



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018

ALS JOB#: EV18080025

ALS SAMPLE#: EV18080025-65

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

DATE RECEIVED: 08/03/2018

COLLECTION DATE: 8/1/2018 10:10:00 AM

CLIENT SAMPLE ID SRWA-7 2-6in

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX w/ SGA	170	25	1	MG/KG	08/08/2018	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	690	50	1	MG/KG	08/08/2018	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Phenanthrene	EPA-8270 SIM	74	20	1	UG/KG	08/09/2018	PAB
Anthracene	EPA-8270 SIM	24	20	1	UG/KG	08/09/2018	PAB
Fluoranthene	EPA-8270 SIM	150	20	1	UG/KG	08/09/2018	PAB
Pyrene	EPA-8270 SIM	160	20	1	UG/KG	08/09/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	65	20	1	UG/KG	08/09/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	79	20	1	UG/KG	08/09/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/09/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	130	20	1	UG/KG	08/09/2018	PAB
Mercury	EPA-7471	0.23	0.020	1	MG/KG	08/13/2018	RAL
Arsenic	EPA-6020	9.1	0.69	1	MG/KG	08/14/2018	RAL
Cadmium	EPA-6020	2.6	0.21	1	MG/KG	08/14/2018	RAL
Chromium	EPA-6020	25	0.35	1	MG/KG	08/14/2018	RAL
Copper	EPA-6020	920	0.22	1	MG/KG	08/14/2018	RAL
Lead	EPA-6020	160	0.22	1	MG/KG	08/14/2018	RAL
Zinc	EPA-6020	400	2.4	1	MG/KG	08/14/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX w/ SGA	92.8	08/08/2018	EBS
Terphenyl-d14	EPA-8270 SIM	90.8	08/09/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil/lube oil.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018

ALS JOB#: EV18080025

ALS SAMPLE#: EV18080025-66

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

DATE RECEIVED: 08/03/2018

COLLECTION DATE: 8/1/2018 10:15:00 AM

CLIENT SAMPLE ID SRWA-7 3ft

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX w/ SGA	40	25	1	MG/KG	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	230	50	1	MG/KG	08/07/2018	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Phenanthrene	EPA-8270 SIM	91	20	1	UG/KG	08/10/2018	PAB
Anthracene	EPA-8270 SIM	23	20	1	UG/KG	08/10/2018	PAB
Fluoranthene	EPA-8270 SIM	300	20	1	UG/KG	08/10/2018	PAB
Pyrene	EPA-8270 SIM	290	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	170	20	1	UG/KG	08/10/2018	PAB
Chrysene	EPA-8270 SIM	180	20	1	UG/KG	08/10/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	230	20	1	UG/KG	08/10/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	160	20	1	UG/KG	08/10/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	110	20	1	UG/KG	08/10/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	150	20	1	UG/KG	08/10/2018	PAB
Mercury	EPA-7471	0.10	0.020	1	MG/KG	08/13/2018	RAL
Arsenic	EPA-6020	4.3	0.60	1	MG/KG	08/14/2018	RAL
Cadmium	EPA-6020	0.38	0.19	1	MG/KG	08/14/2018	RAL
Chromium	EPA-6020	19	0.31	1	MG/KG	08/14/2018	RAL
Copper	EPA-6020	63	0.19	1	MG/KG	08/14/2018	RAL
Lead	EPA-6020	110	0.19	1	MG/KG	08/14/2018	RAL
Zinc	EPA-6020	140	2.1	1	MG/KG	08/14/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX w/ SGA	72.2	08/07/2018	EBS
Terphenyl-d14	EPA-8270 SIM	89.7	08/10/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains light oil/lube oil.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS JOB#: EV18080025
ALS SAMPLE#: EV18080025-68

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment
CLIENT SAMPLE ID: MW-3 2-6in

DATE RECEIVED: 08/03/2018
COLLECTION DATE: 8/1/2018 10:30:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	280	50	1	MG/KG	08/07/2018	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthylene	EPA-8270 SIM	22	20	1	UG/KG	08/10/2018	PAB
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Phenanthrene	EPA-8270 SIM	71	20	1	UG/KG	08/10/2018	PAB
Anthracene	EPA-8270 SIM	26	20	1	UG/KG	08/10/2018	PAB
Fluoranthene	EPA-8270 SIM	150	20	1	UG/KG	08/10/2018	PAB
Pyrene	EPA-8270 SIM	140	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	76	20	1	UG/KG	08/10/2018	PAB
Chrysene	EPA-8270 SIM	110	20	1	UG/KG	08/10/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	150	20	1	UG/KG	08/10/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	81	20	1	UG/KG	08/10/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	71	20	1	UG/KG	08/10/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	100	20	1	UG/KG	08/10/2018	PAB
Mercury	EPA-7471	1.3	0.10	5	MG/KG	08/13/2018	RAL
Arsenic	EPA-6020	13	0.67	1	MG/KG	08/14/2018	RAL
Cadmium	EPA-6020	0.74	0.21	1	MG/KG	08/14/2018	RAL
Chromium	EPA-6020	29	0.34	1	MG/KG	08/14/2018	RAL
Copper	EPA-6020	400	0.22	1	MG/KG	08/14/2018	RAL
Lead	EPA-6020	190	0.22	1	MG/KG	08/14/2018	RAL
Zinc	EPA-6020	310	2.3	1	MG/KG	08/14/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX w/ SGA	81.5	08/07/2018	EBS
Terphenyl-d14	EPA-8270 SIM	88.4	08/10/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains lube oil.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS JOB#: EV18080025
ALS SAMPLE#: EV18080025-70

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment
CLIENT SAMPLE ID: MW-3 5.5ft

DATE RECEIVED: 08/03/2018
COLLECTION DATE: 8/1/2018 10:45:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	08/07/2018	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Phenanthrene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluoranthene	EPA-8270 SIM	33	20	1	UG/KG	08/10/2018	PAB
Pyrene	EPA-8270 SIM	28	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Chrysene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	42	20	1	UG/KG	08/10/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	22	20	1	UG/KG	08/10/2018	PAB
Mercury	EPA-7471	0.16	0.020	1	MG/KG	08/13/2018	RAL
Arsenic	EPA-6020	5.6	0.67	1	MG/KG	08/14/2018	RAL
Cadmium	EPA-6020	U	0.21	1	MG/KG	08/14/2018	RAL
Chromium	EPA-6020	28	0.34	1	MG/KG	08/14/2018	RAL
Copper	EPA-6020	82	0.22	1	MG/KG	08/14/2018	RAL
Lead	EPA-6020	25	0.22	1	MG/KG	08/14/2018	RAL
Zinc	EPA-6020	110	2.3	1	MG/KG	08/14/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX w/ SGA	75.7	08/07/2018	EBS
Terphenyl-d14	EPA-8270 SIM	87.7	08/10/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018

ALS JOB#: EV18080025

ALS SAMPLE#: EV18080025-71

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

DATE RECEIVED: 08/03/2018

COLLECTION DATE: 8/1/2018 8:30:00 AM

CLIENT SAMPLE ID WES-Dup.-2

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	08/07/2018	EBS
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Phenanthrene	EPA-8270 SIM	21	20	1	UG/KG	08/10/2018	PAB
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Fluoranthene	EPA-8270 SIM	89	20	1	UG/KG	08/10/2018	PAB
Pyrene	EPA-8270 SIM	78	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	55	20	1	UG/KG	08/10/2018	PAB
Chrysene	EPA-8270 SIM	63	20	1	UG/KG	08/10/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	100	20	1	UG/KG	08/10/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	57	20	1	UG/KG	08/10/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	47	20	1	UG/KG	08/10/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/10/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	54	20	1	UG/KG	08/10/2018	PAB
Mercury	EPA-7471	0.16	0.020	1	MG/KG	08/13/2018	RAL
Arsenic	EPA-6020	4.8	0.70	1	MG/KG	08/14/2018	RAL
Cadmium	EPA-6020	U	0.21	1	MG/KG	08/14/2018	RAL
Chromium	EPA-6020	24	0.35	1	MG/KG	08/14/2018	RAL
Copper	EPA-6020	80	0.22	1	MG/KG	08/14/2018	RAL
Lead	EPA-6020	26	0.22	1	MG/KG	08/14/2018	RAL
Zinc	EPA-6020	100	2.4	1	MG/KG	08/14/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
C25	NWTPH-DX w/ SGA	79.7	08/07/2018	EBS
Terphenyl-d14	EPA-8270 SIM	94.7	08/10/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.



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228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS

MBG-080918S2 - Batch 131381 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	08/09/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080918S2 - Batch 131381 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	MG/KG	0.030	08/09/2018	JMK
Toluene	EPA-8021	U	MG/KG	0.050	08/09/2018	JMK
Ethylbenzene	EPA-8021	U	MG/KG	0.050	08/09/2018	JMK
Xylenes	EPA-8021	U	MG/KG	0.20	08/09/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080618S2 - Batch 131349 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/06/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/06/2018	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080618S3 - Batch 131354 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/07/2018	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080718S - Batch 131346 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/07/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/07/2018	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-081618S - Batch 131585 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/16/2018	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/16/2018	EBS



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228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS

MB-081618S - Batch 131585 - Soil by NWTPH-DX

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080718S - Batch 131446 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Fluorene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Chrysene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080718S2 - Batch 131482 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Fluorene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Chrysene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS

MB-080718S2 - Batch 131482 - Soil by EPA-8270 SIM

Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	08/08/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080918S - Batch 131491 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Fluorene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Anthracene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Pyrene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Chrysene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	08/09/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-081618S - Batch 131664 - Soil by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Fluorene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB



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CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS

MB-081618S - Batch 131664 - Soil by EPA-8270 SIM

Anthracene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Pyrene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Chrysene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Dibenzo[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	08/16/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080818S - Batch 131428 - Soil by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1221	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1232	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1242	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1248	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1254	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1260	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB
PCB-1268	EPA-8082	U	MG/KG	0.10	08/09/2018	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-321921 - Batch R321921 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/08/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-321924 - Batch R321924 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/09/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

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CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS
MBLK-321925 - Batch R321925 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/13/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-R322340 - Batch R322340 - Soil by EPA-7471

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7471	U	MG/KG	0.020	08/23/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-321927 - Batch R321927 - TCLP Extract by EPA-7470

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury	EPA-7470	U	MG/L	0.00020	08/13/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080718S - Batch 131537 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/09/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Copper	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Zinc	EPA-6020	U	MG/KG	0.88	08/09/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-080818S - Batch 131538 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/09/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Copper	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/09/2018	RAL
Zinc	EPA-6020	U	MG/KG	0.88	08/09/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

CERTIFICATE OF ANALYSIS

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CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY BLANK RESULTS
MB-081018S - Batch 131556 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/14/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/14/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/14/2018	RAL
Copper	EPA-6020	U	MG/KG	0.10	08/14/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/14/2018	RAL
Zinc	EPA-6020	U	MG/KG	0.88	08/14/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-082118S - Batch 131751 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/22/2018	RAL
Cadmium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Chromium	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Copper	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/22/2018	RAL
Zinc	EPA-6020	U	MG/KG	0.88	08/22/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-321929 - Batch R321929 - TCLP Extract by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Barium	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Cadmium	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Chromium	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Lead	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Selenium	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL
Silver	EPA-6020	U	MG/L	0.0050	08/10/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.



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CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131381 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	105			66.5	122.7	08/09/2018	JMK
TPH-Volatile Range - BSD	NWTPH-GX	111	5		66.5	122.7	08/09/2018	JMK

ALS Test Batch ID: 131381 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	94.7			67.7	124	08/09/2018	JMK
Benzene - BSD	EPA-8021	95.0	0		67.7	124	08/09/2018	JMK
Toluene - BS	EPA-8021	98.7			71	123	08/09/2018	JMK
Toluene - BSD	EPA-8021	100	2		71	123	08/09/2018	JMK
Ethylbenzene - BS	EPA-8021	99.6			69.8	117	08/09/2018	JMK
Ethylbenzene - BSD	EPA-8021	100	1		69.8	117	08/09/2018	JMK
Xylenes - BS	EPA-8021	99.7			70	119	08/09/2018	JMK
Xylenes - BSD	EPA-8021	101	1		70	119	08/09/2018	JMK

ALS Test Batch ID: 131346 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	104			75.5	122.1	08/08/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	99.9	4		75.5	122.1	08/08/2018	EBS

ALS Test Batch ID: 131349 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	97.1			75.5	122.1	08/06/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	106	9		75.5	122.1	08/06/2018	EBS

ALS Test Batch ID: 131354 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	104			75.5	122.1	08/07/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	99.8	4		75.5	122.1	08/07/2018	EBS

ALS Test Batch ID: 131585 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	98.2			75.5	122.1	08/16/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	95.6	3		75.5	122.1	08/16/2018	EBS



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CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131446 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	84.6			20	150	08/08/2018	PAB
Naphthalene - BSD	EPA-8270 SIM	83.6	1		20	150	08/08/2018	PAB
2-Methylnaphthalene - BS	EPA-8270 SIM	87.8			20	150	08/08/2018	PAB
2-Methylnaphthalene - BSD	EPA-8270 SIM	87.2	1		20	150	08/08/2018	PAB
1-Methylnaphthalene - BS	EPA-8270 SIM	82.8			20	150	08/08/2018	PAB
1-Methylnaphthalene - BSD	EPA-8270 SIM	82.2	1		20	150	08/08/2018	PAB
Acenaphthylene - BS	EPA-8270 SIM	83.0			20	150	08/08/2018	PAB
Acenaphthylene - BSD	EPA-8270 SIM	82.7	0		20	150	08/08/2018	PAB
Acenaphthene - BS	EPA-8270 SIM	87.3			41	107	08/08/2018	PAB
Acenaphthene - BSD	EPA-8270 SIM	86.7	1		41	107	08/08/2018	PAB
Fluorene - BS	EPA-8270 SIM	92.4			20	150	08/08/2018	PAB
Fluorene - BSD	EPA-8270 SIM	92.5	0		20	150	08/08/2018	PAB
Phenanthrene - BS	EPA-8270 SIM	92.0			20	150	08/08/2018	PAB
Phenanthrene - BSD	EPA-8270 SIM	91.1	1		20	150	08/08/2018	PAB
Anthracene - BS	EPA-8270 SIM	84.7			20	150	08/08/2018	PAB
Anthracene - BSD	EPA-8270 SIM	84.5	0		20	150	08/08/2018	PAB
Fluoranthene - BS	EPA-8270 SIM	83.1			20	150	08/08/2018	PAB
Fluoranthene - BSD	EPA-8270 SIM	81.3	2		20	150	08/08/2018	PAB
Pyrene - BS	EPA-8270 SIM	75.0			18	136	08/08/2018	PAB
Pyrene - BSD	EPA-8270 SIM	75.2	0		18	136	08/08/2018	PAB
Benzo[A]Anthracene - BS	EPA-8270 SIM	83.3			20	150	08/08/2018	PAB
Benzo[A]Anthracene - BSD	EPA-8270 SIM	82.4	1		20	150	08/08/2018	PAB
Chrysene - BS	EPA-8270 SIM	85.8			20	150	08/08/2018	PAB
Chrysene - BSD	EPA-8270 SIM	84.4	2		20	150	08/08/2018	PAB
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	84.8			20	150	08/08/2018	PAB
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	82.8	2		20	150	08/08/2018	PAB
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	80.3			20	150	08/08/2018	PAB
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	79.5	1		20	150	08/08/2018	PAB
Benzo[A]Pyrene - BS	EPA-8270 SIM	83.7			20	150	08/08/2018	PAB
Benzo[A]Pyrene - BSD	EPA-8270 SIM	82.2	2		20	150	08/08/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	97.5			20	150	08/08/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	94.7	3		20	150	08/08/2018	PAB
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	99.8			20	150	08/08/2018	PAB
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	96.8	3		20	150	08/08/2018	PAB
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	91.9			20	150	08/08/2018	PAB
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	89.7	2		20	150	08/08/2018	PAB

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CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS
ALS Test Batch ID: 131482 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	84.8			20	150	08/09/2018	PAB
Naphthalene - BSD	EPA-8270 SIM	80.9	5		20	150	08/09/2018	PAB
2-Methylnaphthalene - BS	EPA-8270 SIM	87.6			20	150	08/09/2018	PAB
2-Methylnaphthalene - BSD	EPA-8270 SIM	84.5	4		20	150	08/09/2018	PAB
1-Methylnaphthalene - BS	EPA-8270 SIM	83.5			20	150	08/09/2018	PAB
1-Methylnaphthalene - BSD	EPA-8270 SIM	80.2	4		20	150	08/09/2018	PAB
Acenaphthylene - BS	EPA-8270 SIM	85.5			20	150	08/09/2018	PAB
Acenaphthylene - BSD	EPA-8270 SIM	81.0	5		20	150	08/09/2018	PAB
Acenaphthene - BS	EPA-8270 SIM	89.0			41	107	08/09/2018	PAB
Acenaphthene - BSD	EPA-8270 SIM	84.3	5		41	107	08/09/2018	PAB
Fluorene - BS	EPA-8270 SIM	98.1			20	150	08/09/2018	PAB
Fluorene - BSD	EPA-8270 SIM	93.3	5		20	150	08/09/2018	PAB
Phenanthrene - BS	EPA-8270 SIM	92.8			20	150	08/09/2018	PAB
Phenanthrene - BSD	EPA-8270 SIM	88.1	5		20	150	08/09/2018	PAB
Anthracene - BS	EPA-8270 SIM	88.0			20	150	08/09/2018	PAB
Anthracene - BSD	EPA-8270 SIM	84.1	5		20	150	08/09/2018	PAB
Fluoranthene - BS	EPA-8270 SIM	89.6			20	150	08/09/2018	PAB
Fluoranthene - BSD	EPA-8270 SIM	83.7	7		20	150	08/09/2018	PAB
Pyrene - BS	EPA-8270 SIM	76.9			18	136	08/09/2018	PAB
Pyrene - BSD	EPA-8270 SIM	72.8	5		18	136	08/09/2018	PAB
Benzo[A]Anthracene - BS	EPA-8270 SIM	89.4			20	150	08/09/2018	PAB
Benzo[A]Anthracene - BSD	EPA-8270 SIM	84.6	6		20	150	08/09/2018	PAB
Chrysene - BS	EPA-8270 SIM	83.9			20	150	08/09/2018	PAB
Chrysene - BSD	EPA-8270 SIM	79.7	5		20	150	08/09/2018	PAB
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	85.0			20	150	08/09/2018	PAB
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	81.1	5		20	150	08/09/2018	PAB
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	78.8			20	150	08/09/2018	PAB
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	75.6	4		20	150	08/09/2018	PAB
Benzo[A]Pyrene - BS	EPA-8270 SIM	81.9			20	150	08/09/2018	PAB
Benzo[A]Pyrene - BSD	EPA-8270 SIM	78.7	4		20	150	08/09/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	85.7			20	150	08/09/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	83.2	3		20	150	08/09/2018	PAB
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	87.9			20	150	08/09/2018	PAB
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	85.5	3		20	150	08/09/2018	PAB
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	80.5			20	150	08/09/2018	PAB
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	78.1	3		20	150	08/09/2018	PAB

CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS
ALS Test Batch ID: 131491 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	66.6			20	150	08/10/2018	PAB
Naphthalene - BSD	EPA-8270 SIM	83.4	22		20	150	08/09/2018	PAB
2-Methylnaphthalene - BS	EPA-8270 SIM	66.4			20	150	08/10/2018	PAB
2-Methylnaphthalene - BSD	EPA-8270 SIM	86.8	27		20	150	08/09/2018	PAB
1-Methylnaphthalene - BS	EPA-8270 SIM	68.5			20	150	08/10/2018	PAB
1-Methylnaphthalene - BSD	EPA-8270 SIM	83.3	20		20	150	08/09/2018	PAB
Acenaphthylene - BS	EPA-8270 SIM	64.1			20	150	08/10/2018	PAB
Acenaphthylene - BSD	EPA-8270 SIM	82.8	25		20	150	08/09/2018	PAB
Acenaphthene - BS	EPA-8270 SIM	70.9			41	107	08/10/2018	PAB
Acenaphthene - BSD	EPA-8270 SIM	86.9	20		41	107	08/09/2018	PAB
Fluorene - BS	EPA-8270 SIM	70.6			20	150	08/10/2018	PAB
Fluorene - BSD	EPA-8270 SIM	92.5	27		20	150	08/09/2018	PAB
Phenanthrene - BS	EPA-8270 SIM	72.6			20	150	08/10/2018	PAB
Phenanthrene - BSD	EPA-8270 SIM	93.4	25		20	150	08/09/2018	PAB
Anthracene - BS	EPA-8270 SIM	67.9			20	150	08/10/2018	PAB
Anthracene - BSD	EPA-8270 SIM	86.0	23		20	150	08/09/2018	PAB
Fluoranthene - BS	EPA-8270 SIM	68.7			20	150	08/10/2018	PAB
Fluoranthene - BSD	EPA-8270 SIM	86.2	23		20	150	08/09/2018	PAB
Pyrene - BS	EPA-8270 SIM	79.3			18	136	08/10/2018	PAB
Pyrene - BSD	EPA-8270 SIM	86.5	9		18	136	08/09/2018	PAB
Benzo[A]Anthracene - BS	EPA-8270 SIM	62.7			20	150	08/10/2018	PAB
Benzo[A]Anthracene - BSD	EPA-8270 SIM	86.7	32		20	150	08/09/2018	PAB
Chrysene - BS	EPA-8270 SIM	74.3			20	150	08/10/2018	PAB
Chrysene - BSD	EPA-8270 SIM	87.7	17		20	150	08/09/2018	PAB
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	65.6			20	150	08/10/2018	PAB
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	87.7	29		20	150	08/09/2018	PAB
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	67.9			20	150	08/10/2018	PAB
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	81.4	18		20	150	08/09/2018	PAB
Benzo[A]Pyrene - BS	EPA-8270 SIM	67.6			20	150	08/10/2018	PAB
Benzo[A]Pyrene - BSD	EPA-8270 SIM	84.5	22		20	150	08/09/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	71.8			20	150	08/10/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	92.7	25		20	150	08/09/2018	PAB
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	73.2			20	150	08/10/2018	PAB
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	94.6	26		20	150	08/09/2018	PAB
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	68.6			20	150	08/10/2018	PAB
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	87.2	24		20	150	08/09/2018	PAB



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 131664 - Soil by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	88.2			20	150	08/16/2018	PAB
Naphthalene - BSD	EPA-8270 SIM	93.6	6		20	150	08/17/2018	PAB
2-Methylnaphthalene - BS	EPA-8270 SIM	94.0			20	150	08/16/2018	PAB
2-Methylnaphthalene - BSD	EPA-8270 SIM	99.8	6		20	150	08/17/2018	PAB
1-Methylnaphthalene - BS	EPA-8270 SIM	90.3			20	150	08/16/2018	PAB
1-Methylnaphthalene - BSD	EPA-8270 SIM	97.0	7		20	150	08/17/2018	PAB
Acenaphthylene - BS	EPA-8270 SIM	89.7			20	150	08/16/2018	PAB
Acenaphthylene - BSD	EPA-8270 SIM	95.1	6		20	150	08/17/2018	PAB
Acenaphthene - BS	EPA-8270 SIM	94.0			41	107	08/16/2018	PAB
Acenaphthene - BSD	EPA-8270 SIM	101	7		41	107	08/17/2018	PAB
Fluorene - BS	EPA-8270 SIM	97.6			20	150	08/16/2018	PAB
Fluorene - BSD	EPA-8270 SIM	107	9		20	150	08/17/2018	PAB
Phenanthrene - BS	EPA-8270 SIM	99.9			20	150	08/16/2018	PAB
Phenanthrene - BSD	EPA-8270 SIM	106	5		20	150	08/17/2018	PAB
Anthracene - BS	EPA-8270 SIM	90.2			20	150	08/16/2018	PAB
Anthracene - BSD	EPA-8270 SIM	97.7	8		20	150	08/17/2018	PAB
Fluoranthene - BS	EPA-8270 SIM	92.1			20	150	08/16/2018	PAB
Fluoranthene - BSD	EPA-8270 SIM	99.7	8		20	150	08/17/2018	PAB
Pyrene - BS	EPA-8270 SIM	87.4			18	136	08/16/2018	PAB
Pyrene - BSD	EPA-8270 SIM	100	14		18	136	08/17/2018	PAB
Benzo[A]Anthracene - BS	EPA-8270 SIM	89.0			20	150	08/16/2018	PAB
Benzo[A]Anthracene - BSD	EPA-8270 SIM	88.7	0		20	150	08/17/2018	PAB
Chrysene - BS	EPA-8270 SIM	91.7			20	150	08/16/2018	PAB
Chrysene - BSD	EPA-8270 SIM	102	11		20	150	08/17/2018	PAB
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	92.2			20	150	08/16/2018	PAB
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	93.4	1		20	150	08/17/2018	PAB
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	90.0			20	150	08/16/2018	PAB
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	97.6	8		20	150	08/17/2018	PAB
Benzo[A]Pyrene - BS	EPA-8270 SIM	86.9			20	150	08/16/2018	PAB
Benzo[A]Pyrene - BSD	EPA-8270 SIM	90.9	5		20	150	08/17/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	92.7			20	150	08/16/2018	PAB
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	86.6	7		20	150	08/17/2018	PAB
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	92.9			20	150	08/16/2018	PAB
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	84.9	9		20	150	08/17/2018	PAB
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	88.8			20	150	08/16/2018	PAB
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	85.3	4		20	150	08/17/2018	PAB

CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
 228 E. Champion St., Suite 101
 Bellingham, WA 98225
DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601
CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS
ALS Test Batch ID: 131428 - Soil by EPA-8082

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
PCB-1016 - BS	EPA-8082	78.2			50	150	08/09/2018	PAB
PCB-1016 - BSD	EPA-8082	78.7	1		50	150	08/09/2018	PAB
PCB-1260 - BS	EPA-8082	87.9			50	150	08/09/2018	PAB
PCB-1260 - BSD	EPA-8082	89.0	1		50	150	08/09/2018	PAB

ALS Test Batch ID: R321921 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	105			81.8	117	08/08/2018	RAL
Mercury - BSD	EPA-7471	105	0		81.8	117	08/08/2018	RAL

ALS Test Batch ID: R321924 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	105			81.8	117	08/09/2018	RAL
Mercury - BSD	EPA-7471	107	2		81.8	117	08/09/2018	RAL

ALS Test Batch ID: R321925 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	104			81.8	117	08/13/2018	RAL
Mercury - BSD	EPA-7471	104	0		81.8	117	08/13/2018	RAL

ALS Test Batch ID: R322340 - Soil by EPA-7471

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7471	102			81.8	117	08/23/2018	RAL
Mercury - BSD	EPA-7471	103	1		81.8	117	08/23/2018	RAL

ALS Test Batch ID: R321927 - TCLP Extract by EPA-7470

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury - BS	EPA-7470	108			85	115	08/13/2018	RAL
Mercury - BSD	EPA-7470	109	1		85	115	08/13/2018	RAL

ALS Test Batch ID: 131537 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BS	EPA-6020	99.1			80	120	08/09/2018	RAL



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BSD	EPA-6020	96.3	3		80	120	08/09/2018	RAL
Cadmium - BS	EPA-6020	102			80	120	08/09/2018	RAL
Cadmium - BSD	EPA-6020	100	2		80	120	08/09/2018	RAL
Chromium - BS	EPA-6020	99.8			80	120	08/09/2018	RAL
Chromium - BSD	EPA-6020	96.5	3		80	120	08/09/2018	RAL
Copper - BS	EPA-6020	102			80	120	08/09/2018	RAL
Copper - BSD	EPA-6020	99.9	2		80	120	08/09/2018	RAL
Lead - BS	EPA-6020	101			80	120	08/09/2018	RAL
Lead - BSD	EPA-6020	100	0		80	120	08/09/2018	RAL
Zinc - BS	EPA-6020	102			80	119	08/09/2018	RAL
Zinc - BSD	EPA-6020	98.4	3		80	119	08/09/2018	RAL

ALS Test Batch ID: 131538 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BS	EPA-6020	99.8			80	120	08/09/2018	RAL
Arsenic - BSD	EPA-6020	97.2	3		80	120	08/09/2018	RAL
Cadmium - BS	EPA-6020	105			80	120	08/09/2018	RAL
Cadmium - BSD	EPA-6020	102	3		80	120	08/09/2018	RAL
Chromium - BS	EPA-6020	99.0			80	120	08/09/2018	RAL
Chromium - BSD	EPA-6020	96.3	3		80	120	08/09/2018	RAL
Copper - BS	EPA-6020	104			80	120	08/09/2018	RAL
Copper - BSD	EPA-6020	101	3		80	120	08/09/2018	RAL
Lead - BS	EPA-6020	103			80	120	08/09/2018	RAL
Lead - BSD	EPA-6020	100	2		80	120	08/09/2018	RAL
Zinc - BS	EPA-6020	103			80	119	08/09/2018	RAL
Zinc - BSD	EPA-6020	98.1	5		80	119	08/09/2018	RAL

ALS Test Batch ID: 131556 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BS	EPA-6020	102			80	120	08/14/2018	RAL
Arsenic - BSD	EPA-6020	103	1		80	120	08/14/2018	RAL
Cadmium - BS	EPA-6020	105			80	120	08/14/2018	RAL
Cadmium - BSD	EPA-6020	105	1		80	120	08/14/2018	RAL
Chromium - BS	EPA-6020	103			80	120	08/14/2018	RAL
Chromium - BSD	EPA-6020	102	1		80	120	08/14/2018	RAL
Copper - BS	EPA-6020	107			80	120	08/14/2018	RAL
Copper - BSD	EPA-6020	107	0		80	120	08/14/2018	RAL
Lead - BS	EPA-6020	105			80	120	08/14/2018	RAL



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 8/27/2018
ALS SDG#: EV18080025
WDOE ACCREDITATION: C601

CLIENT CONTACT: Thom Davis
CLIENT PROJECT: Jensen's Shipyard Assessment

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Lead - BSD	EPA-6020	104	1		80	120	08/14/2018	RAL
Zinc - BS	EPA-6020	104			80	119	08/14/2018	RAL
Zinc - BSD	EPA-6020	103	1		80	119	08/14/2018	RAL

ALS Test Batch ID: 131751 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BS	EPA-6020	101			80	120	08/22/2018	RAL
Arsenic - BSD	EPA-6020	100	1		80	120	08/22/2018	RAL
Cadmium - BS	EPA-6020	103			80	120	08/22/2018	RAL
Cadmium - BSD	EPA-6020	102	0		80	120	08/22/2018	RAL
Chromium - BS	EPA-6020	103			80	120	08/22/2018	RAL
Chromium - BSD	EPA-6020	103	0		80	120	08/22/2018	RAL
Copper - BS	EPA-6020	105			80	120	08/22/2018	RAL
Copper - BSD	EPA-6020	106	1		80	120	08/22/2018	RAL
Lead - BS	EPA-6020	104			80	120	08/22/2018	RAL
Lead - BSD	EPA-6020	102	2		80	120	08/22/2018	RAL
Zinc - BS	EPA-6020	101			80	119	08/22/2018	RAL
Zinc - BSD	EPA-6020	101	0		80	119	08/22/2018	RAL

ALS Test Batch ID: R321929 - TCLP Extract by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic - BS	EPA-6020	96.0			89.1	110	08/10/2018	RAL
Arsenic - BSD	EPA-6020	99.0	3		89.1	110	08/10/2018	RAL
Barium - BS	EPA-6020	99.0			88.5	108	08/10/2018	RAL
Barium - BSD	EPA-6020	100	1		88.5	108	08/10/2018	RAL
Cadmium - BS	EPA-6020	97.0			89.4	109	08/10/2018	RAL
Cadmium - BSD	EPA-6020	101	4		89.4	109	08/10/2018	RAL
Chromium - BS	EPA-6020	95.0			86.2	107	08/10/2018	RAL
Chromium - BSD	EPA-6020	98.0	3		86.2	107	08/10/2018	RAL
Lead - BS	EPA-6020	100			87.5	107	08/10/2018	RAL
Lead - BSD	EPA-6020	101	1		87.5	107	08/10/2018	RAL
Selenium - BS	EPA-6020	97.0			90.2	113	08/10/2018	RAL
Selenium - BSD	EPA-6020	100	3		90.2	113	08/10/2018	RAL
Silver - BS	EPA-6020	97.0			80	120	08/10/2018	RAL
Silver - BSD	EPA-6020	101	4		80	120	08/10/2018	RAL

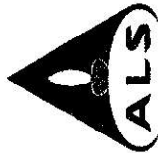
CERTIFICATE OF ANALYSIS

APPROVED BY



Laboratory Director

DRAFT



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

EV18080025

Date 8/2/18 Page 1 Of 8

PROJECT ID: Jensen's Shipyard Assessment				ANALYSIS REQUESTED												OTHER (Specify)	RECEIVED IN GOOD CONDITION?							
REPORT TO COMPANY: Whatcombs Env. Svcs																								
PROJECT MANAGER: Thom - Erre																								
ADDRESS: 228 E. Champion #101 B'ham, WA 98225																								
PHONE: _____																								
E-MAIL: _____																								
INVOICE TO COMPANY: _____																								
ATTENTION: _____																								
ADDRESS: _____																								
SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX w/ silica gel c.c.	NWTPH-GX	BTEX by EPA 8021 ☐	MTBE by EPA 8021 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☒ RCRA-9 ☐ TAL ☐	Metals Other (Specify) <u>Copper and Zinc</u>	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	OTHER (Specify)		RECEIVED IN GOOD CONDITION?		
1. BLWA-3 2-6in	7/30/18	915	Soil	1	X										X			X						
2. BLWA-3 2ft		920		2	X										X			X						
3. BLWA-3 5ft		925		3																				
4. BLWA-4 2-6in		950		4	X										X			X						
5. BLWA-4 5ft		955		5	X										X			X						
6. BLWA-5 2-6in		1000		6	X										X			X						
7. BLWA-5 2ft		1015		7	X										X			X						
8. BLWA-5 5ft		1020		8																				
9. BLWA-6 2-6in		1055		9	X										X			X						
10. BLWA-6 2ft		1102		10	X										X			X						

SPECIAL INSTRUCTIONS: * Hold for follow-up Analysis - preserve As needed. * Added 8/15/18 Stated TAT

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: [Signature] WES on 8/2/18 @ 11:55

2. Relinquished By: [Signature] MS 8/3/18 2:30

3. Relinquished By: _____

4. Relinquished By: _____

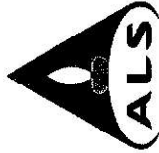
TURNAROUND REQUESTED in Business Days*
OTHER: _____

Specify: _____

Organic, Metals & Inorganic Analysis
10 5 3 2 1 SAME DAY

Fuels & Hydrocarbon Analysis
5 3 1 SAME DAY

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
<http://www.alsglobal.com>

Chain Of Custody/ Laboratory Analysis Request

ALS Job#

(Laboratory Use Only)

CV18080025

Date 8/2/18 Page 2 Of 8

PROJECT ID: Tensen's Shopyard Assessment

REPORT TO COMPANY: Thom - Eric

PROJECT MANAGER: Whatcom Env.

ADDRESS: 228 E. Champion
B'ham, WA

PHONE: _____ P.O. #: _____

E-MAIL: _____

INVOICE TO COMPANY: _____

ATTENTION: Same

ADDRESS: _____

PROJECT ID: Jensen's Shipyard Assessment					ANALYSIS REQUESTED														OTHER (Specify)													
REPORT TO COMPANY: Thom - Eric																																
PROJECT MANAGER: Whatcom Env.																																
ADDRESS: 228 E. Champion																																
B'ham, WA																																
PHONE:																																
E-MAIL:																																
INVOICE TO COMPANY:																																
ATTENTION:																																
ADDRESS:																																
SAMPLE I.D.					DATE		TIME		TYPE		LAB#																					
1. BLWA-6 5ft					7/30/18		1110		soil		11																					
2. BLWA-6 10ft					7/30/18		1120				12																					
3. BLWA-7 2-6in					7/30/18		1035				13																					
4. BLWA-7 2ft					7/30/18		1040				14																					
5. BLWA-7 5ft					7/30/18		1045				15																					
6. BLWA-8 2-6in					7/30/18		1215				16																					
7. BLWA-8 2ft					7/30/18		1220				17																					
8. BLWA-8 5ft					7/30/18		1225				18																					
9. BLWA-9 2-6in					7/30/18		1150				19																					
10. BLWA-9 2ft					7/30/18		1155				20																					
											</																					

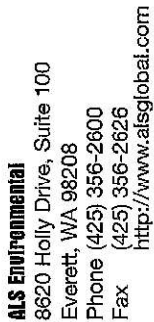
SPECIAL INSTRUCTIONS: * Hold for follow-up Analysis - preserve As needed. added 8/5/18 per Eric

SIGNATURES (Name, Company, Date, Time):

- Relinquished By: [Signature] WES on 8/2/18 @ 1155
- Received By: [Signature] ALS 8/3/18 230
- Relinquished By: _____
- Received By: _____

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis
1 ☒ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29 ☐ 30 ☐ 31 ☐ 32 ☐ 33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ 39 ☐ 40 ☐ 41 ☐ 42 ☐ 43 ☐ 44 ☐ 45 ☐ 46 ☐ 47 ☐ 48 ☐ 49 ☐ 50 ☐ 51 ☐ 52 ☐ 53 ☐ 54 ☐ 55 ☐ 56 ☐ 57 ☐ 58 ☐ 59 ☐ 60 ☐ 61 ☐ 62 ☐ 63 ☐ 64 ☐ 65 ☐ 66 ☐ 67 ☐ 68 ☐ 69 ☐ 70 ☐ 71 ☐ 72 ☐ 73 ☐ 74 ☐ 75 ☐ 76 ☐ 77 ☐ 78 ☐ 79 ☐ 80 ☐ 81 ☐ 82 ☐ 83 ☐ 84 ☐ 85 ☐ 86 ☐ 87 ☐ 88 ☐ 89 ☐ 90 ☐ 91 ☐ 92 ☐ 93 ☐ 94 ☐ 95 ☐ 96 ☐ 97 ☐ 98 ☐ 99 ☐ 100 ☐ 101 ☐ 102 ☐ 103 ☐ 104 ☐ 105 ☐ 106 ☐ 107 ☐ 108 ☐ 109 ☐ 110 ☐ 111 ☐ 112 ☐ 113 ☐ 114 ☐ 115 ☐ 116 ☐ 117 ☐ 118 ☐ 119 ☐ 120 ☐ 121 ☐ 122 ☐ 123 ☐ 124 ☐ 125 ☐ 126 ☐ 127 ☐ 128 ☐ 129 ☐ 130 ☐ 131 ☐ 132 ☐ 133 ☐ 134 ☐ 135 ☐ 136 ☐ 137 ☐ 138 ☐ 139 ☐ 140 ☐ 141 ☐ 142 ☐ 143 ☐ 144 ☐ 145 ☐ 146 ☐ 147 ☐ 148 ☐ 149 ☐ 150 ☐ 151 ☐ 152 ☐ 153 ☐ 154 ☐ 155 ☐ 156 ☐ 157 ☐ 158 ☐ 159 ☐ 160 ☐ 161 ☐ 162 ☐ 163 ☐ 164 ☐ 165 ☐ 166 ☐ 167 ☐ 168 ☐ 169 ☐ 170 ☐ 171 ☐ 172 ☐ 173 ☐ 174 ☐ 175 ☐ 176 ☐ 177 ☐ 178 ☐ 179 ☐ 180 ☐ 181 ☐ 182 ☐ 183 ☐ 184 ☐ 185 ☐ 186 ☐ 187 ☐ 188 ☐ 189 ☐ 190 ☐ 191 ☐ 192 ☐ 193 ☐ 194 ☐ 195 ☐ 196 ☐ 197 ☐ 198 ☐ 199 ☐ 200 ☐ 201 ☐ 202 ☐ 203 ☐ 204 ☐ 205 ☐ 206 ☐ 207 ☐ 208 ☐ 209 ☐ 210 ☐ 211 ☐ 212 ☐ 213 ☐ 214 ☐ 215 ☐ 216 ☐ 217 ☐ 218 ☐ 219 ☐ 220 ☐ 221 ☐ 222 ☐ 223 ☐ 224 ☐ 225 ☐ 226 ☐ 227 ☐ 228 ☐ 229 ☐ 230 ☐ 231 ☐ 232 ☐ 233 ☐ 234 ☐ 235 ☐ 236 ☐ 237 ☐ 238 ☐ 239 ☐ 240 ☐ 241 ☐ 242 ☐ 243 ☐ 244 ☐ 245 ☐ 246 ☐ 247 ☐ 248 ☐ 249 ☐ 250 ☐ 251 ☐ 252 ☐ 253 ☐ 254 ☐ 255 ☐ 256 ☐ 257 ☐ 258 ☐ 259 ☐ 260 ☐ 261 ☐ 262 ☐ 263 ☐ 264 ☐ 265 ☐ 266 ☐ 267 ☐ 268 ☐ 269 ☐ 270 ☐ 271 ☐ 272 ☐ 273 ☐ 274 ☐ 275 ☐ 276 ☐ 277 ☐ 278 ☐ 279 ☐ 280 ☐ 281 ☐ 282 ☐ 283 ☐ 284 ☐ 285 ☐ 286 ☐ 287 ☐ 288 ☐ 289 ☐ 290 ☐ 291 ☐ 292 ☐ 293 ☐ 294 ☐ 295 ☐ 296 ☐ 297 ☐ 298 ☐ 299 ☐ 300 ☐ 301 ☐ 302 ☐ 303 ☐ 304 ☐ 305 ☐ 306 ☐ 307 ☐ 308 ☐ 309 ☐ 310 ☐ 311 ☐ 312 ☐ 313 ☐ 314 ☐ 315 ☐ 316 ☐ 317 ☐ 318 ☐ 319 ☐ 320 ☐ 321 ☐ 322 ☐ 323 ☐ 324 ☐ 325 ☐ 326 ☐ 327 ☐ 328 ☐ 329 ☐ 330 ☐ 331 ☐ 332 ☐ 333 ☐ 334 ☐ 335 ☐ 336 ☐ 337 ☐ 338 ☐ 339 ☐ 340 ☐ 341 ☐ 342 ☐ 343 ☐ 344 ☐ 345 ☐ 346 ☐ 347 ☐ 348 ☐ 349 ☐ 350 ☐ 351 ☐ 352 ☐ 353 ☐ 354 ☐ 355 ☐ 356 ☐ 357 ☐ 358 ☐ 359 ☐ 360 ☐ 361 ☐ 362 ☐ 363 ☐ 364 ☐ 365 ☐ 366 ☐ 367 ☐ 368 ☐ 369 ☐ 370 ☐ 371 ☐ 372 ☐ 373 ☐ 374 ☐ 375 ☐ 376 ☐ 377 ☐ 378 ☐ 379 ☐ 380 ☐ 381 ☐ 382 ☐ 383 ☐ 384 ☐ 385 ☐ 386 ☐ 387 ☐ 388 ☐ 389 ☐ 390 ☐ 391 ☐ 392 ☐ 393 ☐ 394 ☐ 395 ☐ 396 ☐ 397 ☐ 398 ☐ 399 ☐ 400 ☐ 401 ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427 ☐ 428 ☐ 429 ☐ 430 ☐ 431 ☐ 432 ☐ 433 ☐ 434 ☐ 435 ☐ 436 ☐ 437 ☐ 438 ☐ 439 ☐ 440 ☐ 441 ☐ 442 ☐ 443 ☐ 444 ☐ 445 ☐ 446 ☐ 447 ☐ 448 ☐ 449 ☐ 450 ☐ 451 ☐ 452 ☐ 453 ☐ 454 ☐ 455 ☐ 456 ☐ 457 ☐ 458 ☐ 459 ☐ 460 ☐ 461 ☐ 462 ☐ 463 ☐ 464 ☐ 465 ☐ 466 ☐ 467 ☐ 468 ☐ 469 ☐ 470 ☐ 471 ☐ 472 ☐ 473 ☐ 474 ☐ 475 ☐ 476 ☐ 477 ☐ 478 ☐ 479 ☐ 480 ☐ 481 ☐ 482 ☐ 483 ☐ 484 ☐ 485 ☐ 486 ☐ 487 ☐ 488 ☐ 489 ☐ 490 ☐ 491 ☐ 492 ☐ 493 ☐ 494 ☐ 495 ☐ 496 ☐ 497 ☐ 498 ☐ 499 ☐ 500 ☐ 501 ☐ 502 ☐ 503 ☐ 504 ☐ 505 ☐ 506 ☐ 507 ☐ 508 ☐ 509 ☐ 510 ☐ 511 ☐ 512 ☐ 513 ☐ 514 ☐ 515 ☐ 516 ☐ 517 ☐ 518 ☐ 519 ☐ 520 ☐ 521 ☐ 522 ☐ 523 ☐ 524 ☐ 525 ☐ 526 ☐ 527 ☐ 528 ☐ 529 ☐ 530 ☐ 531 ☐ 532 ☐ 533 ☐ 534 ☐ 535 ☐ 536 ☐ 537 ☐ 538 ☐ 539 ☐ 540 ☐ 541 ☐ 542 ☐ 543 ☐ 544 ☐ 545 ☐ 546 ☐ 547 ☐ 548 ☐ 549 ☐ 550 ☐ 551 ☐ 552 ☐ 553 ☐ 554 ☐ 555 ☐ 556 ☐ 557 ☐ 558 ☐ 559 ☐ 560 ☐ 561 ☐ 562 ☐ 563 ☐ 564 ☐ 565 ☐ 566 ☐ 567 ☐ 568 ☐ 569 ☐ 570 ☐ 571 ☐ 572 ☐ 573 ☐ 574 ☐ 575 ☐ 576 ☐ 577 ☐ 578 ☐ 579 ☐ 580 ☐ 581 ☐ 582 ☐ 583 ☐ 584 ☐ 585 ☐ 586 ☐ 587 ☐ 588 ☐ 589 ☐ 590 ☐ 591 ☐ 592 ☐ 593 ☐ 594 ☐ 595 ☐ 596 ☐ 597 ☐ 598 ☐ 599 ☐ 600 ☐ 601 ☐ 602 ☐ 603 ☐ 604 ☐ 605 ☐ 606 ☐ 607 ☐ 608 ☐ 609 ☐ 610 ☐ 611 ☐ 612 ☐ 613 ☐ 614 ☐ 615 ☐ 616 ☐ 617 ☐ 618 ☐ 619 ☐ 620 ☐ 621 ☐ 622 ☐ 623 ☐ 624 ☐ 625 ☐ 626 ☐ 627 ☐ 628 ☐ 629 ☐ 630 ☐ 631 ☐ 632 ☐ 633 ☐ 634 ☐ 635 ☐ 636 ☐ 637 ☐ 638 ☐ 639 ☐ 640 ☐ 641 ☐ 642 ☐ 643 ☐ 644 ☐ 645 ☐ 646 ☐ 647 ☐ 648 ☐ 649 ☐ 650 ☐ 651 ☐ 652 ☐ 653 ☐ 654 ☐ 655 ☐ 656 ☐ 657 ☐ 658 ☐ 659 ☐ 660 ☐ 661 ☐ 662 ☐ 663 ☐ 664 ☐ 665 ☐ 666 ☐ 667 ☐ 668 ☐ 669 ☐ 670 ☐ 671 ☐ 672 ☐ 673 ☐ 674 ☐ 675 ☐ 676 ☐ 677 ☐ 678 ☐ 679 ☐ 680 ☐ 681 ☐ 682 ☐ 683 ☐ 684 ☐ 685 ☐ 686 ☐ 687 ☐ 688 ☐ 689 ☐ 690 ☐ 691 ☐ 692 ☐ 693 ☐ 694 ☐ 695 ☐ 696 ☐ 697 ☐ 698 ☐ 699 ☐ 700 ☐ 701 ☐ 702 ☐ 703 ☐ 704 ☐ 705 ☐ 706 ☐ 707 ☐ 708 ☐ 709 ☐ 710 ☐ 711 ☐ 712 ☐ 713 ☐ 714 ☐ 715 ☐ 716 ☐ 717 ☐ 718 ☐ 719 ☐ 720 ☐ 721 ☐ 722 ☐ 723 ☐ 724 ☐ 725 ☐ 726 ☐ 727 ☐ 728 ☐ 729 ☐ 730 ☐ 731 ☐ 732 ☐ 733 ☐ 734 ☐ 735 ☐ 736 ☐ 737 ☐ 738 ☐ 739 ☐ 740 ☐ 741 ☐ 742 ☐ 743 ☐ 744 ☐ 745 ☐ 746 ☐ 747 ☐ 748 ☐ 749 ☐ 750 ☐ 751 ☐ 752 ☐ 753 ☐ 754 ☐ 755 ☐ 756 ☐ 757 ☐ 758 ☐ 759 ☐ 760 ☐ 761 ☐ 762 ☐ 763 ☐ 764 ☐ 765 ☐ 766 ☐ 767 ☐ 768 ☐ 769 ☐ 770 ☐ 771 ☐ 772 ☐ 773 ☐ 774 ☐ 775 ☐ 776 ☐ 777 ☐ 778 ☐ 779 ☐ 780 ☐ 781 ☐ 782 ☐ 783 ☐ 784 ☐ 785 ☐ 786 ☐ 787 ☐ 788 ☐ 789 ☐ 790 ☐ 791 ☐ 792 ☐ 793 ☐ 794 ☐ 795 ☐ 796 ☐ 797 ☐ 798 ☐ 799 ☐ 800 ☐ 801 ☐ 802 ☐ 803 ☐ 804 ☐ 805 ☐ 806 ☐ 807 ☐ 808 ☐ 809 ☐ 810 ☐ 811 ☐ 812 ☐ 813 ☐ 814 ☐ 815 ☐ 816 ☐ 817 ☐ 818 ☐ 819 ☐ 820 ☐ 821 ☐ 822 ☐ 823 ☐ 824 ☐ 825 ☐ 826 ☐ 827 ☐ 828 ☐ 829 ☐ 830 ☐ 831 ☐ 832 ☐ 833 ☐ 834 ☐ 835 ☐ 836 ☐ 837 ☐ 838 ☐ 839 ☐ 840 ☐ 841 ☐ 842 ☐ 843 ☐ 844 ☐ 845 ☐ 846 ☐ 847 ☐ 848 ☐ 849 ☐ 850 ☐ 851 ☐ 852 ☐ 853 ☐ 854 ☐ 855 ☐ 856 ☐ 857 ☐ 858 ☐ 859 ☐ 860 ☐ 861 ☐ 862 ☐ 863 ☐ 864 ☐ 865 ☐ 866 ☐ 867 ☐ 868 ☐ 869 ☐ 870 ☐ 871 ☐ 872 ☐ 873 ☐ 874 ☐ 875 ☐ 876 ☐ 877 ☐ 878 ☐ 879 ☐ 880 ☐ 881 ☐ 882 ☐ 883 ☐ 884 ☐ 885 ☐ 886 ☐ 887 ☐ 888 ☐ 889 ☐ 890 ☐ 891 ☐ 892 ☐ 893 ☐ 894 ☐ 895 ☐ 896 ☐ 897 ☐ 898 ☐ 899 ☐ 900 ☐ 901 ☐ 902 ☐ 903 ☐ 904 ☐ 905 ☐ 906 ☐ 907 ☐ 908 ☐ 909 ☐ 910 ☐ 911 ☐ 912 ☐ 913 ☐ 914 ☐ 915 ☐ 916 ☐ 917 ☐ 918 ☐ 919 ☐ 920



ALS Job#

EV18080025

<http://www.afsglobal.com>

Date 8/2/18 Page 5 Of 5

ANALYSIS REQUESTED		OTHER (Specify)	
TPH-HClD			
TPH-DX			
TPH-GX			
	TPH by EPA 8021 ☐ MTBE by EPA 8260 ☐		
	BTEX by EPA 8260 ☐		
	Regenerated Volatiles by EPA 8260		
	Aliphatic Organic Compounds by EPA 8260		
	EDC by EPA 8260 SIM (water)		
	EDC by EPA 8260 (soil)		
	Volatilizable Organic Compounds by EPA 8270		
	Cyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM		
	Pesticides by EPA 8081 ☐		
	by EPA 8082 ☐		
	Alc-MTCA-5 ☒ RCRA-8 ☐ PII Pol ☐ TAL ☐		
	Alc Other (Specify) Copper & Zinc		
	P-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐		
	NUMBER OF CONTAINERS		
	CEIVED IN GOOD CONDITION?		

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NW	NW	NW	BTE	MTE	Haik	Volat	EDE	EDE	Sem	Poly	PCB	Met	Met	TCL	SY	RE	NU
1. SYC-1 2ft	7/31/18	1230	Soil	40	X									X	X	X	X			X		1
2. SYC-1 4ft		1235		41																		1
3. SYC-2 2-6in		1240		42	X									X	X	X	X			X		1
4. SYC-2 2ft		1245		43	X									X	X	X	X			X		1
5. SYC-2 4ft		1250		44																		1
6. SYC-3 2-6in		1pm		45	X									X	X	X	X			X		1
7. SYC-3 3ft		105		46	X									X	X	X	X			X		1
8. SYC-3 4ft		110		47																		1
9. SYC-4 2-6in		120		48	X										X	X	X	X		X		1
10. SYC-4 2ft		125		49	X									X	X	X	X			X		1

SPECIAL INSTRUCTIONS

*Hold for follow-up analysis - preserve as needed

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: [Signature] WES end/10 2:30
Received By: [Signature] MLS 8/3/18 2:30
2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED in Business Days*
 Organic, Metals & Inorganic Analysis OTHER:

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
<http://www.alsglobal.com>

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

CV18080025

Date 8/2/18 Page 6 Of 8

PROJECT ID: Jensen's Shipyard Ass.
REPORT TO COMPANY: WES
PROJECT MANAGER: Thom - Eric
ADDRESS: 228 E. Champion #101
B'ham, WA 98225
PHONE: _____ FAX: _____
P.O. #: _____ E-MAIL: _____
INVOICE TO COMPANY: Same
ATTENTION: _____
ADDRESS: _____

ANALYSIS REQUESTED

PROJECT ID: 2022-01-18										REPORT TO COMPANY: WES										PROJECT MANAGER: Thom - Eric										ADDRESS: 228 E. Champion #101 B'ham, WA 98225										PHONE: _____ FAX: _____										P.O. #: _____ E-MAIL: _____										INVOICE TO COMPANY: _____										ATTENTION: _____										ADDRESS: _____										SAMPLE I.D.										DATE										TIME										TYPE										LAB#																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
1. 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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

SPECIAL INSTRUCTIONS

SIGNATURES (Name, Company, Date, Time):

- Relinquished By: [Signature] WES on 8-2-18 @ 11:56
- Received By: [Signature] 8/2/18 2:30
- Relinquished By: _____
- Received By: _____

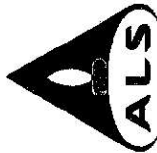
TURNAROUND REQUESTED IN Business Days*
OTHER: _____

Specify: _____

Organic, Metals & Inorganic Analysis

Fuels & Hydrocarbon Analysis

*Turnaround request: less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

CV18060025

Date 8/1/18 Page 7 of 8

PROJECT ID: Jensen's Shipyard Assessment
REPORT TO COMPANY: WES
PROJECT MANAGER: Thom - Eric
ADDRESS: 228 E. Champion #101
B'ham, WA 98225
PHONE: _____ FAX: _____
P.O. #: _____ E-MAIL: _____
INVOICE TO COMPANY: Same
ATTENTION: _____
ADDRESS: _____

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	Silica Gel	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8260	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 (water)	EDB / EDC by EPA 8260 (soil)	Semi-volatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	RCRA-8	PAH	TAL	Metals Other (Specify)	Copper & Zinc	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?	
1. SRWA-4 6in	8/1/18	955	Soil	57	X	X																											
2. SRWA-4 3.5ft		10 AM		58	X	X																											
3. SRWA-5 2.6in		930		59	X	X																											
4. SRWA-5 3.5ft		935		60	X	X																											
5. SRWA-5 5ft		940		61	X	X																											
6. SRWA-6 2.6in		9 AM		62	X	X																											
7. SRWA-6 3ft		910		63	X	X																											
8. SRWA-6 4.5ft		920		64	X	X																											
9. SRWA-7 2.6in		1010		65	X	X																											
10. SRWA-7 3ft		1015		66	X	X																											

SPECIAL INSTRUCTIONS # Add for follow-up Analysis - preserve as needed

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: [Signature] WES on 8/1/18 @ 1157

Received By: [Signature] ALS 8/3/18 2:30

2. Relinquished By: _____

Received By: _____

TURNAROUND REQUESTED in Business Days*
Organic, Metals & Inorganic Analysis

Specify: _____

Fuels & Hydrocarbon Analysis

*Turnaround request less than standard may incur Rush Charges



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
<http://www.alsglobal.com>

Chain Of Custody/ Laboratory Analysis Request

ALS Job#

(Laboratory Use Only)

EV18080025

Date 8/2/18 Page 8 of 8

PROJECT ID: Jensen's Shipyard Assessment
REPORT TO COMPANY: WES
PROJECT MANAGER: Thom - Fritz
ADDRESS: 228 E. Champion #101
Bilham, WA 98225
PHONE: FAX:
P.O. #: E-MAIL:
INVOICE TO COMPANY:
ATTENTION: Same
ADDRESS:

ANALYSIS REQUESTED										OTHER (Specify)													
NWTPH-HID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Metals Other (Specify)	Metals-MTCA-5	RCRA-8	Pb	TAL	Pesticides by EPA 8081	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	
	Silica Gel																						
1. SRWA7 5ft			8/1/18 1020	Soil	67																		
2. MW-3 2-6m			1030		68																		
3. MW-3 4ft			1040		69																		
4. MW-3 5.5ft			1045		70																		
5. WES-Dup-2			830		71																		
6.																							
7.																							
8.																							
9.																							
10.																							

SPECIAL INSTRUCTIONS: * Hold for follow-up Analysis - Preserve as Needed

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By:

Received By:

2. Relinquished By:

Received By:

WES on 8/2/18 @ 1157

TURNAROUND REQUESTED in Business Days*
Organic, Metals & Inorganic Analysis
OTHER:

Specify:

Fuels & Hydrocarbon Analysis

Standard

*Turnaround request less than standard may incur Rush Charges



August 29, 2018

Service Request No:E1800729

Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208

Laboratory Results for: EV18080025 Dioxins Furans Analysis

Dear Rick,

Enclosed are the results of the sample(s) submitted to our laboratory August 07, 2018
For your reference, these analyses have been assigned our service request number **E1800729**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My number is 281-530-2284. You may also contact me via email at Nicole.Brown@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Nicole Brown
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 561 6125
ALS Group USA, Corp.
dba ALS Environmental



Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client: ALS Environmental - Everett.
Project: EV18080025
Sample Matrix: Soil

Service Request No.: E1800729
Date Received: 08/07/18

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two soil samples were received for analysis at ALS Environmental in Houston on 08/07/18.

The samples were received at 0.9°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Re-extraction

Samples EV180080025-51 (E1800729-001) and EV180080025-68 (E1800729-002) were originally extracted on batch EQ1800321, but required re-extraction due to failed QC. The samples were re-extracted on batch EQ1800327. The valid results are reported from the second extraction. The results from the first extraction are not included in this report.

Precision and Accuracy:

EQ1800327: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within control limits.

B flags – Method Blanks

The Method Blank EQ1800327-01 contained low levels of various target compounds above the EDL however below the Method Reporting Limit (MRL).

The associated compounds in the samples are not flagged with a 'B' flag as the sample results are greater than ten times the level detected in the method blank.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

E flags

When OCDD exceeds the upper method calibration limit (MCL), the laboratory uses an 'E' flag on the Sample Analytical Report results page when the detector is not saturated. OCDD in samples EV180080025-51 (E1800729-001) and EV180080025-68 (E1800729-002) are reported with an 'E' flag to denote that they had concentration greater than the highest calibration point. The process of dilution is counter to the isotopic dilution technique that the laboratory uses to determine recovery and produces variability in the final value. The laboratory only dilutes when detector saturation occurs.

P flag

Chlorodiphenyl ether interference was present at the retention time of the target analyte 1,2,3,6,7,8-HxCDF. The reported result should be considered an estimate.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis

Service Request:E1800729

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E1800729-001	EV18080025-51 MW-4 2-6 in	7/31/2018	0830
E1800729-002	EV18080025-68 MW-3 2-6 in	8/1/2018	1030

DRAFT

Service Request Summary

Folder #: E1800729
Client Name: ALS Environmental - Everett
Project Name: EV18080025 Dioxins Furans Analysis
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA

Project Chemist: Nicole Brown
Originating Lab: HOUSTON
Logged By: NBROWN
Date Received: 08/07/18
Internal Due Date: 8/17/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N, Y
Report to MDL?: Y
P.O. Number: EV18080025
EDD: No EDD Specified

Pressure Gas: Rush

Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Lab Samp No.	Client Samp No	Matrix	Collected	Dioxins Furans/1613B	HOUSTON
E1800729-001	EV18080025-51	Soil	07/31/18 0830	II	Total Solids/ALS SOP
E1800729-002	EV18080025-68	Soil	08/01/18 1030	II	

Service Request Summary

2 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 2E
Pressure Gas:
Rush

Project Chemist: Nicole Brown
Originating Lab: HOUSTON
Logged By: NBROWN
Date Received: 08/07/18
Internal Due Date: 8/17/2018
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N, Y
Report to MDL?: Y
P.O. Number: EV18080025
EDD: No EDD Specified

Folder #: E1800729
Client Name: ALS Environmental - Everett
Project Name: EV18080025 Dioxins Furans Analysis
Project Number:

Report To: Rick Bagan
ALS Environmental
8620 Holly Drive #100
Everett, WA 98208
USA
Phone Number: 425-356-2600
Cell Number:
Fax Number:
E-mail: rick.bagan@alsglobal.com

Test Comments:

Group	Test/Method	Samples	Comments
Semivolatile GCMS	Dioxins Furans/1613B	4	
Semivolatile GCMS	Total Solids/ALS SOP	2	

Data Qualifiers

HRMS Qualifier Set

- B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
- E Estimated value. The reported concentration is above the calibration range of the instrument.
- H Sample extracted and/or analyzed out of suggested holding time.
- J Estimated value. The reported concentration is below the MRL.
- K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. The concentration of this analyte should be considered as an estimate.
- P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
- Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
- S Signal saturated detector. Result reported from dilution.
- U Compound was analyzed for, but was not detected (ND).
- X See Case Narrative.
- Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
 - i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCEntration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2019
Arizona Department of Health Services	AZ0793	5/27/2019
Arkansas Department of Environmental Quality	17-027-0	3/27/2019
California Department of Health Services	2452	4/30/2019
Florida Department of Health	E87611	7/31/2019
Illinois Environmental Protection Agency	004112	5/29/2019
Kansas Department of Health and Environment	E-10406	7/31/2019
Louisiana Department of Environmental Quality	03048	6/30/2019
Louisiana Department of Health and Hospitals	LA150026	12/31/2018
Maine Center for Disease Control and Prevention	2014019	6/5/2020
Minnesota Department of Health	840911	12/31/2018
New Jersey Department of Environmental Protection	NLC140001	6/30/2019
New York Department of Health	11707	4/1/2019
Oklahoma Department of Environmental Quality	2014 124	8/31/2019
Pennsylvania Department of Environmental Protection	68-03441	6/30/2019
Tennessee Department of Environment and Conservation	04016	6/30/2019
Texas Commission on Environmental Quality	TX104704231-17-18	4/30/2019
Utah Department of Health Environmental Laboratory Certification	TX02694	7/3/2019
Washington Department of Health	c819	11/14/2018
West Virginia Department of Environmental Protection	347	6/30/2019

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1800729

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:

08/28/18

Analyst:

Jc

Samples:

001RE, 002RE

Second Level - Data Review – to be filled by person doing peer review

Date:

08/29/18

Analyst:

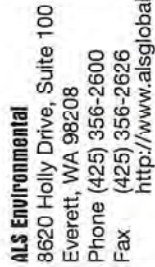
LKL

Samples:

001RE, 002RE

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com



E1800729
ALS Environmental
Dioxin

5

ALS Environmental
Dioxin

<http://www.alsglobal.com>

Date 5/6/18 Page _____

Of

[illegible]

SPECIAL INSTRUCTIONS

Please email results by noon 8/17/18. Thank you.

SIGNATURES (Name, Company, Date, Time):

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis

OTHER:

Specify: Please return
Cooler and ice pack.

Received By: _____

Page 13 of 40

Relinquished 1800729 Kindy Brn Acs Houston 8/7/10 0815 Page 4
Received By:

"Tumamund requires less than standard may incur Bust Chames

Cooler Receipt Form

Project Chemist

UB

Client/Project

ALS EVERETT

Thermometer ID

SM04

Date/Time Received:

8/7/18 0845

Initials:

UB

Date/Time Logged in:

8/7/18

Initials

UB

1. Method of delivery:

☐ US Mail

☒ Fed Ex

☐ UPS

☐ DHL

☐ Courier

☐ Client

2. Samples received in:

☒ Cooler

☐ Box

☐ Envelope

☐ Other

3. Were custody seals on coolers?

☐ Yes

☒ No

If yes, how many and where?

Were they intact?

☐ Yes

☐ No

☒ N/A

Were they signed and dated?

☐ Yes

☐ No

☒ N/A

4. Packing Material:

☐ Inserts

☐ Baggies

☐ Bubble Wrap

☐ Gel Packs

☐ Wet Ice

☐ Sleeves

☐ Other

5. Foreign or Regulated Soil?

☐ Yes

☒ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
8085 2716 6157		8/7/18	1215	UB	0.5/0.9	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)?

☒ Yes

☐ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)?

☒ Yes

☐ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)?

☒ Yes

☐ No

9. Were appropriate bottles/containers and volumes received for the requested tests?

☒ Yes

☐ No

10. Did sample labels and tags agree with custody documents?

☒ Yes

☐ No

Notes, Discrepancies, & Resolutions:

Service request Label:

E1800729
5

ALS Environmental
Dioxin




SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample. The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report



Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 320081
Team: Semivoa GCMS/ALOPEZ

Prep WorkFlow: OrgExtS(365)
Prep Method: Method Soxhlet

Status: Prepped
Prep Date/Time: 8/21/18 09:02 AM

#	Lab Code	Client ID	B#	Method /Test	pH	CI	Matrix	Amt. Ext.	Sample Description
1	E1800396-002	P4 SOL ID MDL #2	.02	1613B/Dioxins Furans			Soil	10.000g	Sodium Sulfate
2	E1800720-001RE	Sludge - Full Test	.01	1613B/Dioxins Furans			Sludge, Solid	10.256g	Brown Mud
3	E1800724-001RE	18194B01BA	.01	1613B/Dioxins Furans			Misc. Solid	5.260g	White Powder
4	E1800729-001RE	EV18080025-51	.01	1613B/Dioxins Furans			Soil	10.273g	Brown Dirt + Rocks
5	E1800729-002RE	EV18080025-68	.01	1613B/Dioxins Furans			Soil	10.299g	Brown Dirt + Rocks
6	E1800745-001RE	EV18070141-01	.01	1613B/Dioxins Furans			Soil	10.403g	Black Dirt + Rocks
7	E1800745-002RE	EV18070141-02	.01	1613B/Dioxins Furans			Soil	10.408g	Grey Sand + Rocks
8	E1800745-003RE	EV18070141-03	.01	1613B/Dioxins Furans			Soil	10.249g	Black Dirt + Rocks
9	E1800745-004RE	EV18070141-04	.01	1613B/Dioxins Furans			Soil	10.378g	Black Dirt + Rocks
10	E1800745-005RE	EV18070141-05	.01	1613B/Dioxins Furans			Soil	10.440g	Black Dirt + Rocks
11	EQ1800327-04	MB		1613B/Dioxins Furans			Solid	10.000g	
12	EQ1800327-05	LCS		1613B/Dioxins Furans			Solid	10.000g	
13	EQ1800327-06	DLCs		1613B/Dioxins Furans			Solid	10.000g	
14	J1805461-001RE	Fluff	.01	1613B/Dioxins Furans			Misc. Solid	10.092g	White Paper
15	J1805480-001RE	Lighthouse and Lighthouse X Untreated F	.02	1613B/Dioxins Furans			Misc. Solid	10.865g	White Paper

Spiking Solutions

Name:	8290/1613B Cleanup Working Standard	Inventory ID	191999	Logbook Ref:	tw 07/27/18 8ng/ml	Expires On:	10/27/2018
-------	-------------------------------------	--------------	--------	--------------	--------------------	-------------	------------

EQ1800327-04 100.00µL

Name:	1613B Labeled Working Standard	Inventory ID	192316	Logbook Ref:	192316 AL 8/8/18 2-4 ng/mL	Expires On:	01/09/2019
-------	--------------------------------	--------------	--------	--------------	----------------------------	-------------	------------

EQ1800327-04 1,000.00µL

Name:	1613B Matrix Working Standard	Inventory ID	192373	Logbook Ref:	192373 AL 8/9/18 2-20 ng/mL	Expires On:	02/05/2019
-------	-------------------------------	--------------	--------	--------------	-----------------------------	-------------	------------

EQ1800327-05 100.00µL EQ1800327-06 100.00µL

Name:	1613B Labeled Working Standard	Inventory ID	192473	Logbook Ref:	192471 2-4NGMIL JG 8/15/18	Expires On:	01/09/2019
-------	--------------------------------	--------------	--------	--------------	----------------------------	-------------	------------

EQ1800327-05 1,000.00µL EQ1800327-06 1,000.00µL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	192605	Logbook Ref:	TW 08/20/18 192605 8NG/MIL	Expires On:	10/27/2018
-------	-------------------------------------	--------------	--------	--------------	----------------------------	-------------	------------

E1800720-001 100.00µL E1800724-001 100.00µL E1800729-001 100.00µL E1800729-002 100.00µL E1800745-001 100.00µL E1800745-002 100.00µL
E1800745-003 100.00µL E1800745-004 100.00µL E1800745-005 100.00µL EQ1800327-05 100.00µL EQ1800327-06 100.00µL E1800745-001 100.00µL
J1805480-001 100.00µL E1800729 100.00µL EQ1800327-06 100.00µL EQ1800327-06 100.00µL J1805461-001 100.00µL

Preparation Information Benchsheet

Prep Run#: 320081

Team: Semivoa GCMS/ALOPEZ

Prep WorkFlow: OrgExtS(365)

Prep Method: Method Soxhlet

Status: Prepped

Prep Date/Time: 8/21/18 09:02 AM

Name:	1613B Labeled Working Standard	Inventory ID	192640	Logbook Ref:	192640 AL 8/21/18 2-4 ng/mL	Expires On:	01/09/2019
-------	--------------------------------	--------------	--------	--------------	-----------------------------	-------------	------------

E1800720-001	1,000.00µL	E1800724-001	1,000.00µL	E1800729-001	1,000.00µL	E1800745-002	1,000.00µL	1,000.00µL
E1800745-003	1,000.00µL	E1800745-004	1,000.00µL	E1800745-005	1,000.00µL	J1805461-001	1,000.00µL	1,000.00µL
Preparation Materials								
Carbon, High Purity		AL 8/10/18 (192392)		Ethyl Acetate 99.9% Minimum EtOAc	tw ethyl acet 080218 (192158)	Glass Wool	GLASS WOOL (190875)	
Hexanes 95%		AL 7/30/18 (192056)		Dichloromethane (Methylene Chloride) 99.9% MeCl2	AL 6/28/18 (191236)	Sodium Hydroxide 1N NaOH	TW 6/14/18 (191093)	
Sodium Sulfate Anhydrous Reagent Grade Na2SO4		AL 7/30/18 (192040)		Tridecane (n-Tridecane)	AL 7/30/18 (192037)	Silica Gel	AL 7/30/18 (192039)	
sulfuric acid		SULFURIC ACID (190871)		Toluene 99.9% Minimum	AL 8/20/18 (192601)			

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	8/21/18 09:02	Started:	8/22/18 07:00	Started:	8/22/18 08:00	Started:	8/23/18 07:00
Finished:	8/22/18 07:00	Finished:	8/22/18 08:00	Finished:	8/22/18 11:00	Finished:	8/23/18 10:00
By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ	By:	ALOPEZ
Comments	Comments	Comments	Comments	Comments	Comments	Comments	Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____	Date: _____	Extracts Examined
Received By: _____	Date: _____	Yes No

E1800729

Page 18 of 40

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlalysis
Sample Matrix: Soil

Sample Name: EV18080025-51
Lab Code: E1800729-001

Service Request: E1800729
Date Collected: 07/31/18 08:30
Date Received: 08/07/18 08:45

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.273g

Data File Name: P517209
ICAL Date: 01/24/18

Date Analyzed: 08/25/18 15:15
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	1.24		0.368	0.496	0.82	1.001	1
1,2,3,7,8-PeCDD	3.93K		0.0851	2.48	1.19	1.001	1
1,2,3,4,7,8-HxCDD	5.74		0.108	2.48	1.31	1.000	1
1,2,3,6,7,8-HxCDD	22.4		0.118	2.48	1.27	1.000	1
1,2,3,7,8,9-HxCDD	12.8		0.110	2.48	1.27	1.007	1
1,2,3,4,6,7,8-HpCDD	568		0.698	2.48	1.04	1.000	1
OCDD	5590E		0.139	4.96	0.89	1.000	1
2,3,7,8-TCDF	2.19		0.173	0.496	0.78	1.001	1
1,2,3,7,8-PeCDF	1.67J		0.168	2.48	1.36	1.001	1
2,3,4,7,8-PeCDF	4.79		0.173	2.48	1.51	1.001	1
1,2,3,4,7,8-HxCDF	5.85		0.351	2.48	1.30	1.000	1
1,2,3,6,7,8-HxCDF	4.49		0.338	2.48	1.08	1.000	1
1,2,3,7,8,9-HxCDF	1.73J		0.340	2.48	1.13	1.001	1
2,3,4,6,7,8-HxCDF	7.13		0.361	2.48	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	124		0.310	2.48	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	6.80		0.374	2.48	1.03	1.000	1
OCDF	469		0.221	4.96	0.87	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil
Sample Name: EV18080025-51
Lab Code: E1800729-001

Service Request: E1800729
Date Collected: 07/31/18 08:30
Date Received: 08/07/18 08:45
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.273g
Data File Name: P517209
ICAL Date: 01/24/18

Date Analyzed: 08/25/18 15:15
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	16.0		0.368	0.496	0.76		1
Total Penta-Dioxins	37.4		0.0851	2.48	1.60		1
Total Hexa-Dioxins	184		0.112	2.48	1.26		1
Total Hepta-Dioxins	1290		0.698	2.48	1.03		1
Total Tetra-Furans	45.8		0.173	0.496	0.66		1
Total Penta-Furans	64.6		0.170	2.48	1.48		1
Total Hexa-Furans	151		0.347	2.48	1.12		1
Total Hepta-Furans	450		0.339	2.48	1.02		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: 07/31/18 08:30
Date Received: 08/07/18 08:45

Sample Name: EV18080025-51
Lab Code: E1800729-001

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.273g

Date Analyzed: 08/25/18 15:15
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517209
ICAL Date: 01/24/18

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	926.652	46		25-164	0.80	1.026
13C-1,2,3,7,8-PeCDD	2000	1410.296	71		25-181	1.58	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1229.762	61		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1112.846	56		28-130	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1204.680	60		23-140	1.07	1.069
13C-OCDD	4000	1734.954	43		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1009.832	50		24-169	0.79	0.989
13C-1,2,3,7,8-PeCDF	2000	1271.457	64		24-185	1.55	1.177
13C-2,3,4,7,8-PeCDF	2000	1200.893	60		21-178	1.59	1.216
13C-1,2,3,4,7,8-HxCDF	2000	962.714	48		26-152	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	960.842	48		26-123	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1123.567	56		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1001.542	50		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	933.227	47		28-143	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1052.735	53		26-138	0.44	1.082
37Cl-2,3,7,8-TCDD	800	542.177	68		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: 07/31/18 08:30
Date Received: 08/07/18 08:45

Sample Name: EV18080025-51
Lab Code: E1800729-001

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	1.24	0.368	0.496	1	1	1.24
1,2,3,7,8-PeCDD	3.93	0.0851	2.48	1	1	3.93
1,2,3,4,7,8-HxCDD	5.74	0.108	2.48	1	0.1	0.574
1,2,3,6,7,8-HxCDD	22.4	0.118	2.48	1	0.1	2.24
1,2,3,7,8,9-HxCDD	12.8	0.110	2.48	1	0.1	1.28
1,2,3,4,6,7,8-HpCDD	568	0.698	2.48	1	0.01	5.68
OCDD	5590	0.139	4.96	1	0.0003	1.68
2,3,7,8-TCDF	2.19	0.173	0.496	1	0.1	0.219
1,2,3,7,8-PeCDF	1.67	0.168	2.48	1	0.03	0.0501
2,3,4,7,8-PeCDF	4.79	0.173	2.48	1	0.3	1.44
1,2,3,4,7,8-HxCDF	5.85	0.351	2.48	1	0.1	0.585
1,2,3,6,7,8-HxCDF	4.49	0.338	2.48	1	0.1	0.449
1,2,3,7,8,9-HxCDF	1.73	0.340	2.48	1	0.1	0.173
2,3,4,6,7,8-HxCDF	7.13	0.361	2.48	1	0.1	0.713
1,2,3,4,6,7,8-HpCDF	124	0.310	2.48	1	0.01	1.24
1,2,3,4,7,8,9-HpCDF	6.80	0.374	2.48	1	0.01	0.0680
OCDF	469	0.221	4.96	1	0.0003	0.141
Total TEQ						21.7

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil
Sample Name: EV18080025-51
Lab Code: E1800729-001

Service Request: E1800729
Date Collected: 07/31/18 08:30
Date Received: 08/07/18 08:45
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
 8.793g

Date Analyzed: 08/24/18 09:48
 NA
 E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	98.2	-	-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlysis
Sample Matrix: Soil
Sample Name: EV18080025-68
Lab Code: E1800729-002

Service Request: E1800729
Date Collected: 08/01/18 10:30
Date Received: 08/07/18 08:45
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.299g
Data File Name: P517210
ICAL Date: 01/24/18

Date Analyzed: 08/25/18 16:04
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	1.16K		0.233	0.501	0.58	1.001	1
1,2,3,7,8-PeCDD	12.6		0.0869	2.51	1.34	1.001	1
1,2,3,4,7,8-HxCDD	14.2		0.111	2.51	1.18	1.000	1
1,2,3,6,7,8-HxCDD	54.3		0.119	2.51	1.23	1.000	1
1,2,3,7,8,9-HxCDD	34.0		0.112	2.51	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	759		0.982	2.51	1.04	1.000	1
OCDD	6610E		0.239	5.01	0.90	1.000	1
2,3,7,8-TCDF	11.9		0.386	0.501	0.72	1.001	1
1,2,3,7,8-PeCDF	4.83		0.458	2.51	1.45	1.001	1
2,3,4,7,8-PeCDF	252		0.490	2.51	1.52	1.002	1
1,2,3,4,7,8-HxCDF	14.2		1.06	2.51	1.12	1.000	1
1,2,3,6,7,8-HxCDF	50.1P		0.992	2.51	1.18	1.000	1
1,2,3,7,8,9-HxCDF	8.79		0.998	2.51	1.25	1.001	1
2,3,4,6,7,8-HxCDF	104		1.04	2.51	1.15	1.000	1
1,2,3,4,6,7,8-HpCDF	303		0.231	2.51	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	14.0		0.269	2.51	1.00	1.000	1
OCDF	921		0.138	5.01	0.88	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil
Sample Name: EV18080025-68
Lab Code: E1800729-002

Service Request: E1800729
Date Collected: 08/01/18 10:30
Date Received: 08/07/18 08:45
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.299g
Data File Name: P517210
ICAL Date: 01/24/18

Date Analyzed: 08/25/18 16:04
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	21.4		0.233	0.501	0.78		1
Total Penta-Dioxins	102		0.0869	2.51	1.55		1
Total Hexa-Dioxins	392		0.114	2.51	1.23		1
Total Hepta-Dioxins	1430		0.982	2.51	1.04		1
Total Tetra-Furans	1630		0.386	0.501	0.78		1
Total Penta-Furans	2830		0.474	2.51	1.48		1
Total Hexa-Furans	1470		1.02	2.51	1.19		1
Total Hepta-Furans	958		0.248	2.51	1.04		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: 08/01/18 10:30
Date Received: 08/07/18 08:45

Sample Name: EV18080025-68
Lab Code: E1800729-002

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.299g

Date Analyzed: 08/25/18 16:04
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517210
ICAL Date: 01/24/18

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	934.643	47		25-164	0.79	1.027
13C-1,2,3,7,8-PeCDD	2000	1413.714	71		25-181	1.58	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1149.238	57		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1108.325	55		28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1113.574	56		23-140	1.06	1.069
13C-OCDD	4000	1448.227	36		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1019.657	51		24-169	0.80	0.989
13C-1,2,3,7,8-PeCDF	2000	1258.987	63		24-185	1.59	1.177
13C-2,3,4,7,8-PeCDF	2000	1210.982	61		21-178	1.56	1.216
13C-1,2,3,4,7,8-HxCDF	2000	936.459	47		26-152	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	944.550	47		26-123	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1078.775	54		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	960.333	48		28-136	0.52	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	863.479	43		28-143	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	961.940	48		26-138	0.44	1.081
37Cl-2,3,7,8-TCDD	800	528.799	66		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: 08/01/18 10:30
Date Received: 08/07/18 08:45

Sample Name: EV18080025-68
Lab Code: E1800729-002

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	1.16	0.233	0.501	1	1	1.16
1,2,3,7,8-PeCDD	12.6	0.0869	2.51	1	1	12.6
1,2,3,4,7,8-HxCDD	14.2	0.111	2.51	1	0.1	1.42
1,2,3,6,7,8-HxCDD	54.3	0.119	2.51	1	0.1	5.43
1,2,3,7,8,9-HxCDD	34.0	0.112	2.51	1	0.1	3.40
1,2,3,4,6,7,8-HpCDD	759	0.982	2.51	1	0.01	7.59
OCDD	6610	0.239	5.01	1	0.0003	1.98
2,3,7,8-TCDF	11.9	0.386	0.501	1	0.1	1.19
1,2,3,7,8-PeCDF	4.83	0.458	2.51	1	0.03	0.145
2,3,4,7,8-PeCDF	252	0.490	2.51	1	0.3	75.6
1,2,3,4,7,8-HxCDF	14.2	1.06	2.51	1	0.1	1.42
1,2,3,6,7,8-HxCDF	50.1	0.992	2.51	1	0.1	5.01
1,2,3,7,8,9-HxCDF	8.79	0.998	2.51	1	0.1	0.879
2,3,4,6,7,8-HxCDF	104	1.04	2.51	1	0.1	10.4
1,2,3,4,6,7,8-HpCDF	303	0.231	2.51	1	0.01	3.03
1,2,3,4,7,8,9-HpCDF	14.0	0.269	2.51	1	0.01	0.140
OCDF	921	0.138	5.01	1	0.0003	0.276
Total TEQ						132

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil
Sample Name: EV18080025-68
Lab Code: E1800729-002

Service Request: E1800729
Date Collected: 08/01/18 10:30
Date Received: 08/07/18 08:45
Units: Percent
Basis: As Received

Total Solids

Analysis Method: ALS SOP
 8.188g

Date Analyzed: 08/24/18 09:48
 NA
 E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	96.9	-	-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ1800327-04

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 06:27
Date Extracted: 8/21/18
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P614219

Data File Name: P614222
ICAL Date: 03/29/18

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.101	0.500			1
1,2,3,7,8-PeCDD	ND	U	0.0369	2.50			1
1,2,3,4,7,8-HxCDD	ND	U	0.0174	2.50			1
1,2,3,6,7,8-HxCDD	0.0270JK		0.0195	2.50	1.53	1.001	1
1,2,3,7,8,9-HxCDD	0.0344J		0.0169	2.50	1.43	1.007	1
1,2,3,4,6,7,8-HpCDD	0.198JK		0.0162	2.50	1.29	1.000	1
OCDD	2.77J		0.0672	5.00	0.92	1.000	1
2,3,7,8-TCDF	ND	U	0.0365	0.500			1
1,2,3,7,8-PeCDF	ND	U	0.0263	2.50			1
2,3,4,7,8-PeCDF	ND	U	0.0277	2.50			1
1,2,3,4,7,8-HxCDF	ND	U	0.0147	2.50			1
1,2,3,6,7,8-HxCDF	0.0239J		0.0138	2.50	1.11	1.000	1
1,2,3,7,8,9-HxCDF	0.0283JK		0.0187	2.50	4.08	1.000	1
2,3,4,6,7,8-HxCDF	ND	U	0.0148	2.50			1
1,2,3,4,6,7,8-HpCDF	0.0610JK		0.0209	2.50	1.55	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0286	2.50			1
OCDF	0.265JK		0.0851	5.00	1.03	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: EQ1800327-04

Service Request: E1800729
Date Collected: NA
Date Received: NA
Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g
Data File Name: P614222
ICAL Date: 03/29/18

Date Analyzed: 08/25/18 06:27
Date Extracted: 8/21/18
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P614219

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.101	0.500			1
Total Penta-Dioxins	ND	U	0.0369	2.50			1
Total Hexa-Dioxins	ND	U	0.0178	2.50			1
Total Hepta-Dioxins	0.271J		0.0162	2.50	1.08		1
Total Tetra-Furans	ND	U	0.0365	0.500			1
Total Penta-Furans	ND	U	0.0270	2.50			1
Total Hexa-Furans	0.0239J		0.0153	2.50	1.11		1
Total Hepta-Furans	ND	U	0.0241	2.50			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ1800327-04

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 06:27
Date Extracted: 8/21/18
Instrument Name: E-HRMS-08
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P614219

Data File Name: P614222
ICAL Date: 03/29/18

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	826.254	41		25-164	0.78	1.027
13C-1,2,3,7,8-PeCDD	2000	952.279	48		25-181	1.56	1.230
13C-1,2,3,4,7,8-HxCDD	2000	1237.005	62		32-141	1.31	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1058.361	53		28-130	1.19	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1049.247	52		23-140	1.06	1.070
13C-OCDD	4000	1217.918	30		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1064.693	53		24-169	0.80	0.989
13C-1,2,3,7,8-PeCDF	2000	1110.442	56		24-185	1.59	1.179
13C-2,3,4,7,8-PeCDF	2000	987.537	49		21-178	1.58	1.218
13C-1,2,3,4,7,8-HxCDF	2000	1245.296	62		26-152	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1165.947	58		26-123	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1128.713	56		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1180.089	59		28-136	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	974.864	49		28-143	0.46	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	956.649	48		26-138	0.45	1.082
37Cl-2,3,7,8-TCDD	800	488.525	61		35-197	NA	1.028

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlalysis
Sample Matrix: Soil

Service Request: E1800729
Date Analyzed: 08/25/18
Date Extracted: 08/21/18

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet

Units: ng/Kg
Basis: Dry
Analysis Lot: 604590

Lab Control Sample EQ1800327-05				Duplicate Lab Control Sample EQ1800327-06				% Rec		
Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	Limits	RPD	RPD Limit	
1,2,3,4,6,7,8-HpCDD	81.6	100	82	83.9	100	84	70-140	3	50	
1,2,3,4,7,8-HxCDD	89.2	100	89	90.9	100	91	70-164	2	50	
1,2,3,6,7,8-HxCDD	96.3	100	96	98.0	100	98	76-134	2	50	
1,2,3,7,8,9-HxCDD	90.6	100	91	93.6	100	94	64-162	3	50	
1,2,3,7,8-PeCDD	95.6	100	96	98.0	100	98	70-142	2	50	
2,3,7,8-TCDD	23.6	20.0	118	24.5	20.0	123	67-158	4	50	
OCDD	195	200	97	193	200	97	78-144	<1	50	
1,2,3,4,6,7,8-HpCDF	94.9	100	95	95.1	100	95	82-122	<1	50	
1,2,3,4,7,8,9-HpCDF	96.6	100	97	98.3	100	98	78-138	2	50	
1,2,3,4,7,8-HxCDF	93.7	100	94	96.8	100	97	72-134	3	50	
1,2,3,6,7,8-HxCDF	92.8	100	93	93.8	100	94	84-130	1	50	
1,2,3,7,8,9-HxCDF	90.7	100	91	90.2	100	90	78-130	<1	50	
1,2,3,7,8-PeCDF	88.6	100	89	89.8	100	90	80-134	1	50	
2,3,4,6,7,8-HxCDF	92.5	100	93	95.9	100	96	70-156	4	50	
2,3,4,7,8-PeCDF	95.5	100	96	99.6	100	100	68-160	4	50	
2,3,7,8-TCDF	18.8	20.0	94	19.2	20.0	96	75-158	2	50	
OCDF	201	200	101	187	200	94	63-170	7	50	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ1800327-05

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 17:41
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517212
ICAL Date: 01/24/18

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	23.6		0.317	0.500	0.79	1.001	1
1,2,3,7,8-PeCDD	95.6		0.0627	2.50	1.59	1.001	1
1,2,3,4,7,8-HxCDD	89.2		0.0580	2.50	1.27	1.000	1
1,2,3,6,7,8-HxCDD	96.3		0.0636	2.50	1.28	1.000	1
1,2,3,7,8,9-HxCDD	90.6		0.0593	2.50	1.22	1.007	1
1,2,3,4,6,7,8-HpCDD	81.6		0.0822	2.50	1.08	1.000	1
OCDD	195		0.130	5.00	0.89	1.000	1
2,3,7,8-TCDF	18.8		0.170	0.500	0.75	1.001	1
1,2,3,7,8-PeCDF	88.6		0.0927	2.50	1.54	1.001	1
2,3,4,7,8-PeCDF	95.5		0.0988	2.50	1.47	1.001	1
1,2,3,4,7,8-HxCDF	93.7		0.0166	2.50	1.16	1.000	1
1,2,3,6,7,8-HxCDF	92.8		0.0168	2.50	1.18	1.000	1
1,2,3,7,8,9-HxCDF	90.7		0.0214	2.50	1.17	1.000	1
2,3,4,6,7,8-HxCDF	92.5		0.0181	2.50	1.21	1.000	1
1,2,3,4,6,7,8-HpCDF	94.9		0.218	2.50	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	96.6		0.266	2.50	1.04	1.000	1
OCDF	201		0.169	5.00	0.87	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ1800327-05

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 17:41
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517212
ICAL Date: 01/24/18

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	23.6		0.317	0.500	0.79		1
Total Penta-Dioxins	95.6		0.0627	2.50	1.59		1
Total Hexa-Dioxins	276		0.0602	2.50	1.27		1
Total Hepta-Dioxins	82.3		0.0822	2.50	1.08		1
Total Tetra-Furans	18.8		0.170	0.500	0.75		1
Total Penta-Furans	187		0.0956	2.50	1.75		1
Total Hexa-Furans	370		0.0181	2.50	1.16		1
Total Hepta-Furans	192		0.241	2.50	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ1800327-05

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 17:41
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517212
ICAL Date: 01/24/18

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	786.101	39		25-164	0.81	1.026
13C-1,2,3,7,8-PeCDD	2000	1265.902	63		25-181	1.58	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1162.940	58		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1077.037	54		28-130	1.29	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1157.845	58		23-140	1.05	1.069
13C-OCDD	4000	1545.814	39		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	886.517	44		24-169	0.80	0.989
13C-1,2,3,7,8-PeCDF	2000	1132.846	57		24-185	1.57	1.177
13C-2,3,4,7,8-PeCDF	2000	1090.918	55		21-178	1.59	1.215
13C-1,2,3,4,7,8-HxCDF	2000	914.485	46		26-152	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	942.029	47		26-123	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	928.602	46		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	925.545	46		28-136	0.53	0.986
13C-1,2,3,4,6,7,8-HpCDF	2000	865.456	43		28-143	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	993.950	50		26-138	0.43	1.082
37Cl-2,3,7,8-TCDD	800	454.907	57		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ1800327-06

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 18:30
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517213
ICAL Date: 01/24/18

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	24.5		0.252	0.500	0.78	1.001	1
1,2,3,7,8-PeCDD	98.0		0.0624	2.50	1.53	1.001	1
1,2,3,4,7,8-HxCDD	90.9		0.0501	2.50	1.22	1.000	1
1,2,3,6,7,8-HxCDD	98.0		0.0550	2.50	1.27	1.000	1
1,2,3,7,8,9-HxCDD	93.6		0.0513	2.50	1.31	1.008	1
1,2,3,4,6,7,8-HpCDD	83.9		0.0399	2.50	1.05	1.000	1
OCDD	193		0.0754	5.00	0.90	1.000	1
2,3,7,8-TCDF	19.2		0.133	0.500	0.71	1.001	1
1,2,3,7,8-PeCDF	89.8		0.0624	2.50	1.51	1.001	1
2,3,4,7,8-PeCDF	99.6		0.0652	2.50	1.51	1.001	1
1,2,3,4,7,8-HxCDF	96.8		0.0341	2.50	1.23	1.000	1
1,2,3,6,7,8-HxCDF	93.8		0.0322	2.50	1.13	1.000	1
1,2,3,7,8,9-HxCDF	90.2		0.0399	2.50	1.19	1.000	1
2,3,4,6,7,8-HxCDF	95.9		0.0339	2.50	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	95.1		0.240	2.50	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	98.3		0.275	2.50	0.98	1.000	1
OCDF	187		0.114	5.00	0.86	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Anlaysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ1800327-06

Units: ng/Kg
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 18:30
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517213
ICAL Date: 01/24/18

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	24.5		0.252	0.500	0.78		1
Total Penta-Dioxins	98.6		0.0624	2.50	1.53		1
Total Hexa-Dioxins	282		0.0521	2.50	1.22		1
Total Hepta-Dioxins	83.9		0.0399	2.50	1.05		1
Total Tetra-Furans	19.7		0.133	0.500	0.86		1
Total Penta-Furans	190		0.0637	2.50	1.59		1
Total Hexa-Furans	377		0.0348	2.50	1.23		1
Total Hepta-Furans	193		0.256	2.50	1.02		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: ALS Environmental - Everett
Project: EV18080025 Dioxins Furans Analysis
Sample Matrix: Soil

Service Request: E1800729
Date Collected: NA
Date Received: NA

Sample Name: Duplicate Lab Control Sample
Lab Code: EQ1800327-06

Units: Percent
Basis: Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Soxhlet
Sample Amount: 10.000g

Date Analyzed: 08/25/18 18:30
Date Extracted: 8/21/18
Instrument Name: E-HRMS-07
GC Column: DB-5MSUI
Blank File Name: P614222
Cal Ver. File Name: P517200

Data File Name: P517213
ICAL Date: 01/24/18

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	900.571	45		25-164	0.80	1.027
13C-1,2,3,7,8-PeCDD	2000	1397.190	70		25-181	1.60	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1268.347	63		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1179.663	59		28-130	1.29	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1293.452	65		23-140	1.08	1.070
13C-OCDD	4000	1964.909	49		17-157	0.88	1.140
13C-2,3,7,8-TCDF	2000	1008.488	50		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1264.612	63		24-185	1.59	1.177
13C-2,3,4,7,8-PeCDF	2000	1221.224	61		21-178	1.60	1.216
13C-1,2,3,4,7,8-HxCDF	2000	964.257	48		26-152	0.51	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1025.817	51		26-123	0.51	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1050.201	53		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1032.212	52		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	953.990	48		28-143	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1107.831	55		26-138	0.44	1.082
37Cl-2,3,7,8-TCDD	800	530.443	66		35-197	NA	1.028

Dangerous Waste Characterization

Sample ID: Storm Sed.-1

Report date: August 15, 2018

Submitted to:

Whatcom Environmental
228 E. Champion Suite 101
Bellingham, WA 98225

1.0 INTRODUCTION

A dangerous waste characterization using the test organism *Oncorhynchus mykiss* (rainbow trout) was conducted on one sample submitted by Whatcom Environmental to Rainier Environmental. Testing was conducted following the Washington State Department of Ecology Publication 80-12.

2.0 METHODS

The sample, identified as Storm Sed.-1, was received in the laboratory on August 3, 2018. Upon arrival at the laboratory the sample was inspected and contents verified against information provided on the chain-of-custody form. The sample was stored at 4°C in the dark until use. The test procedure is outlined in Table 1.

Table 1. Summary of Dangerous Waste Characterization Test Conditions

Parameter	Standard Fish Toxicity Test
Test number	1808-012
Sample ID	Storm Sed.-1
Test initiation date; time	8/9/2018; 1000h
Test termination date; time	8/13/2018; 0945h
Endpoint	Mortality at 96-hours
Test chamber	7.5 L Plastic tank
Test temperature	12 ± 1°C
Dilution water	Moderately hard synthetic water
Test solution volume	6 L
Test concentrations (mg/L)	100, 10, 0
Number of organisms/ chamber	10
Number of replicates	3
Test organism	<i>Oncorhynchus mykiss</i> (rainbow trout)
Feeding	No feeding during test
Photoperiod	16 hours light/ 8 hours dark
Extraction	Rotary agitation (30 +/- 2 rpm) for 18 hours
Reference Toxicant	Copper sulfate
Deviations	None

The test organisms used in the test are outlined in Table 2. The sample was tested using fish received on July 20, 2018.

Table 2. Test organisms (*Oncorhynchus mykiss*)

Test organism age	43 days post swim-up (hatch date 6/3/2018)
Mean weight	0.35 g
Mean length	34 mm
Ratio of longest to shortest	1.2
Loading	0.58 g/L
Test organism source	Trout Lodge; Sumner, WA

3.0 RESULTS

A summary of results for the dangerous waste characterization conducted on sample Storm Sed.-1 is contained in Table 3. There was no mortality during the test. Based on these results, the sample does not designate as either a dangerous or extremely hazardous waste. Copies of the laboratory bench sheets, statistical summaries of reference toxicant tests, and chain-of-custody form are provided in Appendices A through C.

Table 3. Summary of Results

Sample ID	Concentration (mg/L)	Survival (# fish, N=30)	Percent Mortality	Dangerous Waste Designation
Control	0	30	0	NA
Storm Sed.-1	10	30	0	None
	100	30	0	

4.0 QUALITY ASSURANCE

The most recently completed reference toxicant test was initiated July 25, 2018. The LC₅₀ of 159 µg/L copper fell within the acceptable range of mean ± two standard deviations of historical test results indicating that the test organisms were of an appropriate degree of sensitivity. The coefficient of variation (CV) for the last 21 tests was 26.6 percent, which is considered excellent by the Biomonitoring Science Advisory Board.

5.0 REFERENCES

- WDOE. 2008. Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria. Washington State Department of Ecology. Water Quality Program. Publication number: WQ-R-95-80, Revised December 2008.
- WDOE. 2009. Biological Testing Methods 80-12 for the Designation of Dangerous Waste. Washington State Department of Ecology. Hazardous Waste and Toxics Reduction Program. Publication number: 80-12, Revised June 2009.

DRAFT

DRAFT

Appendix A
***Oncorhynchus mykiss* Dangerous Waste Toxicity Test**
Raw Bench Sheets

Client: Whatcom Environmental Services

Sample ID: Storm Sed. - 1

Test #: 1808-012

Log In #: T18-196

End Date & Time: 8/13/18 0945

Test Organism: Oncorhynchus mykiss

Test Protocol: Washington State Department of Ecology Publ. 80-12

Sample	Alk. (init.)	Hard. (init.)	Alk. (fin.)	Hard. (fin.)
	(mg/L as CaCO ₃)			
Control	68	100	69	100
100ppm	64	100	68	100

Chlorine
(mg/L Cl₂)

Animal Source:
Date Received:

1 hour 10 days
7/20/18

Date of Hatch: _____
Date of Swim up: _____
$$\begin{array}{r} 40 \overline{) 1240} \\ \underline{40} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

Weights (g):	Lengths (mm):	Length max
--------------	---------------	------------

$$\begin{array}{r} 35 \\ 37 \overline{) 135} \\ \underline{111} \\ 240 \\ \underline{221} \\ 190 \\ \underline{185} \\ 50 \\ \underline{37} \\ 130 \\ \underline{111} \\ 190 \\ \underline{185} \\ 50 \end{array}$$

107 138 133 141
 26 26 31 35
 Loading:

$$\begin{array}{r} 35 \\ 35 \\ \hline 0599 \end{array}$$
$$\begin{array}{r} \mu = 1.35 \\ \mu = 34 \end{array}$$

Rainier Environmental
Washington Laboratory
5013 Pacific HWY E Suite 200

Dilution Water Source: MHSW 056QA Check 24

Appendix B
Reference Toxicant Test
Control Chart and Statistical Summary

Fish 96-h Acute Survival Test

Rainier Environmental Laboratory

Test Type: Survival (96h)

Organism: Oncorhynchus mykiss (Rainbow Tro

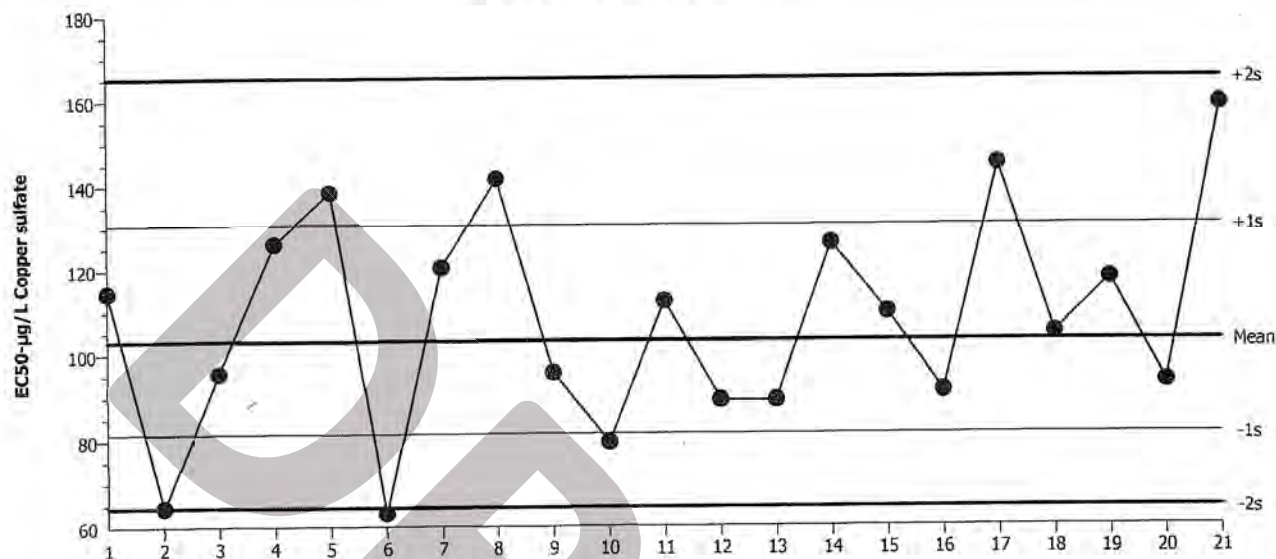
Material: Copper sulfate

Protocol: Not Applicable

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF

Fish 96-h Acute Survival Test



Quality Control Data

Point	Year	Month	Day	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2016	Oct	13	114.5	11.33	0.4424			01-3356-4134	03-9174-4425
2		Nov	16	64.47	-38.66	-1.993	(-)		00-9981-0415	01-2788-3133
3		Dec	21	95.48	-7.647	-0.3269			00-4678-3392	07-2943-2050
4	2017	Jan	25	126	22.86	0.8495			00-0066-8952	04-6372-2628
5		Mar	2	138.2	35.06	1.242	(+)		06-3918-0228	07-9779-4134
6		Apr	4	63	-40.13	-2.091	(-)	(-)	03-6593-7512	17-2989-4259
7		May	3	120.3	17.17	0.6534			11-5596-3648	06-1016-9279
8		Jun	2	141.4	38.29	1.34	(+)		12-4358-3517	15-4391-5735
9		Jul	5	95.48	-7.647	-0.3269			15-6974-4640	17-7171-1787
10		Aug	9	79.37	-23.76	-1.111	(-)		14-0940-5366	14-5578-7811
11		Sep	6	112.2	9.115	0.3593			20-3302-1945	19-8536-6321
12		Oct	10	89.09	-14.04	-0.6209			16-6680-8798	20-0898-2992
13		Nov	14	89.09	-14.04	-0.6209			03-8806-4974	08-0487-5780
14		Dec	17	126	22.86	0.8495			21-2907-2796	14-7957-6406
15	2018	Jan	16	109.7	6.552	0.2613			07-7088-1157	16-4889-5798
16		Feb	15	91.17	-11.96	-0.5229			06-6357-5370	00-6522-6981
17		Mar	17	144.7	41.6	1.438	(+)		00-4331-1834	10-4388-1035
18		Apr	21	104.7	1.598	0.06525			00-5606-6972	09-2556-2363
19		May	23	117.6	14.42	0.5554			20-2785-4749	16-3316-3415
20		Jun	20	93.3	-9.828	-0.4249			05-6858-8909	21-3433-5668
21		Jul	25	158.7	55.61	1.83	(+)		03-7661-5860	05-4916-3169

CETIS Summary Report

Report Date: 31 Jul-18 12:33 (p 1 of 1)
 Test Code: RA072518OM | 03-7661-5860

Fish 96-h Acute Survival Test

Rainier Environmental Laboratory

Batch ID: 12-6840-1667	Test Type: Survival (96h)	Analyst: Eric Tollefson
Start Date: 25 Jul-18 13:40	Protocol: Not Applicable	Diluent: Mod-Hard Synthetic Water
Ending Date: 29 Jul-18 13:30	Species: Oncorhynchus mykiss	Brine:
Duration: 96h	Source: Trout Lodge Fish Farm	Age: 56
Sample ID: 16-8255-9348	Code: RA072518OM	Client: Internal Lab
Sample Date: 25 Jul-18	Material: Copper sulfate	Project:
Receive Date: 25 Jul-18	Source: Reference Toxicant	
Sample Age: 14h	Station: In House	

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
11-2369-9174	96h Survival Rate	50	100	70.71	20.2%		Dunnett Multiple Comparison Test

Point Estimate Summary

Analysis ID	Endpoint	Level	µg/L	95% LCL	95% UCL	TU	Method
05-4916-3169	96h Survival Rate	LC50	158.7	134.8	187		Spearman-Kärber

96h Survival Rate Summary

C-µg/L	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Dilution Water	3	1	1	1	1	1	0	0	0.0%	0.0%
25		3	1	1	1	1	1	0	0	0.0%	0.0%
50		3	1	1	1	1	1	0	0	0.0%	0.0%
100		3	0.7667	0.7451	0.7882	0.7	0.8	0.03333	0.05774	7.53%	23.33%
200		3	0.4	0.288	0.512	0.1	0.7	0.1732	0.3	75.0%	60.0%
400		3	0	0	0	0	0	0	0		100.0%

96h Survival Rate Detail

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	1	1	1
25		1	1	1
50		1	1	1
100		0.7	0.8	0.8
200		0.7	0.1	0.4
400		0	0	0

96h Survival Rate Binomials

C-µg/L	Control Type	Rep 1	Rep 2	Rep 3
0	Dilution Water	10/10	10/10	10/10
25		10/10	10/10	10/10
50		10/10	10/10	10/10
100		7/10	8/10	8/10
200		7/10	1/10	4/10
400		0/10	0/10	0/10

DRAFT

Appendix C
Chain-of-Custody Form



Washington
5013 Pacific Highway East, Suite 20 Fife,
WA 98424
phone 253.922.8898

Date 8/2/18 Page 1 of 1

[illegible]

APPENDIX D

Groundwater Laboratory Analytical Data

DRAFT



September 7, 2018

Mr. Dan Heimbigner
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Heimbigner,

On August 29th, 8 samples were received by our laboratory and assigned our laboratory project number EV18080166. The project was identified as your Jensen's Shipyard. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-01

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/28/2018 2:36:00 PM

CLIENT SAMPLE ID MW-1

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	180	130	1	UG/L	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/30/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	12	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	8.0	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	3.2	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	90.6	09/04/2018	DLC
TFT	EPA-8021	98.1	09/04/2018	DLC
C25	NWTPH-DX	109	08/30/2018	EBS
Terphenyl-d14	EPA-8270 SIM	94.3	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains weathered diesel.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-02

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/28/2018 3:37:00 PM

CLIENT SAMPLE ID MW-2

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	200	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	210	130	1	UG/L	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/30/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	93.3	09/04/2018	DLC
TFT	EPA-8021	97.9	09/04/2018	DLC
C25	NWTPH-DX	105	08/30/2018	EBS
Terphenyl-d14	EPA-8270 SIM	96.7	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

Chromatogram indicates that it is likely that sample contains extremely weathered gasoline and highly weathered diesel.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-03

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/28/2018 5:53:00 PM

CLIENT SAMPLE ID MW-3

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/30/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	2.3	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	4.9	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	3.2	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	9.8	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	91.3	09/04/2018	DLC
TFT	EPA-8021	98.4	09/04/2018	DLC
C25	NWTPH-DX	114	08/30/2018	EBS
Terphenyl-d14	EPA-8270 SIM	113	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-04

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/28/2018 4:40:00 PM

CLIENT SAMPLE ID MW-4

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/30/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	1.1	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	3.2	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	3.0	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	90.7	09/04/2018	DLC
TFT	EPA-8021	91.6	09/04/2018	DLC
C25	NWTPH-DX	106	08/30/2018	EBS
Terphenyl-d14	EPA-8270 SIM	109	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-05

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/29/2018 9:15:00 AM

CLIENT SAMPLE ID MW-5

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/31/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/31/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	1.2	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	90.7	09/04/2018	DLC
TFT	EPA-8021	94.0	09/04/2018	DLC
C25	NWTPH-DX	80.8	08/31/2018	EBS
Terphenyl-d14	EPA-8270 SIM	104	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

**CERTIFICATE OF ANALYSIS**

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-06

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/29/2018 7:45:00 AM

CLIENT SAMPLE ID MW-6

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/30/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	90.5	09/04/2018	DLC
TFT	EPA-8021	93.7	09/04/2018	DLC
C25	NWTPH-DX	101	08/30/2018	EBS
Terphenyl-d14	EPA-8270 SIM	87.8	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-07

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/28/2018 12:00:00 PM

CLIENT SAMPLE ID WES-DUP-1

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/31/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/31/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	2.3	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	5.0	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	3.2	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	8.6	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	91.0	09/04/2018	DLC
TFT	EPA-8021	94.0	09/04/2018	DLC
C25	NWTPH-DX	100	08/31/2018	EBS
Terphenyl-d14	EPA-8270 SIM	103	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018

ALS JOB#: EV18080166

ALS SAMPLE#: EV18080166-08

CLIENT CONTACT: Dan Heimbigner

DATE RECEIVED: 08/29/2018

CLIENT PROJECT: Jensen's Shipyard

COLLECTION DATE: 8/29/2018 9:30:00 AM

CLIENT SAMPLE ID WES-EB-1

WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	09/04/2018	DLC
Benzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Toluene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	09/04/2018	DLC
Xylenes	EPA-8021	U	3.0	1	UG/L	09/04/2018	DLC
TPH-Diesel Range	NWTPH-DX	U	130	1	UG/L	08/31/2018	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	08/31/2018	EBS
Naphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	0.020	1	UG/L	08/31/2018	JMK
Mercury (Dissolved)	EPA-245.1	U	0.20	1	UG/L	08/31/2018	RAL
Arsenic (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	U	2.0	1	UG/L	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	U	2.5	1	UG/L	09/04/2018	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	91.6	09/04/2018	DLC
TFT	EPA-8021	94.5	09/04/2018	DLC
C25	NWTPH-DX	85.7	08/31/2018	EBS
Terphenyl-d14	EPA-8270 SIM	91.0	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018
ALS SDG#: EV18080166
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Jensen's Shipyard

LABORATORY BLANK RESULTS

MBG-083118W - Batch 132144 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	08/31/2018	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-083118W - Batch 132144 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	UG/L	1.0	08/31/2018	DLC
Toluene	EPA-8021	U	UG/L	1.0	08/31/2018	DLC
Ethylbenzene	EPA-8021	U	UG/L	1.0	08/31/2018	DLC
Xylenes	EPA-8021	U	UG/L	3.0	08/31/2018	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-083018W - Batch 132043 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	08/30/2018	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	08/30/2018	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-083018W - Batch 132121 - Water by EPA-8270 SIM

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Naphthalene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Chrysene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/L	0.020	08/31/2018	JMK

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018
ALS SDG#: EV18080166
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Jensen's Shipyard

LABORATORY BLANK RESULTS

MBLK-R323018 - Batch R323018 - Water by EPA-245.1

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Mercury (Dissolved)	EPA-245.1	U	UG/L	0.20	08/31/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

MB-083118W - Batch 132079 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Arsenic (Dissolved)	EPA-200.8	U	UG/L	1.0	09/04/2018	RAL
Cadmium (Dissolved)	EPA-200.8	U	UG/L	1.0	09/04/2018	RAL
Chromium (Dissolved)	EPA-200.8	U	UG/L	2.0	09/04/2018	RAL
Copper (Dissolved)	EPA-200.8	U	UG/L	2.0	09/04/2018	RAL
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	09/04/2018	RAL
Zinc (Dissolved)	EPA-200.8	U	UG/L	2.5	09/04/2018	RAL

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018
ALS SDG#: EV18080166
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Jensen's Shipyard

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 132144 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Volatile Range - BS	NWTPH-GX	97.8			66.5	122.7	09/04/2018	DLC
TPH-Volatile Range - BSD	NWTPH-GX	101	3		66.5	122.7	09/04/2018	DLC

ALS Test Batch ID: 132144 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzene - BS	EPA-8021	99.4			83	120	08/31/2018	DLC
Benzene - BSD	EPA-8021	103	4		83	120	08/31/2018	DLC
Toluene - BS	EPA-8021	96.1			85	115	08/31/2018	DLC
Toluene - BSD	EPA-8021	103	7		85	115	08/31/2018	DLC
Ethylbenzene - BS	EPA-8021	97.5			85	113	08/31/2018	DLC
Ethylbenzene - BSD	EPA-8021	104	6		85	113	08/31/2018	DLC
Xylenes - BS	EPA-8021	98.5			85	116	08/31/2018	DLC
Xylenes - BSD	EPA-8021	105	6		85	116	08/31/2018	DLC

ALS Test Batch ID: 132043 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	88.6			67	125.2	08/30/2018	EBS
TPH-Diesel Range - BSD	NWTPH-DX	90.2	2		67	125.2	08/30/2018	EBS

ALS Test Batch ID: 132121 - Water by EPA-8270 SIM

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Naphthalene - BS	EPA-8270 SIM	64.3			36	118	08/31/2018	JMK
Naphthalene - BSD	EPA-8270 SIM	53.9	18		36	118	08/31/2018	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	65.7			20	150	08/31/2018	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	56.6	15		20	150	08/31/2018	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	66.3			20	150	08/31/2018	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	57.0	15		20	150	08/31/2018	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	73.0			20	150	08/31/2018	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	73.6	1		20	150	08/31/2018	JMK
Chrysene - BS	EPA-8270 SIM	87.1			20	150	08/31/2018	JMK
Chrysene - BSD	EPA-8270 SIM	86.6	1		20	150	08/31/2018	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	73.5			20	150	08/31/2018	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	74.5	1		20	150	08/31/2018	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	85.9			20	150	08/31/2018	JMK
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	83.6	3		20	150	08/31/2018	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	78.6			20	150	08/31/2018	JMK



CERTIFICATE OF ANALYSIS

CLIENT: Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

DATE: 9/7/2018
ALS SDG#: EV18080166
WDOE ACCREDITATION: C601

CLIENT CONTACT: Dan Heimbigner
CLIENT PROJECT: Jensen's Shipyard

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Benzo[A]Pyrene - BSD	EPA-8270 SIM	79.5	1		20	150	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	77.2			20	150	08/31/2018	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	78.4	2		20	150	08/31/2018	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	78.9			20	150	08/31/2018	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	80.1	1		20	150	08/31/2018	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	75.1			43	140	08/31/2018	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	75.2	0		43	140	08/31/2018	JMK

ALS Test Batch ID: R323018 - Water by EPA-245.1

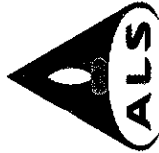
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Mercury (Dissolved) - BS	EPA-245.1	109			80.6	118	08/31/2018	RAL
Mercury (Dissolved) - BSD	EPA-245.1	112	3		80.6	118	08/31/2018	RAL

ALS Test Batch ID: 132079 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
Arsenic (Dissolved) - BS	EPA-200.8	102			89.1	110	09/04/2018	RAL
Arsenic (Dissolved) - BSD	EPA-200.8	103	1		89.1	110	09/04/2018	RAL
Cadmium (Dissolved) - BS	EPA-200.8	103			89.4	109	09/04/2018	RAL
Cadmium (Dissolved) - BSD	EPA-200.8	104	1		89.4	109	09/04/2018	RAL
Chromium (Dissolved) - BS	EPA-200.8	103			88.3	110.2	09/04/2018	RAL
Chromium (Dissolved) - BSD	EPA-200.8	104	1		86.2	107	09/04/2018	RAL
Copper (Dissolved) - BS	EPA-200.8	104			85.4	109	09/04/2018	RAL
Copper (Dissolved) - BSD	EPA-200.8	106	2		85.4	109	09/04/2018	RAL
Lead (Dissolved) - BS	EPA-200.8	104			87.5	107	09/04/2018	RAL
Lead (Dissolved) - BSD	EPA-200.8	106	1		87.5	107	09/04/2018	RAL
Zinc (Dissolved) - BS	EPA-200.8	104			88.2	111	09/04/2018	RAL
Zinc (Dissolved) - BSD	EPA-200.8	105	1		88.2	111	09/04/2018	RAL

APPROVED BY

Laboratory Director



ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job#

(Laboratory Use Only)

61880166

Date 8/29/18 Page 1 Of 1

PROJECT ID: JENSEN'S SHIPYARD				ANALYSIS REQUESTED												OTHER (Specify)														
REPORT TO COMPANY: WATSON ENVIRONMENTAL SERVICES																														
PROJECT MANAGER: DAN HEMBINGER																														
ADDRESS: 228 E. CAMPION ST #101																														
BELLINGHAM, WA 98225																														
PHONE: (360) 752-9157 P.O. #:																														
E-MAIL:																														
INVOICE TO COMPANY: SAME AS ABOVE																														
ATTENTION:																														
ADDRESS:																														
SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021	MTBE by EPA 8021	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082	Pesticides by EPA 8081	Metals-MTCA-5	RCRA-8	Pt Pol	TAL	Metals Other (Specify) COPPER & ZINC	TCLP-Metals	VOA	Semi-Vol	Pest	Herbs	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?	
1. MV-1	8/28	2:36	WATER	1		X	X	X											X				X						5	
2. MW-2	8/28	3:37	WATER	2		X	X	X											X				X						5	
3. MW-3	8/28	5:53		3		X	X	X											X				X						5	
4. MW-4	8/28	4:40		4		X	X	X											X				X						5	
5. MW-5	8/29	9:15		5		X	X	X											X				X						5	
6. MW-6	8/29	7:45		6		X	X	X											X				X						5	
7. WES-DWP-1	8/28	12:00	WATER	7		X	X	X											X				X						5	
8. WES-EB-1	8/29	9:30		8		X	X	X											X				X						5	
9.																														
10.																														

SPECIAL INSTRUCTIONS ALL METALS SAMPLES WERE FILTERED IN THE FIELD (0.45 MICRON)

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: [Signature] 8/29/18 4:20
Received By: [Signature] ALS 8/29/18 1620
2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED IN BUSINESS DAYS*
Organic, Metals & Inorganic Analysis

Specify: ☒ SAME DAY ☐ 1 ☐ 2 ☐ 3 ☐ 5
Fuels & Hydrocarbon Analysis ☒ SAME DAY ☐ 1 ☐ 3 ☐ 5

*Turnaround request less than standard may incur Rush Charges

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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February 28, 2020

Jamie Stevens, Project Manager
Crete Consulting
108 S. Washington St., Suite 300
Seattle, WA 98104

Dear Ms Stevens:

Included are the results from the testing of material submitted on February 20, 2020 from the PoFH, F&BI 002291 project. There are 39 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Grant Hainsworth
CTC0228R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 20, 2020 by Friedman & Bruya, Inc. from the Crete Consulting PoFH, F&BI 002291 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Crete Consulting</u>
002291 -01	MW-1-021920
002291 -02	MW-2-021920
002291 -03	MW-3-021920
002291 -04	MW-4-021920
002291 -05	MW-5-021920
002291 -06	MW-6-021920
002291 -07	MW-7A-021920

Samples MW-5-021920 and MW-6-021920 were sent to Fremont Analytical for TOC analysis. The report is enclosed.

A 6020B internal standard failed the acceptance criteria for several samples. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

Several compounds in the 8260D laboratory control sample, laboratory control sample duplicate, and matrix spike sample exceeded the acceptance criteria. The analytes were not detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20
Date Received: 02/20/20
Project: PoFH, F&BI 002291
Date Extracted: 02/21/20
Date Analyzed: 02/21/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx
Sample Extracts Passed Through a
Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 47-140)
MW-1-021920 002291-01	<50	<250	94
MW-2-021920 002291-02	<50	<250	91
MW-3-021920 002291-03	<50	<250	78
MW-4-021920 002291-04	<50	<250	102
MW-5-021920 002291-05	<50	<250	113
MW-6-021920 002291-06	<50	<250	111
MW-7A-021920 002291-07	<50	<250	106
Method Blank 00-451 MB	<50	<250	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20
Date Received: 02/20/20
Project: PoFH, F&BI 002291
Date Extracted: 02/20/20
Date Analyzed: 02/20/20

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
MW-1-021920 002291-01	160 x	<250	95
MW-2-021920 002291-02	110 x	<250	86
MW-3-021920 002291-03	<50	<250	82
MW-4-021920 002291-04	<50	<250	98
MW-5-021920 002291-05	<50	<250	109
MW-6-021920 002291-06	<50	<250	105
MW-7A-021920 002291-07	120 x	<250	95
Method Blank 00-451 MB	<50	<250	115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-1-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-01
Date Analyzed:	02/21/20	Data File:	002291-01.033
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.56
Cadmium	<1
Chromium	<1
Copper	<2.5
Lead	<1
Mercury	<0.2
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-2-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-02
Date Analyzed:	02/21/20	Data File:	002291-02.036
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.63 J
Cadmium	<1 J
Chromium	1.83 J
Copper	<2.5 J
Lead	<1
Mercury	<0.2
Nickel	4.38 J
Zinc	<5 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-2-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-02 x10
Date Analyzed:	02/21/20	Data File:	002291-02 x10.114
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<10
Cadmium	<10
Chromium	<10
Copper	<25
Nickel	<10
Zinc	<50

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-3-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-03
Date Analyzed:	02/21/20	Data File:	002291-03.120
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.81 J
Cadmium	<1 J
Chromium	2.56
Copper	21.6
Lead	1.71
Mercury	<0.2
Nickel	2.68
Zinc	47.8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-3-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-03 x10
Date Analyzed:	02/21/20	Data File:	002291-03 x10.067
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	<10
Cadmium	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-4-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-04
Date Analyzed:	02/21/20	Data File:	002291-04.121
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.06
Cadmium	<1
Chromium	1.88
Copper	2.65
Lead	<1
Mercury	<0.2
Nickel	7.05
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-5-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-05
Date Analyzed:	02/21/20	Data File:	002291-05.122
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	3.07
Lead	<1
Mercury	<0.2
Nickel	2.61
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-6-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-06
Date Analyzed:	02/21/20	Data File:	002291-06.123
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.5
Lead	<1
Mercury	<0.2
Nickel	2.04
Zinc	5.97

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-7A-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-07
Date Analyzed:	02/21/20	Data File:	002291-07.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	8.68 J
Cadmium	<1 J
Chromium	2.17
Copper	<2.5
Lead	<1 J
Mercury	<0.2 J
Nickel	4.60
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-7A-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-07 x10
Date Analyzed:	02/21/20	Data File:	002291-07 x10.071
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	<10
Cadmium	<10
Lead	<10
Mercury	<2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	I0-103 mb
Date Analyzed:	02/21/20	Data File:	I0-103 mb.031
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.5
Lead	<1
Mercury	<0.2
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-01
Date Analyzed:	02/21/20	Data File:	002291-01.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.1
Cadmium	<1
Chromium	1.52
Copper	3.74
Lead	<1
Mercury	<0.2
Nickel	1.57
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-2-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-02
Date Analyzed:	02/21/20	Data File:	002291-02.133
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.21 J
Cadmium	<1 J
Chromium	5.74
Copper	3.96
Lead	<1
Mercury	<0.2
Nickel	4.23
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-2-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-02 x10
Date Analyzed:	02/21/20	Data File:	002291-02 x10.115
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<10
Cadmium	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-3-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-03
Date Analyzed:	02/21/20	Data File:	002291-03.134
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.56
Cadmium	<1
Chromium	73.8
Copper	29.4
Lead	9.42
Mercury	<0.2
Nickel	3.83
Zinc	53.9

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-4-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-04
Date Analyzed:	02/21/20	Data File:	002291-04.125
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.97
Cadmium	<1
Chromium	4.43
Copper	10.9
Lead	4.02
Mercury	<0.2
Nickel	10.4
Zinc	11.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-5-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-05
Date Analyzed:	02/21/20	Data File:	002291-05.126
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.07
Cadmium	<1
Chromium	1.48
Copper	5.87
Lead	<1
Mercury	<0.2
Nickel	3.52
Zinc	5.85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-6-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-06
Date Analyzed:	02/21/20	Data File:	002291-06.127
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.5
Lead	<1
Mercury	<0.2
Nickel	1.99
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-7A-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-07
Date Analyzed:	02/21/20	Data File:	002291-07.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.73 J
Cadmium	<1 J
Chromium	5.06
Copper	3.05
Lead	<1
Mercury	<0.2
Nickel	4.47
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-7A-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	002291-07 x10
Date Analyzed:	02/21/20	Data File:	002291-07 x10.082
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<10
Cadmium	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	PoFH, F&BI 002291
Date Extracted:	02/21/20	Lab ID:	I0-104 mb
Date Analyzed:	02/21/20	Data File:	I0-104 mb.061
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.5
Lead	<1
Mercury	<0.2
Nickel	<1
Zinc	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-1-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	002291-01
Date Analyzed:	02/21/20	Data File:	022119.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-2-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	002291-02
Date Analyzed:	02/21/20	Data File:	022120.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	57	121
Toluene-d8	107	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-3-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	002291-03
Date Analyzed:	02/21/20	Data File:	022121.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-4-021920	Client: Crete Consulting
Date Received: 02/20/20	Project: PoFH, F&BI 002291
Date Extracted: 02/20/20	Lab ID: 002291-04
Date Analyzed: 02/21/20	Data File: 022122.D
Matrix: Water	Instrument: GCMS4
Units: ug/L (ppb)	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	57	121
Toluene-d8	107	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-5-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	002291-05
Date Analyzed:	02/21/20	Data File:	022123.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	97	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID: MW-6-021920	Client: Crete Consulting
Date Received: 02/20/20	Project: PoFH, F&BI 002291
Date Extracted: 02/20/20	Lab ID: 002291-06
Date Analyzed: 02/21/20	Data File: 022124.D
Matrix: Water	Instrument: GCMS4
Units: ug/L (ppb)	Operator: MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	57	121
Toluene-d8	106	63	127
4-Bromofluorobenzene	96	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	MW-7A-021920	Client:	Crete Consulting
Date Received:	02/20/20	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	002291-07
Date Analyzed:	02/21/20	Data File:	022125.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	57	121
Toluene-d8	107	63	127
4-Bromofluorobenzene	95	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	PoFH, F&BI 002291
Date Extracted:	02/20/20	Lab ID:	00-417 mb
Date Analyzed:	02/21/20	Data File:	022109.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	57	121
Toluene-d8	105	63	127
4-Bromofluorobenzene	92	60	133

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.1	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	112	61-133	11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	116	63-142	15

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR DISSOLVED METALS USING EPA METHOD 6020B**

Laboratory Code: 002291-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	9.56	95	96	75-125	1
Cadmium	ug/L (ppb)	5	<1	98	99	75-125	1
Chromium	ug/L (ppb)	20	<1	93	97	75-125	4
Copper	ug/L (ppb)	20	<2.5	88	89	75-125	1
Lead	ug/L (ppb)	10	<1	85	88	75-125	3
Mercury	ug/L (ppb)	5	<0.2	90	96	75-125	6
Nickel	ug/L (ppb)	20	<1	90	95	75-125	5
Zinc	ug/L (ppb)	50	<5	87	89	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	97	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	108	80-120
Copper	ug/L (ppb)	20	105	80-120
Lead	ug/L (ppb)	10	98	80-120
Mercury	ug/L (ppb)	5	101	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	105	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 002295-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	100	98	75-125	2
Cadmium	ug/L (ppb)	5	<1	100	99	75-125	1
Chromium	ug/L (ppb)	20	2.42	95	96	75-125	1
Copper	ug/L (ppb)	20	<2.5	97	97	75-125	0
Lead	ug/L (ppb)	10	<1	95	93	75-125	2
Mercury	ug/L (ppb)	5	<0.2	97	97	75-125	0
Nickel	ug/L (ppb)	20	1.25	99	98	75-125	1
Zinc	ug/L (ppb)	50	<5	95	97	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	97	80-120
Cadmium	ug/L (ppb)	5	100	80-120
Chromium	ug/L (ppb)	20	102	80-120
Copper	ug/L (ppb)	20	98	80-120
Lead	ug/L (ppb)	10	96	80-120
Mercury	ug/L (ppb)	5	99	80-120
Nickel	ug/L (ppb)	20	99	80-120
Zinc	ug/L (ppb)	50	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 002276-01

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<10	177 vo	10-172
Chloromethane	ug/L (ppb)	50	<10	134	25-166
Vinyl chloride	ug/L (ppb)	50	<0.2	138	36-166
Bromomethane	ug/L (ppb)	50	<1	149	47-169
Chloroethane	ug/L (ppb)	50	<1	160	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	147	44-165
Acetone	ug/L (ppb)	250	<10	107	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	141 vo	60-136
Hexane	ug/L (ppb)	50	<1	112	52-150
Methylene chloride	ug/L (ppb)	50	<5	135 vo	67-132
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	137 vo	74-127
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	130 vo	72-129
1,1-Dichloroethane	ug/L (ppb)	50	<1	123	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	150	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	129 vo	71-127
Chloroform	ug/L (ppb)	50	<1	124	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	90	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	98	48-149
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	136	60-146
1,1-Dichloropropene	ug/L (ppb)	50	<1	116	69-133
Carbon tetrachloride	ug/L (ppb)	50	<1	149	56-152
Benzene	ug/L (ppb)	50	<0.35	117	76-125
Trichloroethene	ug/L (ppb)	50	<1	119	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	113	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	120	61-150
Dibromomethane	ug/L (ppb)	50	<1	104	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	115	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	106	72-132
Toluene	ug/L (ppb)	50	<1	102	76-122
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	91	76-130
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	93	68-131
2-Hexanone	ug/L (ppb)	250	<10	81	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	88	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	104	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	114	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	90	69-134
Chlorobenzene	ug/L (ppb)	50	<1	98	77-122
Ethylbenzene	ug/L (ppb)	50	<1	103	69-135
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	131	73-137
m,p-Xylene	ug/L (ppb)	100	<2	105	69-135
o-Xylene	ug/L (ppb)	50	<1	110	60-140
Styrene	ug/L (ppb)	50	<1	101	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	116	65-142
Bromoform	ug/L (ppb)	50	<1	107	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	101	58-144
Bromobenzene	ug/L (ppb)	50	<1	94	75-124
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	109	66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	100	51-154
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	90	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	102	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	94	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	109	65-137
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	108	59-146
sec-Butylbenzene	ug/L (ppb)	50	<1	107	64-140
p-Isopropyltoluene	ug/L (ppb)	50	<1	106	65-141
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	96	72-123
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	92	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	103	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	102	32-164
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	110	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	116	60-143
Naphthalene	ug/L (ppb)	50	<1	110	44-164
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	108	69-148

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/28/20

Date Received: 02/20/20

Project: PoFH, F&BI 002291

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	165 vo	164 vo	25-158	1
Chloromethane	ug/L (ppb)	50	127	131	45-156	3
Vinyl chloride	ug/L (ppb)	50	129	130	50-154	1
Bromomethane	ug/L (ppb)	50	134	138	55-143	3
Chloroethane	ug/L (ppb)	50	137	138	58-146	1
Trichlorofluoromethane	ug/L (ppb)	250	135	141	50-150	4
Acetone	ug/L (ppb)	250	102	118	53-131	15
1,1-Dichloroethene	ug/L (ppb)	50	122	130	67-136	6
Hexane	ug/L (ppb)	50	112	131	57-137	16
Methylene chloride	ug/L (ppb)	50	118	135	39-148	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	123	144	64-147	16
trans-1,2-Dichloroethene	ug/L (ppb)	50	115	129 vo	68-128	11
1,1-Dichloroethane	ug/L (ppb)	50	115	134 vo	79-121	15
2,2-Dichloropropane	ug/L (ppb)	50	125	149 vo	55-143	18
cis-1,2-Dichloroethene	ug/L (ppb)	50	119	136 vo	80-123	13
Chloroform	ug/L (ppb)	50	118	138 vo	80-121	16
2-Butanone (MEK)	ug/L (ppb)	250	103	127	57-149	21 vo
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	103	106	73-132	3
1,1,1-Trichloroethane	ug/L (ppb)	50	123	149 vo	81-125	19
1,1-Dichloropropene	ug/L (ppb)	50	116	121	77-129	4
Carbon tetrachloride	ug/L (ppb)	50	133	140	75-158	5
Benzene	ug/L (ppb)	50	116	118	69-134	2
Trichloroethene	ug/L (ppb)	50	120 vo	123 vo	79-113	2
1,2-Dichloropropane	ug/L (ppb)	50	115	117	77-123	2
Bromodichloromethane	ug/L (ppb)	50	125	127	81-133	2
Dibromomethane	ug/L (ppb)	50	111	115	82-125	4
4-Methyl-2-pentanone	ug/L (ppb)	250	123	125	65-138	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	120	122	82-132	2
Toluene	ug/L (ppb)	50	99	102	72-122	3
trans-1,3-Dichloropropene	ug/L (ppb)	50	105	107	80-136	2
1,1,2-Trichloroethane	ug/L (ppb)	50	102	105	75-124	3
2-Hexanone	ug/L (ppb)	250	95	97	60-136	2
1,3-Dichloropropane	ug/L (ppb)	50	100	102	76-126	2
Tetrachloroethene	ug/L (ppb)	50	102	104	76-121	2
Dibromochloromethane	ug/L (ppb)	50	118	121	84-133	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	101	103	82-115	2
Chlorobenzene	ug/L (ppb)	50	99	102	83-114	3
Ethylbenzene	ug/L (ppb)	50	100	102	77-124	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	120	122	84-127	2
m,p-Xylene	ug/L (ppb)	100	100	104	81-112	4
o-Xylene	ug/L (ppb)	50	101	105	81-121	4
Styrene	ug/L (ppb)	50	102	105	84-119	3
Isopropylbenzene	ug/L (ppb)	50	106	109	80-117	3
Bromoform	ug/L (ppb)	50	112	115	74-136	3
n-Propylbenzene	ug/L (ppb)	50	96	97	74-126	1
Bromobenzene	ug/L (ppb)	50	96	97	80-121	1
1,3,5-Trimethylbenzene	ug/L (ppb)	50	100	102	78-123	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	103	105	66-126	2
1,2,3-Trichloropropane	ug/L (ppb)	50	95	96	67-124	1
2-Chlorotoluene	ug/L (ppb)	50	96	98	77-127	2
4-Chlorotoluene	ug/L (ppb)	50	93	95	78-128	2
tert-Butylbenzene	ug/L (ppb)	50	101	102	80-123	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	100	102	79-122	2
sec-Butylbenzene	ug/L (ppb)	50	99	101	80-116	2
p-Isopropyltoluene	ug/L (ppb)	50	99	100	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	50	95	96	83-113	1
1,4-Dichlorobenzene	ug/L (ppb)	50	92	94	83-107	2
1,2-Dichlorobenzene	ug/L (ppb)	50	98	101	84-112	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	98	100	57-141	2
1,2,4-Trichlorobenzene	ug/L (ppb)	50	98	100	72-130	2
Hexachlorobutadiene	ug/L (ppb)	50	102	104	53-141	2
Naphthalene	ug/L (ppb)	50	99	101	64-133	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	98	100	65-136	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Fremont
Analytical

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Friedman & Bruya
Michael Erdahl
3012 16th Ave. W.
Seattle, WA 98119

RE: 002291
Work Order Number: 2002374

February 28, 2020

Attention Michael Erdahl:

Fremont Analytical, Inc. received 2 sample(s) on 2/21/2020 for the analyses presented in the following report.

Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager



Date: 02/28/2020

CLIENT: Friedman & Bruya
Project: 002291
Work Order: 2002374

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2002374-001	MW-5-021920	02/19/2020 9:15 PM	02/21/2020 9:51 AM
2002374-002	MW-6-021920	02/19/2020 12:00 PM	02/21/2020 9:51 AM

CLIENT: Friedman & Bruya
Project: 002291

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Analytical Report

Work Order: 2002374

Date Reported: 2/28/2020

Client: Friedman & Bruya

Collection Date: 2/19/2020 9:15:00 PM

Project: 002291

Lab ID: 2002374-001

Matrix: Water

Client Sample ID: MW-5-021920

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R57586

Analyst: SS

Total Organic Carbon	4.66	0.500		mg/L	1	2/24/2020 5:54:00 PM
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Analytical Report

Work Order: 2002374
Date Reported: 2/28/2020

Client: Friedman & Bruya

Collection Date: 2/19/2020 12:00:00 PM

Project: 002291

Lab ID: 2002374-002

Matrix: Water

Client Sample ID: MW-6-021920

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R57586 Analyst: SS

Total Organic Carbon	3.64	0.500		mg/L	1	2/24/2020 6:15:00 PM
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Date: 2/28/2020

Work Order: 2002374
CLIENT: Friedman & Bruya
Project: 002291

QC SUMMARY REPORT
Total Organic Carbon by SM 5310C

Sample ID: MB-R57586	SampType: MBLK	Units: mg/L		Prep Date: 2/24/2020	RunNo: 57586
Client ID: MBLKW	Batch ID: R57586	Analysis Date: 2/24/2020		SeqNo: 1149203	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon ND 0.500

Sample ID: LCS-R57586	SampType: LCS	Units: mg/L		Prep Date: 2/24/2020	RunNo: 57586
Client ID: LCSW	Batch ID: R57586	Analysis Date: 2/24/2020		SeqNo: 1149204	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 5.32 0.500 5.000 0 106 88.3 117

Sample ID: 2002338-001ADUP	SampType: DUP	Units: mg/L		Prep Date: 2/24/2020	RunNo: 57586
Client ID: BATCH	Batch ID: R57586	Analysis Date: 2/24/2020		SeqNo: 1149206	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon ND 0.500 0 20

Sample ID: 2002338-001AMS	SampType: MS	Units: mg/L		Prep Date: 2/24/2020	RunNo: 57586
Client ID: BATCH	Batch ID: R57586	Analysis Date: 2/24/2020		SeqNo: 1149207	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 5.30 0.500 5.000 0 106 66 142

Sample ID: 2002338-001AMSD	SampType: MSD	Units: mg/L		Prep Date: 2/24/2020	RunNo: 57586
Client ID: BATCH	Batch ID: R57586	Analysis Date: 2/24/2020		SeqNo: 1149208	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Organic Carbon 5.35 0.500 5.000 0 107 66 142 5.303 0.864 30

Client Name: **FB**
 Logged by: **Clare Griggs**

Work Order Number: **2002374**
 Date Received: **2/21/2020 9:51:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
 2. How was the sample delivered? Courier

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☐ Not Required ☒
 6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
 7. Were all items received at a temperature of >2°C to 6°C * Yes ☒ No ☐ NA ☐
 8. Sample(s) in proper container(s)? Yes ☒ No ☐
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	4.9
Sample	2.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C