

APPENDIX H SITE SPECIFIC IGW CALCULATION

APPENDIX H-1 NICKEL SPREADSHEET

NJDEP SPLP Spreadsheet, V2.0, 12/08

Case name/area of concern: PPG Site 63/65
 Case number:
 Sampling date: 12/17/2012 and 12/18/2012

**CALCULATE
SITE SPECIFIC
IGW STANDARD**

Reset Spreadsheet

Contaminant: **Nickel**
 CAS No: 7440-02-0
 Water solubility (mg/L): -
 Aqueous reporting limit (µg/L): 4
 Soil reporting limit (mg/kg): 4
 Health-based GWQC (µg/L): 100
 DAF (13, or site-specific if approved): 13
 Leachate Criterion (µg/L): 1300
 Henry's law constant (dimensionless): -

NOTE:
USE ONE PAGE PER CONTAMINANT
Do not leave empty rows between samples
Do not enter samples with soil concentrations at or below the reporting limit.
Enter site-specific dilution-attenuation factor (DAF) if desired

Data entry cells (do not skip rows)
 Optional data entry
 Calculated or locked cells
Indicates that Alternative Remediation Standard needs to be recalculated

Sample ID	Soil sample weight (kg)	Leachate Volume (L)	Total Soil Concentration (mg/kg)	Leachate Concentration (µg/L)	Final pH of Leachate	Optional data		Kd (L/kg)	% Contaminant in Leachate	Need to adjust leachate concentration?	Adjusted leachate concentration (µg/L)	Pass or fail?
						Sampling Depth (ft)	Soil Type					
063_C011_2.0	0.1	2	12.4	4.1	9.83			3004.4	0.66	no	4.1	PASS
063_C010_2.0	0.1	2	21	10.5	10.04			1980.0	1.00	no	10.5	PASS
063_B005_2.0	0.1	2	19.7	11.7	10.06			1663.8	1.19	no	11.7	PASS
063_C005_3.0	0.1	2	14.9	39.9	9.99			353.4	5.36	no	39.9	PASS

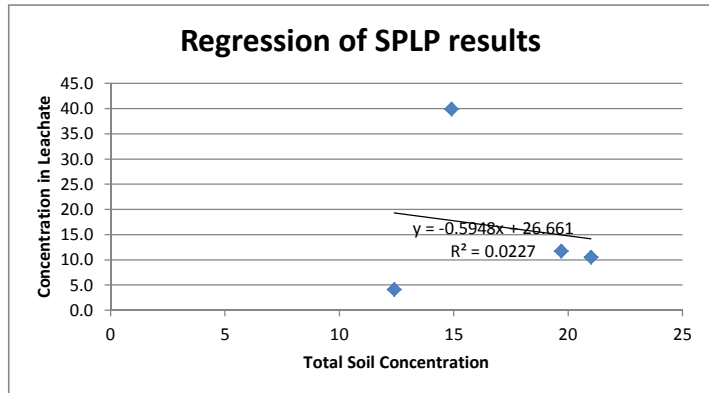
SPLP RESULTS for Nickel

OPTION 1a: All adjusted leachate concentrations are below the leachate criterion
 result before adjustment = 21.0 mg/kg
REMEDIATION STANDARD = 21 mg/kg

OPTION 1b: Simple inspection of tabulated results to find highest acceptable standard
 EVERYTHING PASSED, OPTION 1b NOT VALID

OPTION 2: Remediation standard using site-specific Kd value
 Kd ratio = 8.50, AVERAGING Kds OK
 Kd USED FOR CALCULATING STANDARD = 1750.4 L/kg
 result before adjustment = 2275.7143 mg/kg
REMEDIATION STANDARD = 21 mg/kg (controlled by maximum soil concentration)

OPTION 3: Remediation standard using linear regression
 Number of points = 4
 Soil concentration midrange = 16.7
 Number of points above midrange = 2
 Enough points above midrange? YES
 R-Square high enough? NO
 Leachate criterion within range of leachate concentrations? NO
OPTION 3 NOT VALID



APPENDIX H-2 ANTIMONY SPREADSHEET

NJDEP SPLP Spreadsheet, V2.0, 12/08

Case name/area of concern: PPG Site 63/65
 Case number:
 Sampling date: 12/17/2012 and 12/18/2012

**CALCULATE
SITE SPECIFIC
IGW STANDARD**

Reset Spreadsheet

Contaminant: **Antimony**
 CAS No: 7440-36-0
 Water solubility (mg/L): -
 Aqueous reporting limit (µg/L): 3
 Soil reporting limit (mg/kg): 6
 Health-based GWQC (µg/L): 6
 DAF (13, or site-specific if approved): 13
 Leachate Criterion (µg/L): 78
 Henry's law constant (dimensionless): -

NOTE:
USE ONE PAGE PER CONTAMINANT
Do not leave empty rows between samples
Do not enter samples with soil concentrations at or below the reporting limit.
Enter site-specific dilution-attenuation factor (DAF) if desired

 Data entry cells (do not skip rows)
 Optional data entry
 Calculated or locked cells
 Indicates that Alternative Remediation Standard needs to be recalculated

Sample ID	Soil sample weight (kg)	Leachate Volume (L)	Total Soil Concentration (mg/kg)	Leachate Concentration (µg/L)	Final pH of Leachate	Optional data				Kd (L/kg)	% Contaminant in Leachate	Need to adjust leachate concentration?	Adjusted leachate concentration (µg/L)	Pass or fail?
						Sampling Depth (ft)	Soil Type	Organic Carbon (mg/kg)	Organic Carbon (%)					
063_C005_3.0	0.1	2	0.46	49.5	9.99					-10.7	215.22	yes	-43.6	PASS
063_C011_2.0	0.1	2	0.42	1.9	9.83					201.1	9.05	no	1.9	PASS
063_C010_2.0	0.1	2	0.43	5.9	10.04					52.9	27.44	yes	8.1	PASS
063_B005_2.0	0.1	2	0.4	10.6	10.06					17.7	53.00	yes	22.4	PASS

SPLP RESULTS for Antimony

OPTION 1a: All adjusted leachate concentrations are below the leachate criterion
 result before adjustment = 0.46 mg/kg
REMEDIATION STANDARD = 6 mg/kg (controlled by soil PQL)

OPTION 1b: Simple inspection of tabulated results to find highest acceptable standard
 EVERYTHING PASSED, OPTION 1b NOT VALID

OPTION 2: Remediation standard using site-specific Kd value
 Kd ratio = -18.78, AVERAGING Kds OK
 Kd USED FOR CALCULATING STANDARD = 65.24 L/kg
 result before adjustment = 5.1007 mg/kg
REMEDIATION STANDARD = 6 mg/kg (controlled by soil PQL)

OPTION 3: Remediation standard using linear regression
 Number of points = 2
 (points were eliminated because leachate concentrations were not above the aqueous reporting limit)
 Too many points have leachate concentrations equal to or below the aqueous reporting limit

APPENDIX H-3 SPLP LOGS

METALS BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-48605-1

SDG No.: _____

Batch Number: 140612 Batch Start Date: 12/19/12 17:00 Batch Analyst: Hu, Youhao

Batch Method: 1312 Batch End Date: 12/20/12 09:28

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_InitialpH	InitialRoomTemp	FinalRoomTemp	VesselNumber
LB 460-140612/1		1312, 3010A, 6020			2000 mL	4.25	22.5 Celsius	21.5 Celsius	SP011
460-48605-A-14	063_C010_2.0	1312, 3010A, 6020	E	100.20 g	2000 mL		22.5 Celsius	21.5 Celsius	MA59

Lab Sample ID	Client Sample ID	Method Chain	Basis	FiltCompDate	FiltCompTime	LeachatepH	ExtractFluid	AnalysisComment
LB 460-140612/1		1312, 3010A, 6020		122012	1000	4.37	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/20/12 @ 1100
460-48605-A-14	063_C010_2.0	1312, 3010A, 6020	E	122012	1055	10.04	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/20/12 @ 1111

Batch Notes	
Balance ID	13
Batch Comment	min temp = 20.8C max temp =21.6C
pH Meter ID	F
Room Temperature Thermometer ID	7958
SPLP Solution Lot #	SP1121912 prep: 12/19/12 exp: 06/19/12
Tumbler Rotations per Minute	29

Basis	Basis Description
E	SPLP East

METALS BATCH WORKSHEET

Lab Name: TestAmerica Edison Job No.: 460-48686-1

SDG No.: _____

Batch Number: 140684 Batch Start Date: 12/20/12 14:55 Batch Analyst: Hu, Youhao

Batch Method: 1312 Batch End Date: 12/21/12 09:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EFD_InitialpH	InitialRoomTemp	FinalRoomTemp	VesselNumber
LB 460-140684/1		1312, 3010A, 6020			2000 mL	4.25	21.5 Celsius	21.5 Celsius	sp011
460-48686-A-1	063_C011_2.0	1312, 3010A, 6020	E	100.09 g	2000 mL		21.5 Celsius	21.5 Celsius	003
460-48686-A-2	063_C005_3.0	1312, 3010A, 6020	E	100.28 g	2000 mL		21.5 Celsius	21.5 Celsius	TA8
460-48686-A-3	063_B005_2.0	1312, 3010A, 6020	E	100.22 g	2000 mL		21.5 Celsius	21.5 Celsius	MO58

Lab Sample ID	Client Sample ID	Method Chain	Basis	FiltCompDate	FiltCompTime	LeachatepH	ExtractFluid	AnalysisComment
LB 460-140684/1		1312, 3010A, 6020		122112	1000	4.46	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/21/12 @ 1045
460-48686-A-1	063_C011_2.0	1312, 3010A, 6020	E	122112	1040	9.83	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/21/12 @ 1053
460-48686-A-2	063_C005_3.0	1312, 3010A, 6020	E	122112	1045	9.99	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/21/12 @ 1054
460-48686-A-3	063_B005_2.0	1312, 3010A, 6020	E	122112	1050	10.06	SP1121912	SPLP Fluid #1 prep on 12/19/12; Exp 6/19/13; pH measured on 12/21/12 @ 1055