

Data Validation Report

Project:	Portland Harbor
Laboratory:	Alpha Analytical Laboratory
Environmental Test Record (ETR):	1408043
Analyses/Method:	Polycyclic Aromatic Hydrocarbons (PAH), Petroleum Biomarkers, n-Alkanes and Total Petroleum Hydrocarbons (TPH), and Total Organic Carbon (TOC)

Summary

Nine sediment samples were collected in Portland Harbor, Oregon on August 20, 2014 and August 21, 2014. Samples were analyzed for polycyclic aromatic hydrocarbons (PAH) and petroleum biomarkers by EPA Method 8270D modified by selected ion monitoring mode (SIM), n-alkanes and total petroleum hydrocarbons (TPH) by EPA Method 8015D, and total organic carbon (TOC) by EPA Method 9060A by Alpha Analytical Laboratory located in Mansfield, Massachusetts. The laboratory provided Level 4 data packages containing samples results and associated quality assurance (QA) and quality control (QC) data, preparation logs, and raw instrument output. The following sediment samples are associated with the laboratory ETR 1408043.

Client ID	Lab ID	Matrix
PH14-T08-S	1408043-01	Sediment
PH14-T08-Z	1408043-02	Sediment
PH14-T09-S	1408043-03	Sediment
PH14-T09-Z	1408043-04	Sediment
PH14-S15-S	1408043-05	Sediment
PH14-S15-Z	1408043-06	Sediment
PH14-S04-S	1408043-11	Sediment
PH14-S04-S-D	1408043-12	Sediment
PH14-S09-S	1408043-13	Sediment

The data have been independently validated using *USEPA Contact Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review* EPA-540-R-2017-002, dated January 2017. Validation includes reconstruction of the analytical data to verify that data are traceable and sufficiently complete in order for a qualified individual other than the originator to perform reconstruction of the data. The validation included the following checks:

- Sample Receipt/Transcription error check
- Sample preservation
- Sample holding times
- Tune Summary
- Initial calibration
- Continuing calibration verification (CCV)
- Laboratory blank contamination
- Equipment blank contamination
- Surrogate spike recoveries



- Internal Standard recoveries
- Matrix spike/Matrix spike duplicate (MS/MSD) recoveries, relative percent difference (RPD)
- Standard Reference Material Sediment accuracy check
- Laboratory control sample (LCS), LCS Duplicate (LCSD) recoveries, RPD values
- Calculation checks
- Contract Required Quantitation Limit (CRQL)
- Field duplicate results
- Laboratory duplicate results
- Overall assessment of the data

Data validation is based on the QC criteria documented in *Portland Harbor Sediment Forensic Chemistry Study, Portland Harbor Oregon Quality Assurance Project Plan (QAPP)*,¹ dated July 29, 2014, and the *Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Quality Assurance Project Plan (QAPP)*,² dated March 23, 2018. Data qualifiers assigned to results reported in this sample set are included in Table 1. Reason codes and explanations for qualified data are provided in Table 2.

Sample Receipt

Chain of custody documentation were reviewed for completeness of information relevant to the samples and requested analysis. Sample IDs and sample collection dates from the chain of custody records were matched to the reported data. No discrepancies noted.

All coolers were received within $4 \pm 2^\circ\text{C}$.

ORGANIC ANALYSES

Holding Time and Sample Preservation

All samples were extracted and analyzed within holding times.

GC/MS Instrument Performance Check – Acceptable

Initial Calibration and Continuing Calibration Verifications – Acceptable

Blanks – Acceptable except as noted below:

Method Blank: The method blank met the QC acceptance criteria for PAH and biomarkers. PAH were detected in the method blank below the reporting limit. However, with the exception of the cis/trans-decalin, the associated sample results were either non-detect or greater than ten times the blank concentration. Samples containing cis/trans-decalin at concentrations below the reporting limit and less than ten times the blank result were qualified as not detected, and were flagged “U” at the reporting limit based on the method blank result.

¹ NewFields. (2014). Portland Harbor Sediment Forensic Chemistry Study, Portland Harbor Oregon Quality Assurance Project Plan (QAPP). July 29, 2014.

² AECOM and Geosyntec. 2018. Portland Harbor Pre-Remedial Design Investigation and Baseline Sampling Portland Harbor Superfund Site, Quality Assurance Project Plan. March 23, 2018,



The method blank met the QC acceptance criteria for n-alkanes and TPH. n-Alkanes were detected in the method blank below the reporting limit. However, with the exception of n-decane, the associated sample results were either non-detect or greater than ten times the blank concentration. Samples containing the n-decane at concentrations below the reporting limit and less than ten times the blank result were qualified as not detected, and were flagged “U” at the reporting limit based on the method blank result.

Rinsate Blank: Two rinsate blanks were collected on August 20, 2014 and August 21, 2014 (PH14-RB3 and PH14-RB4, respectively [ETR 1408040]) and are associated with the samples in this ETR.

- PH14-RB3 is associated with: PH14-T08-S, PH14-T08-Z, PH14-T09-S, PH14-T09-Z, PH14-S15-S, and PH14-S15-Z.
- PH14-RB4 is associated with: PH14-S04-S, PH14-S04-S-D, and PH14-S09-S.

Detections of target compounds in rinsate blanks were evaluated relative to sediment method detection limits (MDL). No target analytes were found in rinsate blanks at relative concentrations at, or above, the sediment MDL. No data were qualified based on the rinsate blank results.

Surrogate Spikes – Acceptable except as noted below:

The surrogate recovery for 5B(H)Cholane in field sample PH14-T09-S was above the acceptance criteria of 40-120%. The results of all biomarkers were “J” qualified.

Internal Standard Areas – Acceptable.

Laboratory Control Samples – Acceptable.

Matrix Spike/Spike Duplicate – Acceptable except as noted below:

The following percent recoveries were outside QC limits:

Sample ID	Analyte	MS (%)	MSD (%)	QC Limit (%)	RPD (%)	QC Limit (%)
PH14-T08-Z	Naphthalene	140	961	50 - 125	120	30
	Acenaphthylene	244	ok	50 - 125	55	30
	Acenaphthene	139	161	50 - 125	ok	30
	Fluorene	184	196	50 - 125	ok	30
	Anthracene	369	141	50 - 125	54	30
	Benzo[j]fluoranthene/Benzo[k]fluoranthene	449	ok	50 - 125	46	30
	Dibenz[ah]anthracene/Dibenz[ac]anthracene	175	ok	50 - 125	36	30
	Anthanthrene	ok	6	50 - 125	ok	30
	Dibenzo(a,l)pyrene/dibenz(b,k)fluoranthene	222	ok	50 - 125	ok	30
	Naphtho(2,3-a)pyrene	ok	41	50 - 125	ok	30
	Coronene	314	ok	50 - 125	56	30
	Dibenzo(a,e)pyrene	156	ok	50 - 125	33	30
	Dibenzo(a,i)pyrene	ok	ok	50 - 125	ok	30
	Dibenzo(a,h)pyrene	35	ok	50 - 125	ok	30
	n-Octadecane (C18)	163	ok	50 - 125	ok	30



The samples contained highly elevated PAHs indicative tar-derived residues. Heterogeneity of sample matrix expected and reconciles with QC exceedance. The results for naphthalene, acenaphthylene, acenaphthene, fluorene, anthracene, benzo[j]fluoranthene/benzo[k]fluoranthene, anthanthrene, dibenz[ah]anthracene/ dibenz[ac]anthracene, anthanthrene, dibenzo(a,l)pyrene/ dibenz(b,k)fluoranthene, naphtho(2,3-a)pyrene, coronene, dibenzo(a,e)pyrene, dibenzo(a,i)pyrene, and dibenzo(a,h)pyrene and n-octadecane in the native sample were qualified as estimated and flagged “J” based on these MS/MSD results.

The precision and accuracy of the method was demonstrated by the results of the LCS/LCSD. In addition, a PAH standard reference material (SRM 1941b), was reported with this ETR and met the QC acceptance criteria. The results of the SRM demonstrate accuracy has been achieved for this ETR.

Standard Reference Material – Acceptable.

Field Duplicate– Acceptable except as noted below:

A field duplicate was submitted for PH14-S04-S and was identified as PH14-S04-S-D. Ninety percent (90%) of the results for the field duplicates exceeded the QC limit of 50%.

The samples contained highly elevated PAHs indicative tar-derived residues. Heterogeneity of sample matrix expected and reconciles with QC exceedance. The results for the analytes exceeding the QC criteria were qualified in the native sample as estimated and flagged “J” based on elevated field duplicates.

Laboratory Duplicate– Acceptable except as noted below:

Sample ID	Analytes	RPD (%)	QC Limit (%)
PH14-T08-S	cis/trans-Decalin	48	30
	C1-Decalins	68	30
	C2-Decalins	51	30
	C1-Benzo(b)thiophenes	47	30
	C2-Benzo(b)thiophenes	121	30
	C3-Benzo(b)thiophenes	130	30
	C4-Benzo(b)thiophenes	101	30
	C1-Naphthalenes	51	30
	C2-Naphthalenes	121	30
	C3-Naphthalenes	136	30
	C4-Naphthalenes	108	30
	Biphenyl	31	30
	Acenaphthene	101	30
	Fluorene	92	30
	C1-Fluorenes	116	30
	C2-Fluorenes	106	30
	C3-Fluorenes	68	30
	Anthracene	35	30
	Phenanthrene	113	30
	C1-Phenanthrenes/Anthracenes	115	30
C2-Phenanthrenes/Anthracenes	92	30	



Sample ID	Analytes	RPD (%)	QC Limit (%)
	C3-Phenanthrenes/Anthracenes	59	30
	C4-Phenanthrenes/Anthracenes	32	30
	Dibenzothiophene	125	30
	C1-Dibenzothiophenes	122	30
	C2-Dibenzothiophenes	94	30
	C3-Dibenzothiophenes	60	30
	C4-Dibenzothiophenes	36	30
	Benzo(b)fluorene	44	30
	7H-Benzo(c)fluorene	63	30
	Fluoranthene	54	30
	Pyrene	57	30
	C1-Fluoranthenes/Pyrenes	55	30
	C2-Fluoranthenes/Pyrenes	52	30
	C3-Fluoranthenes/Pyrenes	47	30
	C4-Fluoranthenes/Pyrenes	31	30
	Naphthobenzothiophenes	38	30
	C1-Naphthobenzothiophenes	47	30
	C2-Naphthobenzothiophenes	37	30
	Benz[a]anthracene	37	30
	Chrysene/Triphenylene	38	30
	C1-Chrysenes	53	30
	C2-Chrysenes	55	30
	C3-Chrysenes	38	30
	Dibenzo(a,h)pyrene	34	30
	Carbazole	33	30
	4-Methyldibenzothiophene	124	30
	2/3-Methyldibenzothiophene	120	30
	1-Methyldibenzothiophene	124	30
	3-Methylphenanthrene	128	30
	2-Methylphenanthrene	124	30
	2-Methylantracene	83	30
	9/4-Methylphenanthrene	104	30
	1-Methylphenanthrene	109	30
	2-Methylnaphthalene	43	30
	1-Methylnaphthalene	67	30
	2,6-Dimethylnaphthalene	38	30
	2,3,5-Trimethylnaphthalene	139	30
	C28 Tricyclic Terpane-22R	73	30
	n-Octadecane (C18)	114	30
	n-Eicosane (C20)	48	30
	n-Heptacosane (C27)	69	30
	Total Saturated Hydrocarbons	36	30



The samples contained highly elevated PAHs indicative tar-derived residues. Heterogeneity of sample matrix expected and reconciles with QC exceedance. The results for the analytes listed above were qualified as estimated and flagged “J” based on elevated laboratory duplicates.

Target Compound Identifications– Acceptable.

Compound Quantitation and CRQLs – Acceptable.

CONVENTIONAL ANALYSES

Holding Time and Sample Preservation – Acceptable.

Initial Calibration and Continuing Calibration Verifications – Acceptable.

Blanks– Acceptable.

Matrix Spike/Spike Duplicate – Acceptable.

Standard Reference Material – Acceptable

Field Duplicate– Acceptable except as noted below:

Sample ID	Analytes	RPD (%)	QC Limit (%)
PH14-S04-S	TOC	83	50

The result for TOC in sample PH14-S04-S was qualified as estimated and flagged “J” based on the field duplicate results.

Laboratory Duplicate– Acceptable.

Compound Quantitation and CRQLs – Acceptable

OVERALL ASSESSMENT OF DATA

The data reported in this laboratory ETR is considered usable for meeting the project objectives.

The completeness is calculated by the number of usable data points divided by the total number of data points generated, multiplied by 100. The completeness for the laboratory ETR is 100%.

Validation performed by and Date:

George Desreuisseau, Mike Mitchel and Kerylynn Krahforst, December 2018.



Staff Scientists - NewFields

Table 1. QA/QC Summary Review

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG Result	NFG Qualifier	validator_ reason_code
1408043	PH14-S04-S	1408043-11X	EPA 8270D	cis/trans-Decalin	0.594	JB	µg/Kg	0.874	U	bl
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Dibenzothiophenes	50.9		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C28 Tricyclic Terpane-22R	1.55		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C28 Tricyclic Terpane-22S	1.2		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C28,20R-triaromatic steroid	2.32	B	µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C28,20S-triaromatic steroid	2.7	B	µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C29 Tricyclic Terpane-22R	1.18		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Benzo(b)thiophenes	1.6		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[g,h,i]perylene	684		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Decalins	5.88		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C26 Tricyclic Terpane-22S	1.01		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Fluoranthenes/Pyrenes	197		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Fluorenes	37.6		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Naphthalenes	6.51		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Naphthobenzothiophenes	49.4		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Phenanthrenes/Anthracenes	161		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C30 Tricyclic Terpane-22R	0.884		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Benzo(b)thiophenes	4.14		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C2-Chrysenes	130		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Naphthalenes	7.65		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[j]fluoranthene/Benzo[k]fluoranthene	470		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzothiophene	2.5		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Biphenyl	3.92		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Benzo(b)thiophenes	1.66		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Chrysenes	250		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Decalins	1.66		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Dibenzothiophenes	19.8		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C27,20R-triaromatic steroid	3.49	B	µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Fluorenes	11.3		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C26,20R- +C27,20S- triaromatic steroid	7.14	B	µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Naphthobenzothiophenes	81.8		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Phenanthrenes/Anthracenes	83		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C23 Tricyclic Terpane	2.31		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C24 Tricyclic Terpane	1.65		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C25 Tricyclic Terpane	1.55		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C26 Tricyclic Terpane-22R	0.934		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Dibenzothiophenes	58.8		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C1-Fluoranthenes/Pyrenes	454		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Naphthalene	32.1		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Chrysenes	70.5		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzo(a,e)pyrene	89.6		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzo(a,h)pyrene	4.33		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzo(a,i)pyrene	35.5		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzo(a,l)pyrene/dibenz(b,k)fluoranthene	197		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzofuran	1.39		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzothiophene	11.7		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenz[ah]anthracene/Dibenz[ac]anthracene	107		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Indeno[1,2,3-cd]pyrene	568		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Coronene	215		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Naphtho(2,3-a)pyrene	95.8		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Naphtho(2,3-e)pyrene	53.1		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Naphthobenzothiophenes	158		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Perylene	215		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Pyrene	1040		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Retene	42.6		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Fluorene	7.31		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Dibenzothiophenes	28.7		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Fluoranthene	682		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Fluoranthenes/Pyrenes	108		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Fluorenes	57.2		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Naphthalenes	11.1		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Naphthobenzothiophenes	31.7		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Phenanthrenes/Anthracenes	128		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Benzo(b)thiophenes	6.23		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Dibenzo(a,e)fluoranthene	103		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Decalins	7.85		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C3-Decalins	7.69		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Fluoranthenes/Pyrenes	57.8		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Naphthalenes	21.4		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Naphthobenzothiophenes	12.6		µg/Kg		J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Phenanthrenes/Anthracenes	57.9		µg/Kg		J	fd

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Carbazole	3.42		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Chrysene/Triphenylene	574		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	C4-Chrysenes	32.5		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a,17a-20R-Methylcholestane	4.88		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	13b(H),17a(H)-20R-Diacholestane	1.57		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	13b(H),17a(H)-20S-Diacholestane	3.11		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	13b,17a-20S-Methyldiacholestane	3.89		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a(H),17a(H)-20R-Cholestane/13b(H),17a(H)-20R-E	6.41		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a(H),17a(H)-20R-Ethylcholestane	2.97		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a(H),17a(H)-20S-Cholestane/13b(H),17a(H)-20S-E	4.39		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a(H),17a(H)-20S-Ethylcholestane	1.85		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Hopane	5.64		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[e]pyrene	478		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Anthanthrene	103		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	30,31-Bishomohopane-22R	1.36		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	30-Homohopane-22R	2.16	G	µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	30-Homohopane-22S	1.82		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	30-Norhopane	3.65		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	4-Methyldibenzothiophene	7.4		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	7H-Benzo(c)fluorene	17.4		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	9/4-Methylphenanthrene	25.8		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	2-Methylnaphthalene	9.42		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Acenaphthylene	150		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benz[a]anthracene	507		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Anthracene	108		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo(b)fluorene	89.4		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[a]fluoranthene	140		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14a,17a-20S-Methylcholestane	2.88		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[a]pyrene	772		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Benzo[b]fluoranthene	501		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	Acenaphthene	13		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b,17b-20S-Methylcholestane	3.24		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b(H),17b(H)-20S-Ethylcholestane	1.86		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	2-Methylanthracene	15.3		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b(H),17b(H)-20S-Cholestane	2.26		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b(H),17b(H)-20R-Ethylcholestane	2.67		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	17a(H),21b(H)-25-Norhopane	1.35	G	µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b(H),17b(H)-20R-Cholestane	2.32		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	17a(H)-22,29,30-Trisnorhopane-TM	1.66		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	17a/b,21b/a 28,30-Bisnorhopane	1.65		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	1-Methylphenanthrene	14.4		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	2,6-Dimethylnaphthalene	3.49		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	14b,17b-20R-Methylcholestane	3.64		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	18a(H)&18b(H)-Oleananes	1.41		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	2,3,5-Trimethylnaphthalene	1.45		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	2/3-Methyldibenzothiophene	6.87		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	1-Methylnaphthalene	3.78		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	1-Methyldibenzothiophene	2.37		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	18a-22,29,30-Trisnorneohopane-TS	0.905		µg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8270D	18a(H)-30-Norneohopane-C29Ts	1.21		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C28 Tricyclic Terpane-22S	2.71		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C26 Tricyclic Terpane-22R	2.91		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C23 Tricyclic Terpane	8.07		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C24 Tricyclic Terpane	5.05		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C25 Tricyclic Terpane	5.5		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Naphthobenzothiophenes	355		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Phenanthrenes/Anthracenes	191		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C26 Tricyclic Terpane-22S	3.83		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C26,20R- +C27,20S- triaromatic steroid	23.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C28 Tricyclic Terpane-22R	3.96		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C28,20R-triaromatic steroid	7.29		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Biphenyl	9.54		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C28,20S-triaromatic steroid	8.39		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C29 Tricyclic Terpane-22R	2.68		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C27,20R-triaromatic steroid	13.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Benzothiophene	7.3		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Acenaphthene	37.7		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Acenaphthylene	784		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Benzo(b)thiophenes	27		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Benzo(b)thiophenes	4		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Anthracene	484		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Benzo(b)fluorene	448		µg/Kg	J	fd

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Chrysenes	1110		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Benzo[j]fluoranthene/Benzo[k]fluoranthene	1830		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Naphthalenes	18		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Benzo(b)thiophenes	3.74		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Anthanthrene	695		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Decalins	6.87		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Dibenzothiophenes	59.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Fluoranthenes/Pyrenes	2060		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C1-Fluorenes	39.5		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Benzo[a]fluoranthene	603		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Coronene	874		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Decalins	41.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Dibenzothiophenes	122		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Fluoranthenes/Pyrenes	245		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Naphthalenes	86.4		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Naphthobenzothiophenes	54		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Naphthobenzothiophenes	139		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Carbazole	20.9		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Naphthalenes	25.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenz[ah]anthracene/Dibenz[ac]anthracene	470		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzo(a,e)fluoranthene	440		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzo(a,e)pyrene	383		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	9/4-Methylphenanthrene	71.7		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzo(a,h)pyrene	43		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Phenanthrenes/Anthracenes	250		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Benzo(b)thiophenes	12.4		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Decalins	30.8		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Dibenzothiophenes	214		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Fluoranthenes/Pyrenes	887		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Fluorenes	164		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Naphthalenes	18.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Naphthobenzothiophenes	216		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C4-Chrysenes	143		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C30 Tricyclic Terpane-22R	2.09		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Phenanthrenes/Anthracenes	588		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Chrysenes	318		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Decalins	37.3		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Dibenzothiophenes	265		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Fluoranthenes/Pyrenes	446		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C3-Fluorenes	263		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Chrysenes	604		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	C2-Phenanthrenes/Anthracenes	607		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	13b(H),17a(H)-20S-Diacholestane	11.3		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Fluoranthene	2590	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzofuran	3.11		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzo(a,l)pyrene/dibenz(b,k)fluoranthene	833		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Benz[a]anthracene	2110	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Benzo[a]pyrene	3410	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Benzo[b]fluoranthene	2040	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Benzo[e]pyrene	1930	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Chrysene/Triphenylene	2560	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Indeno[1,2,3-cd]pyrene	2180	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Pyrene	4290	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	13b,17a-20S-Methyldiacholestane	28.9		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 8270D	Benzo[g,h,i]perylene	2620	D	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	2-Methylanthracene	55.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	18a-22,29,30-Trisnorneohopane-TS	3.02		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	1-Methyldibenzothiophene	8.22		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	1-Methylnaphthalene	8.78		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	1-Methylphenanthrene	32.5		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	2,3,5-Trimethylnaphthalene	3.48		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	13b(H),17a(H)-20R-Diacholestane	4.47		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	2/3-Methyldibenzothiophene	17.8		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	17a/b,21b/a 28,30-Bisnorhopane	6.38		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	2-Methylnaphthalene	22.5		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	30,31-Bishomohopane-22R	2.3		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	30-Homohopane-22R	4.75	G	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	30-Homohopane-22S	4.61		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	30-Norhopane	9.96		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	4-Methyldibenzothiophene	25.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	2,6-Dimethylnaphthalene	8.38		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b(H),17b(H)-20S-Cholestane	8.52		µg/Kg	J	fd

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a(H),17a(H)-20R-Cholestane/13b(H),17a(H)-20R-E	27.7		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a(H),17a(H)-20R-Ethylcholestane	11.8		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a(H),17a(H)-20S-Cholestane/13b(H),17a(H)-20S-E	13.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a(H),17a(H)-20S-Ethylcholestane	8		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a,17a-20R-Methylcholestane	19.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14a,17a-20S-Methylcholestane	11.2		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	18a(H)-30-Norneohopane-C29Ts	2.86		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b(H),17b(H)-20R-Ethylcholestane	8.9		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	18a(H)&18b(H)-Oleananes	5.28		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b(H),17b(H)-20S-Ethylcholestane	5.57		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b,17b-20R-Methylcholestane	11.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b,17b-20S-Methylcholestane	12.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	17a(H),21b(H)-25-Norhopane	3.02	G	µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	17a(H)-22,29,30-Trisnorhopane-TM	4.44		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	7H-Benzo(c)fluorene	72		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	14b(H),17b(H)-20R-Cholestane	10.5		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzothiophene	25.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Fluorene	21.3		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Hopane	18.6		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Naphthalene	87.1		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Naphtho(2,3-a)pyrene	453		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Naphtho(2,3-e)pyrene	228		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Naphthobenzothiophenes	739		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Perylene	954		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Retene	123		µg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8270D	Dibenzo(a,i)pyrene	162		µg/Kg	J	fd
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Benzo(b)thiophenes	6.33		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Dibenzothiophenes	42.9		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Chrysenes	89.1		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Benzo(b)thiophenes	8.1		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Phenanthrenes/Anthracenes	150		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Naphthobenzothiophenes	58.7		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Naphthalenes	37		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Fluorenes	37.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Fluoranthenes/Pyrenes	144		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Dibenzothiophenes	43.2		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Chrysenes	121		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C28 Tricyclic Terpane-22R	23.8		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Phenanthrenes/Anthracenes	178		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Naphthobenzothiophenes	63.4		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Naphthalenes	28.1		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Fluorenes	28.1		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Fluoranthenes/Pyrenes	346		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Fluoranthenes/Pyrenes	86		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C2-Decalins	9.33		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Chrysene/Triphenylene	443		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Biphenyl	12.3		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Pyrene	960		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Dibenzothiophenes	33.4		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Naphthobenzothiophenes	123		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Fluorene	74.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Fluoranthene	869		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Dibenzothiophene	44.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Phenanthrene	431		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	cis/trans-Decalin	2.19		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Fluorenes	47.5		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Carbazole	19.8		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C4-Phenanthrenes/Anthracenes	86.7		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C4-Naphthalenes	31		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C4-Fluoranthenes/Pyrenes	65.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C4-Dibenzothiophenes	25.3		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C4-Benzo(b)thiophenes	7.27		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Phenanthrenes/Anthracenes	102		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C3-Naphthalenes	40.5		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Dibenzo(a,h)pyrene	13.8		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Decalins	4.09		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Chrysenes	184		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Benzo(b)fluorene	98.7		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	1-Methyldibenzothiophene	3.53		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	C1-Benzo(b)thiophenes	5.2		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Benz[a]anthracene	378		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Anthracene	138		µg/Kg	J	ld

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-T08-S	1408043-01X	EPA 8270D	Acenaphthene	89		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	9/4-Methylphenanthrene	39		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	7H-Benzo(c)fluorene	19.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	4-Methyl dibenzothiophene	11.2		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2,3,5-Trimethylnaphthalene	6.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2-Methylphenanthrene	49.1		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2-Methylnaphthalene	33.9		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2-Methylantracene	19.7		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2/3-Methyl dibenzothiophene	13.6		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	2,6-Dimethylnaphthalene	23		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	1-Methylphenanthrene	28.4		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	1-Methylnaphthalene	15.2		µg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8270D	3-Methylphenanthrene	40.5		µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Naphthobenzothiophenes	85.7	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Phenanthrenes/Anthracenes	405	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Benzo(b)thiophenes	38.3	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Chrysenes	131	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Fluoranthenes/Pyrenes	139	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Benzo(b)thiophenes	25.8	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Fluorenes	96.9	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Dibenzothiophenes	79.3	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Naphthalenes	150	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Chrysenes	212	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Fluoranthenes/Pyrenes	246	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Dibenzothiophenes	120	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Decalins	15.7	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Naphthalenes	214	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Dibenzothiophene	192	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C2-Fluorenes	122	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Chrysene/Triphenylene	650	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Dibenzothiophenes	138	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Pyrene	1730	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Phenanthrene	1550	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Naphthobenzothiophenes	180	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Fluorene	201	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	cis/trans-Decalin	3.55	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Dibenzo(a,h)pyrene	9.86	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C3-Phenanthrenes/Anthracenes	187	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Carbazole	27.6	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C4-Phenanthrenes/Anthracenes	120	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C4-Naphthalenes	104	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C4-Fluoranthenes/Pyrenes	89.8	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C4-Dibenzothiophenes	36.4	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C4-Benzo(b)thiophenes	22.2	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Fluoranthene	1510	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2-Methylantracene	47.7	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C28 Tricyclic Terpane-22R	51.3	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	1-Methyl dibenzothiophene	15	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	1-Methylnaphthalene	30.5	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	1-Methylphenanthrene	96	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2,3,5-Trimethylnaphthalene	36.7	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2/3-Methyl dibenzothiophene	54.2	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2-Methylnaphthalene	52.4	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2-Methylphenanthrene	210	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	3-Methylphenanthrene	184	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	4-Methyl dibenzothiophene	47.6	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Fluorenes	106	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Phenanthrenes/Anthracenes	657	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Naphthobenzothiophenes	103	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	2,6-Dimethylnaphthalene	33.9	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Fluoranthenes/Pyrenes	606	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	7H-Benzo(c)fluorene	37.5	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Decalins	8.3	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Chrysenes	318	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Benzo(b)thiophenes	8.44	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Benzo(b)fluorene	154	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Benz[a]anthracene	551	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Anthracene	198	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Acenaphthene	271	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	9/4-Methylphenanthrene	124	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	Biphenyl	16.7	✖	µg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8270D	C1-Naphthalenes	47.5	✖	µg/Kg	J	ld

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Naphtho(2,3-a)pyrene	85.4		µg/Kg	J	m
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Anthanthrene	151		µg/Kg	J	m
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Dibenz[ah]anthracene/Dibenz[ac]anthracene	82.9		µg/Kg	J	m
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Dibenzo(a,h)pyrene	14.5		µg/Kg	J	m
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Benzo[j]fluoranthene/Benzo[k]fluoranthene	323		µg/Kg	J	m, md
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Coronene	144		µg/Kg	J	m, md
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Dibenzo(a,e)pyrene	67		µg/Kg	J	m, md
1408043	PH14-T08-Z	1408043-02X	EPA 8270D	Dibenzo(a,l)pyrene/dibenz(b,k)fluoranthene	147		µg/Kg	J	m, md
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30,31-Trishomohopane-22R	7.87		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C24 Tetracyclic Terpane	6.09		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C26 Tricyclic Terpane-22S	6.38		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C26 Tricyclic Terpane-22R	5.57		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C25 Tricyclic Terpane	10.5		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C26,20R- +C27,20S- triaromatic steroid	127		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C24 Tricyclic Terpane	9.03		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C23 Tricyclic Terpane	13.8		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30-Normoretane	27.6	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30-Norhopane	71.5		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30-Homohopane-22S	34.1		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C27,20R-triaromatic steroid	90.6		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30,31-Trishomohopane-22S	29.7		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30,31-Bishomohopane-22S	228	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30,31-Bishomohopane-22R	67.7	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	30-Homohopane-22R	30.4		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Hopane	86.9		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	18a-22,29,30-Trisnorneohopane-TS	14.3		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Tetrakishomohopane-22S	281	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Tetrakishomohopane-22R	37.2	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	T22a-Gammacerane/C32-diahopane	12.7		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Pentakishomohopane-22S	14.7		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C29 Tricyclic Terpane-22R	6.63		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Moretane	78.1	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C28 Tricyclic Terpane-22R	12.7		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C30 Tricyclic Terpane-22S	8.33		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C30 Tricyclic Terpane-22R	5.54		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C29 Tricyclic Terpane-22S	7.98		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C28,20S-triaromatic steroid	56.6		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Unknown Sterane (S18)	9.43		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C28,20R-triaromatic steroid	47.7		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	C28 Tricyclic Terpane-22S	6.75		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	Pentakishomohopane-22R	11.6		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	13b,17a-20S-Methyldiacholestane	22.6		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	13b(H),17a(H)-20S-Diacholestane	21		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	13a,17b-20S-Ethyldiacholestane	1.97		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	18a(H)-30-Norneohopane-C29Ts	20.2		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a(H),17a(H)-20R-Cholestane/13b(H),17a(H)-20R-E	63.3		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	13b(H),17a(H)-20R-Diacholestane	16.9		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	17a/b,21b/a 28,30-Bisnorhopane	14.8		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	18a(H)&18b(H)-Oleananes	11.2		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a(H),17a(H)-20R-Ethylcholestane	38.6		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	17a(H)-Diahopane	3.99		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	17a(H)-22,29,30-Trisnorhopane-TM	17.8		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	17a(H),21b(H)-25-Norhopane	44.9	G	µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b,17b-20S-Methylcholestane	40.5		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b,17b-20R-Methylcholestane	33.9		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b(H),17b(H)-20S-Cholestane	25.3		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b(H),17b(H)-20R-Ethylcholestane	35		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b(H),17b(H)-20R-Cholestane	23		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a,17a-20S-Methylcholestane	21.1		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a,17a-20R-Methylcholestane	36.1		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a(H),17a(H)-20S-Ethylcholestane	29.8		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14a(H),17a(H)-20S-Cholestane/13b(H),17a(H)-20S-E	42.2		µg/Kg	J+	S
1408043	PH14-T09-S	1408043-03X	EPA 8270D	14b(H),17b(H)-20S-Ethylcholestane	26.7		µg/Kg	J+	S
1408043	PH14-S04-S	1408043-11X	EPA 8015M	n-Decane (C10)	0.00367	JB	mg/Kg	0.0874 U	bl
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	n-Decane (C10)	0.00798	JB	mg/Kg	0.0974 U	bl
1408043	PH14-S09-S	1408043-13X	EPA 8015M	n-Decane (C10)	0.0106	JB	mg/Kg	0.101 U	bl
1408043	PH14-S15-S	1408043-05X	EPA 8015M	n-Decane (C10)	0.0204	JB	mg/Kg	0.128 U	bl
1408043	PH14-S15-Z	1408043-06X	EPA 8015M	n-Decane (C10)	0.0132	JB	mg/Kg	0.1 U	bl
1408043	PH14-T08-S	1408043-01X	EPA 8015M	n-Decane (C10)	0.0101	JB	mg/Kg	0.154 U	bl
1408043	PH14-T08-Z	1408043-02X	EPA 8015M	n-Decane (C10)	0.0102	JB	mg/Kg	0.138 U	bl
1408043	PH14-T09-S	1408043-03X	EPA 8015M	n-Decane (C10)	0.0147	JB	mg/Kg	0.171 U	bl
1408043	PH14-T09-Z	1408043-04X	EPA 8015M	n-Decane (C10)	0.0171	JB	mg/Kg	0.206 U	bl

Sdg	SoilSampID	Lab_ID	AnalMeth	Analyte	Result	Lab_Flag	Units	NFG NFG Result Qualifier	validator_ reason_code
1408043	PH14-S04-S	1408043-11X	EPA 8015M	Total Saturated Hydrocarbons	1.76		mg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8015M	n-Tricosane (C23)	0.0916		mg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8015M	Total Petroleum Hydrocarbons (C9-C44)	58.5		mg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8015M	n-Pentacosane (C25)	0.776		mg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8015M	Phytane	0.0923		mg/Kg	J	fd
1408043	PH14-S04-S	1408043-11X	EPA 8015M	2,6,10 Trimethyltridecane (1470)	0.118		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	Phytane	0.509		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	n-Tricosane (C23)	0.456		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	Total Petroleum Hydrocarbons (C9-C44)	199		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	Total Saturated Hydrocarbons	10.3		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	n-Pentacosane (C25)	3.61		mg/Kg	J	fd
1408043	PH14-S04-S-D	1408043-12X	EPA 8015M	2,6,10 Trimethyltridecane (1470)	0.686		mg/Kg	J	fd
1408043	PH14-T08-S	1408043-01X	EPA 8015M	n-Octadecane (C18)	0.446		mg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8015M	Total Saturated Hydrocarbons	15.6		mg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8015M	n-Heptacosane (C27)	3.95		mg/Kg	J	ld
1408043	PH14-T08-S	1408043-01X	EPA 8015M	n-Eicosane (C20)	0.193		mg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8015M	n-Eicosane (C20)	0.317	✘	mg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8015M	n-Heptacosane (C27)	8.16	✘	mg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8015M	n-Octadecane (C18)	1.63	✘	mg/Kg	J	ld
1408043	PH14-T08-S-DUP	1408043-01XD	EPA 8015M	Total Saturated Hydrocarbons	22.5	✘	mg/Kg	J	ld
1408043	PH14-T08-Z	1408043-02X	EPA 8015M	n-Octadecane (C18)	0.576		mg/Kg	J	m
1408043	PH14-S04-S	1408043-11	EPA 9060	Total Organic Carbon	0.068		%	J	fd
1408043	PH14-S04-S-D	1408043-12	EPA 9060	Total Organic Carbon	0.164		%	J	fd

Table 2. Reason Codes and Explanations

Reason Code	Explanation
bf	Field blank contamination
bl	Laboratory blank contamination
C	Calibration issue
el	Clean-up standard recovery
d	Reporting limit raised due to chromatographic interference
fd	Field duplicate RPDs
h	Holding Times
i	Internal standard areas
k	Estimated Maximum Possible Concentration (EMPC)
l	LCS or OPR recoveries
le	Labeled compound recovery
ld	Laboratory duplicate RPDs
lp	Laboratory control sample laboratory control sample duplicate RPDs
m	Matrix spike recovery
md	Matrix spike/matrix spike duplicate RPDs
nb	Negative laboratory blank contamination
p	Chemical preservation issue
r	Dual column RPD
q	Quantitation issue
s	Surrogate recovery
su	Ion suppression
t	Temperature preservation issue
x	Percent solids
y	Serial dilution results
z	ICS results