 - 120				
Hexachlorobutadiene	4.943	0.20	5	0	98.9	40 - 120				
Hexachlorocyclopentadiene	3.974	0.20	5	0	79.5	34 - 136				
Hexachloroethane	4.814	0.20	5	0	96.3	40 - 120				
Indeno(1,2,3-cd)pyrene	4.547	0.10	5	0	90.9	41 - 128				
Isophorone	5.058	0.20	5	0	101	40 - 121				
Naphthalene	4.947	0.10	5	0	98.9	45 - 120				
Nitrobenzene	4.969	0.20	5	0	99.4	44 - 120				
N-Nitrosodi-n-propylamine	4.542	0.20	5	0	90.8	40 - 120				
N-Nitrosodiphenylamine	5.296	0.20	5	0	106	40 - 125				
Pentachlorophenol	3.378	0.20	5	0	67.6	19 - 121				
Phenanthrene	5.071	0.10	5	0	101	45 - 121				
Phenol	5.075	0.20	5	0	102	20 - 124				
Pyrene	5.601	0.10	5	0	112	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.472*	*0.20*	*5*	*0*	*109*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.379*	*0.20*	*5*	*0*	*108*	*40 - 125*				
Surr: 2-Fluorophenol	*4.04*	*0.20*	*5*	*0*	*80.8*	*20 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:30**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098683** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*5.653*	*0.20*	*5*	*0*	*113*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.905*	*0.20*	*5*	*0*	*98.1*	*41 - 120*				
Surr: Phenol-d6	*4.883*	*0.20*	*5*	*0*	*97.7*	*20 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:49**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098684** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1´-Biphenyl	5.073	0.20	5	0	101	45 - 125	5.159	1.7	20	
2,4,5-Trichlorophenol	5.485	0.20	5	0	110	46 - 120	5.57	1.54	20	
2,4,6-Trichlorophenol	5.278	0.20	5	0	106	42 - 120	5.363	1.6	20	
2,4-Dichlorophenol	5.415	0.20	5	0	108	49 - 120	5.341	1.39	20	
2,4-Dimethylphenol	5.081	0.20	5	0	102	35 - 120	4.835	4.96	20	
2,4-Dinitrophenol	3.152	1.0	5	0	63.0	15 - 120	3.477	9.79	50	
2,4-Dinitrotoluene	5.44	0.20	5	0	109	50 - 122	5.449	0.152	20	
2,6-Dinitrotoluene	5.388	0.20	5	0	108	50 - 120	5.582	3.54	20	
2-Chloronaphthalene	5.372	0.20	5	0	107	50 - 120	5.501	2.36	20	
2-Chlorophenol	4.518	0.20	5	0	90.4	40 - 120	4.86	7.3	20	
2-Methylnaphthalene	5.501	0.10	5	0	110	50 - 120	5.078	8.01	20	
2-Methylphenol	4.849	0.20	5	0	97.0	45 - 120	5.074	4.55	20	
2-Nitroaniline	5.708	0.20	5	0	114	28 - 139	5.113	11	20	
2-Nitrophenol	5.025	0.20	5	0	100	40 - 120	4.871	3.1	20	
3&4-Methylphenol	4.431	0.20	5	0	88.6	35 - 120	4.759	7.14	20	
3,3´-Dichlorobenzidine	5.395	0.20	5	0	108	15 - 120	4.713	13.5	20	
3-Nitroaniline	5.956	0.20	5	0	119	30 - 120	5.905	0.863	20	
4,6-Dinitro-2-methylphenol	3.792	0.20	5	0	75.8	25 - 121	3.974	4.68	30	
4-Bromophenyl phenyl ether	5.588	0.20	5	0	112	45 - 120	5.174	7.69	20	
4-Chloro-3-methylphenol	5.493	0.20	5	0	110	47 - 120	5.5	0.133	20	
4-Chloroaniline	5.462	0.20	5	0	109	20 - 120	5.338	2.28	20	
4-Chlorophenyl phenyl ether	5.367	0.20	5	0	107	50 - 120	5.324	0.794	20	
4-Nitroaniline	5.567	0.20	5	0	111	30 - 133	5.754	3.31	20	
4-Nitrophenol	5.08	1.0	5	0	102	30 - 130	5.316	4.54	20	
Acenaphthene	4.759	0.10	5	0	95.2	45 - 120	4.926	3.46	20	
Acenaphthylene	5.045	0.10	5	0	101	47 - 120	5.12	1.47	20	
Acetophenone	4.721	0.20	5	0	94.4	40 - 120	4.589	2.84	20	
Anthracene	5.429	0.10	5	0	109	45 - 120	5.16	5.08	20	
Atrazine	5.995	0.20	5	0	120	40 - 130	5.691	5.2	20	
Benz(a)anthracene	5.174	0.10	5	0	103	40 - 120	5.056	2.3	20	
Benzaldehyde	1.368	0.20	5	0	27.4	15 - 120	1.509	9.8	30	
Benzo(a)pyrene	4.775	0.10	5	0	95.5	45 - 120	5.469	13.5	20	
Benzo(b)fluoranthene	5.582	0.10	5	0	112	50 - 120	5.507	1.36	20	
Benzo(g,h,i)perylene	5.205	0.10	5	0	104	42 - 127	4.976	4.49	20	

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:49**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098684** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzo(k)fluoranthene	5.017	0.10	5	0	100	45 - 127	5.331	6.07	20	
Bis(2-chloroethoxy)methane	5.443	0.20	5	0	109	45 - 120	5.07	7.09	20	
Bis(2-chloroethyl)ether	5.288	0.20	5	0	106	37 - 121	5.42	2.46	20	
Bis(2-chloroisopropyl)ether	4.756	0.20	5	0	95.1	40 - 120	5.102	7.02	20	
Bis(2-ethylhexyl)phthalate	5.895	0.20	5	0	118	40 - 139	5.83	1.1	20	
Butyl benzyl phthalate	6.061	0.20	5	0	121	47 - 123	5.814	4.16	20	
Caprolactam	5.941	0.20	5	0	119	35 - 134	5.956	0.263	20	
Carbazole	6.041	0.20	5	0	121	42 - 128	5.779	4.43	20	
Chrysene	5.776	0.10	5	0	116	43 - 120	5.629	2.59	20	
Dibenz(a,h)anthracene	5.135	0.10	5	0	103	45 - 125	5.269	2.58	20	
Dibenzofuran	5.305	0.10	5	0	106	50 - 120	5.42	2.14	20	
Diethyl phthalate	5.337	0.20	5	0	107	41 - 120	5.509	3.18	20	
Dimethyl phthalate	5.352	0.20	5	0	107	40 - 122	5.419	1.25	20	
Di-n-butyl phthalate	5.783	0.20	5	0	116	45 - 123	5.539	4.31	20	
Di-n-octyl phthalate	5.451	0.20	5	0	109	45 - 129	5.837	6.84	20	
Fluoranthene	5.515	0.10	5	0	110	45 - 125	5.61	1.71	20	
Fluorene	5.122	0.10	5	0	102	49 - 120	5.441	6.04	20	
Hexachlorobenzene	5.15	0.20	5	0	103	48 - 120	4.863	5.75	20	
Hexachlorobutadiene	5.135	0.20	5	0	103	40 - 120	4.943	3.82	20	
Hexachlorocyclopentadiene	3.744	0.20	5	0	74.9	34 - 136	3.974	5.97	20	
Hexachloroethane	4.569	0.20	5	0	91.4	40 - 120	4.814	5.22	20	
Indeno(1,2,3-cd)pyrene	4.777	0.10	5	0	95.5	41 - 128	4.547	4.94	20	
Isophorone	5.256	0.20	5	0	105	40 - 121	5.058	3.82	20	
Naphthalene	5.255	0.10	5	0	105	45 - 120	4.947	6.03	20	
Nitrobenzene	5.014	0.20	5	0	100	44 - 120	4.969	0.908	20	
N-Nitrosodi-n-propylamine	4.376	0.20	5	0	87.5	40 - 120	4.542	3.71	20	
N-Nitrosodiphenylamine	5.548	0.20	5	0	111	40 - 125	5.296	4.65	20	
Pentachlorophenol	3.302	0.20	5	0	66.0	19 - 121	3.378	2.29	20	
Phenanthrene	5.171	0.10	5	0	103	45 - 121	5.071	1.95	20	
Phenol	4.753	0.20	5	0	95.1	20 - 124	5.075	6.56	20	
Pyrene	5.823	0.10	5	0	116	40 - 130	5.601	3.88	20	
Surr: 2,4,6-Tribromophenol	*5.111*	*0.20*	*5*	*0*	*102*	*34 - 129*	*5.472*	*6.81*	*20*	
Surr: 2-Fluorobiphenyl	*5.229*	*0.20*	*5*	*0*	*105*	*40 - 125*	*5.379*	*2.82*	*20*	
Surr: 2-Fluorophenol	*4.486*	*0.20*	*5*	*0*	*89.7*	*20 - 120*	*4.04*	*10.5*	*20*	

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: 141401 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-141401** Units: **ug/L** Analysis Date: **30-May-2019 13:49**
Client ID: Run ID: **SV-7_339394** SeqNo: **5098684** PrepDate: **30-May-2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 4-Terphenyl-d14	*5.825*	*0.20*	*5*	*0*	*117*	*40 - 135*	*5.653*	*2.99*	*20*	
Surr: Nitrobenzene-d5	*5.076*	*0.20*	*5*	*0*	*102*	*41 - 120*	*4.905*	*3.42*	*20*	
Surr: Phenol-d6	*4.579*	*0.20*	*5*	*0*	*91.6*	*20 - 120*	*4.883*	*6.44*	*20*	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW190531** Units: **ug/L** Analysis Date: **31-May-2019 14:49**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103151** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichlor-1,2,2-trifluoroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	2.0								
2-Hexanone	ND	2.0								
4-Methyl-2-pentanone	ND	2.0								
Benzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	2.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Cyclohexane	ND	1.0								
Dibromochloromethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Ethylbenzene	ND	1.0								
Isopropylbenzene	ND	1.0								

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW190531** Units: **ug/L** Analysis Date: **31-May-2019 14:49**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103151** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	ND	2.0								
Methyl acetate	ND	1.0								
Methyl tert-butyl ether	ND	1.0								
Methylcyclohexane	ND	1.0								
Methylene chloride	ND	2.0								
o-Xylene	ND	1.0								
Styrene	ND	1.0								
Tetrachloroethene	ND	1.0								
Toluene	ND	1.0								
trans-1,2-Dichloroethene	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
Trichloroethene	ND	1.0								
Trichlorofluoromethane	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.0								
Surr: 1,2-Dichloroethane-d4	*50.62*	*1.0*	*50*	*0*	*101*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.45*	*1.0*	*50*	*0*	*94.9*	*82 - 115*				
Surr: Dibromofluoromethane	*55.11*	*1.0*	*50*	*0*	*110*	*73 - 126*				
Surr: Toluene-d8	*51.16*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCS Sample ID: **VLCSW-190531** Units: **ug/L** Analysis Date: **31-May-2019 14:00**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103150** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.49	1.0	20	0	102	70 - 130				
1,1,2,2-Tetrachloroethane	22.35	1.0	20	0	112	70 - 120				
1,1,2-Trichlor-1,2,2-trifluoroethane	20.3	1.0	20	0	102	70 - 130				
1,1,2-Trichloroethane	21.84	1.0	20	0	109	77 - 113				
1,1-Dichloroethane	19.78	1.0	20	0	98.9	71 - 122				
1,1-Dichloroethene	18.42	1.0	20	0	92.1	70 - 130				
1,2,4-Trichlorobenzene	20.91	1.0	20	0	105	77 - 126				
1,2-Dibromo-3-chloropropane	23.34	1.0	20	0	117	70 - 130				
1,2-Dibromoethane	21.4	1.0	20	0	107	76 - 123				
1,2-Dichlorobenzene	21.52	1.0	20	0	108	77 - 113				
1,2-Dichloroethane	17.48	1.0	20	0	87.4	70 - 124				
1,2-Dichloropropane	19.47	1.0	20	0	97.3	72 - 119				
1,3-Dichlorobenzene	21.36	1.0	20	0	107	78 - 118				
1,4-Dichlorobenzene	20.29	1.0	20	0	101	79 - 113				
2-Butanone	42.14	2.0	40	0	105	70 - 130				
2-Hexanone	47.79	2.0	40	0	119	70 - 130				
4-Methyl-2-pentanone	41.39	2.0	40	0	103	70 - 130				
Benzene	19.82	1.0	20	0	99.1	74 - 120				
Bromodichloromethane	20.28	1.0	20	0	101	74 - 122				
Bromoform	21.49	1.0	20	0	107	73 - 128				
Bromomethane	21.45	1.0	20	0	107	70 - 130				
Carbon disulfide	40.13	2.0	40	0	100	70 - 130				
Carbon tetrachloride	18.59	1.0	20	0	92.9	71 - 125				
Chlorobenzene	21.04	1.0	20	0	105	76 - 113				
Chloroethane	17.52	1.0	20	0	87.6	70 - 130				
Chloroform	19.09	1.0	20	0	95.4	71 - 121				
Chloromethane	17.75	1.0	20	0	88.8	70 - 129				
cis-1,2-Dichloroethene	21.03	1.0	20	0	105	75 - 122				
cis-1,3-Dichloropropene	21.48	1.0	20	0	107	73 - 127				
Cyclohexane	18.83	1.0	20	0	94.1	70 - 130				
Dibromochloromethane	20.46	1.0	20	0	102	77 - 122				
Dichlorodifluoromethane	18.21	1.0	20	0	91.1	70 - 130				
Ethylbenzene	21.26	1.0	20	0	106	77 - 117				
Isopropylbenzene	22.82	1.0	20	0	114	73 - 127				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCS Sample ID: **VLCSW-190531** Units: **ug/L** Analysis Date: **31-May-2019 14:00**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103150** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	45.13	2.0	40	0	113	77 - 122				
Methyl acetate	21.59	1.0	20	0	108	76 - 122				
Methyl tert-butyl ether	19.78	1.0	20	0	98.9	70 - 130				
Methylcyclohexane	20.05	1.0	20	0	100	61 - 157				
Methylene chloride	22.98	2.0	20	0	115	70 - 127				
o-Xylene	21.51	1.0	20	0	108	75 - 119				
Styrene	22.7	1.0	20	0	113	72 - 126				
Tetrachloroethene	21.5	1.0	20	0	108	76 - 119				
Toluene	22.29	1.0	20	0	111	77 - 118				
trans-1,2-Dichloroethene	22.59	1.0	20	0	113	72 - 127				
trans-1,3-Dichloropropene	22.09	1.0	20	0	110	77 - 119				
Trichloroethene	20.62	1.0	20	0	103	77 - 121				
Trichlorofluoromethane	18.08	1.0	20	0	90.4	70 - 130				
Vinyl chloride	17.82	1.0	20	0	89.1	70 - 130				
Xylenes, Total	66.64	1.0	60	0	111	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.92*	*1.0*	*50*	*0*	*93.8*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.99*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*49.98*	*1.0*	*50*	*0*	*100.0*	*73 - 126*				
Surr: Toluene-d8	*51.96*	*1.0*	*50*	*0*	*104*	*81 - 120*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19051824-01MS** Units: **ug/L** Analysis Date: **31-May-2019 19:05**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103161** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.81	1.0	20	0	104	70 - 130				
1,1,2,2-Tetrachloroethane	20.53	1.0	20	0	103	70 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	22.3	1.0	20	0	112	70 - 130				
1,1,2-Trichloroethane	21.68	1.0	20	0	108	70 - 117				
1,1-Dichloroethane	19.65	1.0	20	0	98.2	70 - 127				
1,1-Dichloroethene	20.06	1.0	20	0	100	70 - 130				
1,2,4-Trichlorobenzene	19.32	1.0	20	0	96.6	70 - 125				
1,2-Dibromo-3-chloropropane	21.51	1.0	20	0	108	70 - 130				
1,2-Dibromoethane	19.84	1.0	20	0	99.2	70 - 124				
1,2-Dichlorobenzene	21.02	1.0	20	0	105	70 - 115				
1,2-Dichloroethane	17.02	1.0	20	0	85.1	70 - 127				
1,2-Dichloropropane	19.35	1.0	20	0	96.7	70 - 122				
1,3-Dichlorobenzene	20.42	1.0	20	0	102	70 - 119				
1,4-Dichlorobenzene	20.1	1.0	20	0	100	70 - 114				
2-Butanone	37.47	2.0	40	0	93.7	70 - 130				
2-Hexanone	38.6	2.0	40	0	96.5	70 - 130				
4-Methyl-2-pentanone	36.01	2.0	40	0	90.0	70 - 130				
Benzene	19.72	1.0	20	0	98.6	70 - 127				
Bromodichloromethane	18.49	1.0	20	0	92.4	70 - 124				
Bromoform	19.24	1.0	20	0	96.2	70 - 129				
Bromomethane	20.97	1.0	20	0	105	70 - 130				
Carbon disulfide	40.29	2.0	40	0	101	70 - 130				
Carbon tetrachloride	18.65	1.0	20	0	93.2	70 - 130				
Chlorobenzene	20.76	1.0	20	0	104	70 - 114				
Chloroethane	17.98	1.0	20	0	89.9	70 - 130				
Chloroform	19.59	1.0	20	0	97.9	70 - 125				
Chloromethane	17.95	1.0	20	0	89.8	70 - 130				
cis-1,2-Dichloroethene	21.47	1.0	20	0	107	70 - 128				
cis-1,3-Dichloropropene	19.02	1.0	20	0	95.1	70 - 125				
Cyclohexane	19.63	1.0	20	0	98.1	70 - 130				
Dibromochloromethane	18.99	1.0	20	0	95.0	70 - 124				
Dichlorodifluoromethane	17.07	1.0	20	0	85.4	70 - 130				
Ethylbenzene	21.85	1.0	20	0	109	70 - 124				
Isopropylbenzene	22.98	1.0	20	0	115	70 - 130				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19051824-01MS** Units: **ug/L** Analysis Date: **31-May-2019 19:05**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103161** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
m,p-Xylene	44.64	2.0	40	0	112	70 - 130				
Methyl acetate	18.74	1.0	20	0	93.7	76 - 122				
Methyl tert-butyl ether	17.78	1.0	20	0	88.9	70 - 130				
Methylcyclohexane	20.14	1.0	20	0	101	61 - 158				
Methylene chloride	21.91	2.0	20	0	110	70 - 128				
o-Xylene	21.33	1.0	20	0	107	70 - 124				
Styrene	20.93	1.0	20	0	105	70 - 130				
Tetrachloroethene	23.04	1.0	20	0	115	70 - 130				
Toluene	21.21	1.0	20	0	106	70 - 123				
trans-1,2-Dichloroethene	23.13	1.0	20	0	116	70 - 130				
trans-1,3-Dichloropropene	19.08	1.0	20	0	95.4	70 - 121				
Trichloroethene	20.89	1.0	20	0	104	70 - 129				
Trichlorofluoromethane	19.95	1.0	20	0	99.7	70 - 130				
Vinyl chloride	19.39	1.0	20	0	97.0	70 - 130				
Xylenes, Total	65.97	1.0	60	0	110	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.13*	*1.0*	*50*	*0*	*96.3*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.35*	*1.0*	*50*	*0*	*101*	*81 - 113*				
Surr: Dibromofluoromethane	*51.16*	*1.0*	*50*	*0*	*102*	*77 - 123*				
Surr: Toluene-d8	*49.62*	*1.0*	*50*	*0*	*99.2*	*82 - 127*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS19051824-01MSD** Units: **ug/L** Analysis Date: **31-May-2019 19:30**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103162** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.61	1.0	20	0	103	70 - 130	20.81	0.98	20	
1,1,2,2-Tetrachloroethane	21.24	1.0	20	0	106	70 - 123	20.53	3.36	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	22.89	1.0	20	0	114	70 - 130	22.3	2.59	20	
1,1,2-Trichloroethane	20.91	1.0	20	0	105	70 - 117	21.68	3.59	20	
1,1-Dichloroethane	19.47	1.0	20	0	97.4	70 - 127	19.65	0.898	20	
1,1-Dichloroethene	20.46	1.0	20	0	102	70 - 130	20.06	1.97	20	
1,2,4-Trichlorobenzene	19.49	1.0	20	0	97.5	70 - 125	19.32	0.884	20	
1,2-Dibromo-3-chloropropane	19.7	1.0	20	0	98.5	70 - 130	21.51	8.79	20	
1,2-Dibromoethane	20.09	1.0	20	0	100	70 - 124	19.84	1.26	20	
1,2-Dichlorobenzene	21.7	1.0	20	0	109	70 - 115	21.02	3.17	20	
1,2-Dichloroethane	16.96	1.0	20	0	84.8	70 - 127	17.02	0.346	20	
1,2-Dichloropropane	19.55	1.0	20	0	97.8	70 - 122	19.35	1.06	20	
1,3-Dichlorobenzene	20.46	1.0	20	0	102	70 - 119	20.42	0.216	20	
1,4-Dichlorobenzene	20.24	1.0	20	0	101	70 - 114	20.1	0.736	20	
2-Butanone	39.34	2.0	40	0	98.4	70 - 130	37.47	4.89	20	
2-Hexanone	38.81	2.0	40	0	97.0	70 - 130	38.6	0.541	20	
4-Methyl-2-pentanone	36.49	2.0	40	0	91.2	70 - 130	36.01	1.32	20	
Benzene	19.92	1.0	20	0	99.6	70 - 127	19.72	1.01	20	
Bromodichloromethane	18.54	1.0	20	0	92.7	70 - 124	18.49	0.268	20	
Bromoform	19	1.0	20	0	95.0	70 - 129	19.24	1.26	20	
Bromomethane	21.1	1.0	20	0	105	70 - 130	20.97	0.59	20	
Carbon disulfide	46.82	2.0	40	0	117	70 - 130	40.29	15	20	
Carbon tetrachloride	19.22	1.0	20	0	96.1	70 - 130	18.65	3.01	20	
Chlorobenzene	20.4	1.0	20	0	102	70 - 114	20.76	1.77	20	
Chloroethane	17.81	1.0	20	0	89.1	70 - 130	17.98	0.926	20	
Chloroform	19.42	1.0	20	0	97.1	70 - 125	19.59	0.832	20	
Chloromethane	17.79	1.0	20	0	88.9	70 - 130	17.95	0.916	20	
cis-1,2-Dichloroethene	20.95	1.0	20	0	105	70 - 128	21.47	2.43	20	
cis-1,3-Dichloropropene	19.3	1.0	20	0	96.5	70 - 125	19.02	1.49	20	
Cyclohexane	19.87	1.0	20	0	99.3	70 - 130	19.63	1.21	20	
Dibromochloromethane	19.52	1.0	20	0	97.6	70 - 124	18.99	2.72	20	
Dichlorodifluoromethane	17.58	1.0	20	0	87.9	70 - 130	17.07	2.93	20	
Ethylbenzene	21.08	1.0	20	0	105	70 - 124	21.85	3.56	20	
Isopropylbenzene	22.4	1.0	20	0	112	70 - 130	22.98	2.57	20	

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339643 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS19051824-01MSD** Units: **ug/L** Analysis Date: **31-May-2019 19:30**
Client ID: Run ID: **VOA4_339643** SeqNo: **5103162** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
m,p-Xylene	42.83	2.0	40	0	107	70 - 130	44.64	4.13	20	
Methyl acetate	18.75	1.0	20	0	93.8	76 - 122	18.74	0.0435	20	
Methyl tert-butyl ether	18.24	1.0	20	0	91.2	70 - 130	17.78	2.55	20	
Methylcyclohexane	20.91	1.0	20	0	105	61 - 158	20.14	3.76	20	
Methylene chloride	21.54	2.0	20	0	108	70 - 128	21.91	1.7	20	
o-Xylene	20.6	1.0	20	0	103	70 - 124	21.33	3.5	20	
Styrene	20.47	1.0	20	0	102	70 - 130	20.93	2.24	20	
Tetrachloroethene	22.69	1.0	20	0	113	70 - 130	23.04	1.5	20	
Toluene	20.8	1.0	20	0	104	70 - 123	21.21	1.96	20	
trans-1,2-Dichloroethene	22.54	1.0	20	0	113	70 - 130	23.13	2.62	20	
trans-1,3-Dichloropropene	19	1.0	20	0	95.0	70 - 121	19.08	0.436	20	
Trichloroethene	20.63	1.0	20	0	103	70 - 129	20.89	1.27	20	
Trichlorofluoromethane	19.96	1.0	20	0	99.8	70 - 130	19.95	0.0685	20	
Vinyl chloride	19.15	1.0	20	0	95.7	70 - 130	19.39	1.29	20	
Xylenes, Total	63.43	1.0	60	0	106	70 - 130	65.97	3.92	20	
Surr: 1,2-Dichloroethane-d4	*47.91*	*1.0*	*50*	*0*	*95.8*	*70 - 126*	*48.13*	*0.471*	*20*	
Surr: 4-Bromofluorobenzene	*48.47*	*1.0*	*50*	*0*	*96.9*	*81 - 113*	*50.35*	*3.81*	*20*	
Surr: Dibromofluoromethane	*52.37*	*1.0*	*50*	*0*	*105*	*77 - 123*	*51.16*	*2.33*	*20*	
Surr: Toluene-d8	*50.56*	*1.0*	*50*	*0*	*101*	*82 - 127*	*49.62*	*1.87*	*20*	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339940 (0) **Instrument: VOA9** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190605** Units: **ug/L** Analysis Date: **05-Jun-2019 12:44**
Client ID: Run ID: **VOA9_339940** SeqNo: **5109673** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	ND	2.0								
Surr: 1,2-Dichloroethane-d4	*47.75*	*1.0*	*50*	*0*	*95.5*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.43*	*1.0*	*50*	*0*	*96.9*	*82 - 115*				
Surr: Dibromofluoromethane	*48.41*	*1.0*	*50*	*0*	*96.8*	*73 - 126*				
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-190605** Units: **ug/L** Analysis Date: **05-Jun-2019 11:55**
Client ID: Run ID: **VOA9_339940** SeqNo: **5109672** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	36.67	2.0	40	0	91.7	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.16*	*1.0*	*50*	*0*	*92.3*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.91*	*1.0*	*50*	*0*	*97.8*	*82 - 115*				
Surr: Dibromofluoromethane	*49.35*	*1.0*	*50*	*0*	*98.7*	*73 - 126*				
Surr: Toluene-d8	*49.26*	*1.0*	*50*	*0*	*98.5*	*81 - 120*				

MS Sample ID: **HS19051895-13MS** Units: **ug/L** Analysis Date: **05-Jun-2019 14:48**
Client ID: Run ID: **VOA9_339940** SeqNo: **5109678** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	32.5	2.0	40	0	81.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.21*	*1.0*	*50*	*0*	*96.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.56*	*1.0*	*50*	*0*	*99.1*	*81 - 113*				
Surr: Dibromofluoromethane	*49.49*	*1.0*	*50*	*0*	*99.0*	*77 - 123*				
Surr: Toluene-d8	*49.75*	*1.0*	*50*	*0*	*99.5*	*82 - 127*				

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339940 (0) **Instrument: VOA9** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS19051895-13MSD** Units: **ug/L** Analysis Date: **05-Jun-2019 15:13**
Client ID: Run ID: **VOA9_339940** SeqNo: **5109679** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	32.66	2.0	40	0	81.7	70 - 130	32.5	0.512	20	
Surr: 1,2-Dichloroethane-d4	*47.72*	*1.0*	*50*	*0*	*95.4*	*70 - 126*	*48.21*	*1.01*	*20*	
Surr: 4-Bromofluorobenzene	*49.78*	*1.0*	*50*	*0*	*99.6*	*81 - 113*	*49.56*	*0.439*	*20*	
Surr: Dibromofluoromethane	*49.21*	*1.0*	*50*	*0*	*98.4*	*77 - 123*	*49.49*	*0.572*	*20*	
Surr: Toluene-d8	*49.8*	*1.0*	*50*	*0*	*99.6*	*82 - 127*	*49.75*	*0.103*	*20*	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339672 (0) **Instrument: WetChem_HS** **Method: PH BY SW9040C**

DUP Sample ID: **HS19051742-01DUP** Units: **pH Units** Analysis Date: **03-Jun-2019 11:00**
Client ID: Run ID: **WetChem_HS_339672** SeqNo: **5103734** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.64	0.100					7.61	0.393	10	
Temp Deg C @pH	22.8	0					22.8	0	10	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339676 (0) **Instrument: WetChem_HS** **Method: REACTIVE SULFIDE**

MBLK Sample ID: **MBLK-339676** Units: **mg/Kg** Analysis Date: **03-Jun-2019 11:30**
Client ID: Run ID: **WetChem_HS_339676** SeqNo: **5103791** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	ND	100								

LCS Sample ID: **LCS-339676** Units: **mg/Kg** Analysis Date: **03-Jun-2019 11:30**
Client ID: Run ID: **WetChem_HS_339676** SeqNo: **5103792** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	68	10.0	100	0	68.0	20 - 120				

MS Sample ID: **HS19051777-01MS** Units: **mg/Kg** Analysis Date: **03-Jun-2019 11:30**
Client ID: Run ID: **WetChem_HS_339676** SeqNo: **5103793** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	64	10.0	100	0	64.0	20 - 120				

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339679 (0) **Instrument: UV-2450** **Method: REACTIVE CYANIDE**

MBLK Sample ID: **MBLK-339679** Units: **mg/Kg** Analysis Date: **03-Jun-2019 14:00**
Client ID: Run ID: **UV-2450_339679** SeqNo: **5103825** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	ND	100								

LCS Sample ID: **LCS-339679** Units: **mg/Kg** Analysis Date: **03-Jun-2019 14:00**
Client ID: Run ID: **UV-2450_339679** SeqNo: **5103826** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.75	10.0	10	0	7.50	5 - 100				J

MS Sample ID: **HS19051777-01MS** Units: **mg/Kg** Analysis Date: **03-Jun-2019 14:00**
Client ID: Run ID: **UV-2450_339679** SeqNo: **5103829** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.77	10.0	10	0.02	7.50	5 - 100				J

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: HS19051780

QC BATCH REPORT

Batch ID: R339688 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R339688** Units: **°F** Analysis Date: **03-Jun-2019 14:20**
Client ID: Run ID: **WetChem_HS_339688** SeqNo: **5104024** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	82.74	70.0	81	0	102	95 - 105				

DUP Sample ID: **HS19051783-01DUP** Units: **°F** Analysis Date: **03-Jun-2019 14:20**
Client ID: Run ID: **WetChem_HS_339688** SeqNo: **5104025** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	> 212	70.0					0	0	20	

The following samples were analyzed in this batch: HS19051780-01

Client: Kuraray America, Inc.
Project: Nickel WW
WorkOrder: **HS19051780**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
Maryland	343, 2018-2019	30-Jun-2019
Arkansas	19-028-0	27-Mar-2020
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: Kuraray77507 Date/Time Received: **29-May-2019 15:45**

Work Order: HS19051780 Received by: **PS**

Checklist completed by: *Nilesh D. Ranchod* eSignature 30-May-2019 Date

Reviewed by: *Corey Grandits* eSignature 4-Jun-2019 Date

Matrices: **Water** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:205448
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.2C UC/C	IR # 11
Cooler(s)/Kit(s):	5822	
Date/Time sample(s) sent to storage:	05/29/2019 18:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH
+1 513 733 5336

Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 205448

HS19051780

Kuraray America, Inc.
Nickel WW

ALS Project Manager:

Customer Information		Project Information	
Purchase Order		Project Name	
Work Order		Project Number	
Company Name	Kuraray America, Inc.	Bill To Company	Kuraray America, Inc.
Send Report To	Jennifer Schmidt	Invoice Attn	AP Contact
Address	11500 Bay Area Blvd.	Address	11500 Bay Area Blvd.
City/State/Zip	Pasadena, TX 77507	City/State/Zip	Pasadena TX 77507
Phone	(281) 474-1513	Phone	(281) 474-1513
Fax	(281) 474-9111	Fax	(281) 474-9111
e-Mail Address	Jennifer.Schmidt@kuraray.com	e-Mail Address	

A	8260_LL_W (TCL 4.3 VOC)
B	8270_LOW_S (TCL 4.3 SVOC)
C	TX1005_W_Low (TX1005 TPH)
D	200.8 (TX11 Metals + Cu,Co,Sn,Ti,V,Zn)
E	Hg_WW (245.1 Mercury)
F	RCI Profile
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Nickel WW	5/28/19	2:15pm			10	X	X	X	X	X	X					
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Jennifer Schmidt Jennifer Schmidt

Shipment Method:

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ____

Results Due Date:

	Date:	Time:	
Relinquished by: Jennifer Schmidt	5/29/19	1:00pm	Received by:
Relinquished by:	5/29/19	1545	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: Kuraray Pasadena General

Cooler ID	Cooler Temp.
5822	4.1C
	0-2

QC Package: (Check One Box Below)

- ☒ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Rev 11 ENF0.0

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

5822

CUSTODY SEAL

Date: 5/29/19 Time: 1:00pm
Name: Jennifer Schmidt
Company: Kuraray America

Seal Broken By: SM
Date: 05/29/19

5822 MAY 29 2019