Appendix 6

Draft 2017 MS4 Stormwater Annual Report

Water Testing

ACT Report Part 3

Sample Date

April 04, 2017

ANALYTICAL CONSULTING TECHNOLOGY, INC

Certified Laboratory

US EPA CT-021
CT PH-0518
EMail actlabs@sbcglobal.net

168 Railroad Hill St., Waterbury, CT 06708 • (203) 757-3960 • Fax (203) 759-2155
www.actlabs.biz

City of New Haven
Ian Juden, Eng. Dept.
200 Orange St, Rm 503

New Haven, CT 06510

Report Date: 05/26/2017

ACT Number: 2017040017 - 1
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8309
Description:

Sample Date: 04/04/2017
Sample Time: 11:30:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Inorganic					
Ammonia Nitrogen	0.364	mg/L	EPA 350.1	04/06/2017 05:34:00 PM	EAG
Chemical Oxygen Demand	247	mg/L	EPA 410.4	04/07/2017 02:22:00 PM	EAG
MBAS (Surfactants)	0.24	mg/L	SM5540 C	04/06/2017 10:30:00 AM	NS
Nitrite/Nitrate Nitrogens	<0.20	mg/L	EPA 300	04/05/2017 10:00:00 PM	RL
Nitrogen, Total Kjeldahl	1.20	mg/L	SM 4500 Norg	04/19/2017 11:45:00 AM	DJC
pH	7.6	S.U.	SM 4500-H+B	04/04/2017 11:30:00 AM	OD
Phosphorus, Total	0.334	mg/L	SM 4500 -PE	04/17/2017 02:00:00 PM	EAG
Specific Conductance	145	umho/cm	EPA 120.1	04/04/2017 11:30:00 AM	OD
Total Suspended Solids	1635.0	mg/L	SM2540D	04/07/2017 10:00:00 AM	EG
Turbidity	39.9	NTU	EPA 180.1	04/05/2017 04:30:00 PM	NS
Metals					
Hardness	165.1	mg/L	EPA 200.7	04/06/2017 12:37:18 PM	TU
Microbiology					
E-Coli	400	col./100ml	SM9222G	04/04/2017 04:45:00 PM	EG
Enterococcus - 48 Hour	1900	ENT/100ml	SM 9230C	04/04/2017 05:00:00 PM	EG

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Report Date: 05/26/2017

ACT Number: 2017040017 - 1
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8309
Description:

Sample Date: 04/04/2017
Sample Time: 11:30:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Organics					
Oil and Grease	40	mg/L	EPA 1664	04/05/2017 04:00:00 PM	RL
PPCP					
1,7-Dimethyylxanthine	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Acetaminophen	260	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Atenolol	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Azithromycin	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Caffeine	1300	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Carbamazepine	<11	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Continine	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Primidone	<270	ng/L	1694	04/20/2017 10:05:00 PM	ALS
Urobilin	<270	ng/L	1694	04/20/2017 10:05:00 PM	ALS

ACT Number: 2017040017 - 2
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8327
Description:

Sample Date: 04/04/2017
Sample Time: 12:30:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst

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City of New Haven
Ian Juden, Eng. Dept.
200 Orange St, Rm 503

New Haven, CT 06510

Report Date: 05/26/2017

ACT Number: 2017040017 - 2
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8327
Description:

Sample Date: 04/04/2017
Sample Time: 12:30:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Inorganic					
Ammonia Nitrogen	<0.100	mg/L	EPA 350.1	04/06/2017 05:34:00 PM	EAG
Chemical Oxygen Demand	491	mg/L	EPA 410.4	04/07/2017 02:22:00 PM	EAG
MBAS (Surfactants)	0.18	mg/L	SM5540 C	04/06/2017 10:30:00 AM	NS
Nitrite/Nitrate Nitrogens	<0.20	mg/L	EPA 300	04/05/2017 10:22:00 PM	RL
Nitrogen, Total Kjeldahl	1.20	mg/L	SM 4500 Norg	04/19/2017 11:45:00 AM	DJC
pH	7.53	S.U.	SM 4500-H+B	04/04/2017 12:30:00 PM	OD
Phosphorus, Total	0.724	mg/L	SM 4500 -PE	04/17/2017 02:00:00 PM	EAG
Specific Conductance	111	umho/cm	EPA 120.1	04/04/2017 12:30:00 PM	OD
Total Suspended Solids	1436.5	mg/L	SM2540D	04/07/2017 10:00:00 AM	EG
Turbidity	43.8	NTU	EPA 180.1	04/05/2017 04:30:00 PM	NS
Metals					
Hardness	126.8	mg/L	EPA 200.7	04/06/2017 12:37:18 PM	TU
Microbiology					
E-Coli	700	col./100ml	SM9222G	04/04/2017 04:45:00 PM	EG
Enterococcus - 48 Hour	3900	ENT/100ml	SM 9230C	04/04/2017 05:00:00 PM	EG

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New Haven, CT 06510

Report Date: 05/26/2017

ACT Number: 2017040017 - 3
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8422
Description:

Sample Date: 04/04/2017
Sample Time: 10:20:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Inorganic					
Ammonia Nitrogen	0.143	mg/L	EPA 350.1	04/06/2017 05:34:00 PM	EAG
Chemical Oxygen Demand	53.6	mg/L	EPA 410.4	04/07/2017 02:22:00 PM	EAG
MBAS (Surfactants)	0.12	mg/L	SM5540 C	04/06/2017 10:30:00 AM	NS
Nitrite/Nitrate Nitrogens	<0.20	mg/L	EPA 300	04/05/2017 10:44:00 PM	RL
Nitrogen, Total Kjeldahl	0.488	mg/L	SM 4500 Norg	04/19/2017 11:45:00 AM	DJC
pH	6.91	S.U.	SM 4500-H+B	04/04/2017 10:20:00 AM	OD
Phosphorus, Total	0.113	mg/L	SM 4500 -PE	04/17/2017 02:00:00 PM	EAG
Specific Conductance	77	umho/cm	EPA 120.1	04/04/2017 10:20:00 AM	OD
Total Suspended Solids	66.0	mg/L	SM2540D	04/07/2017 10:00:00 AM	EG
Turbidity	23.6	NTU	EPA 180.1	04/05/2017 04:30:00 PM	NS
Metals					
Hardness	6.7	mg/L	EPA 200.7	04/06/2017 12:37:18 PM	TU
Microbiology					
E-Coli	300	col./100ml	SM9222G	04/04/2017 04:45:00 PM	EG
Enterococcus - 48 Hour	2400	ENT/100ml	SM 9230C	04/04/2017 05:00:00 PM	EG

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New Haven, CT 06510

Rep

ACT Number: 2017040017 - 5
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 9278
Description:

Sample Date: 04/04/2017
Sample Time: 13:00:

Laboratory Test	Result	Units	Metho
Organics			
Oil and Grease	3.9	mg/L	EPA 16
PPCP			
1,7-Dimethyylxanthine	<260	ng/L	1694
Acetaminophen	72	ng/L	1694
Atenolol	<260	ng/L	1694
Azithromycin	<260	ng/L	1694
Caffeine	1400	ng/L	1694
Carbamazepine	<10	ng/L	1694
Continine	<260	ng/L	1694
Primidone	<260	ng/L	1694
Urobilin	<260	ng/L	1694

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Report Date: 05/26/2017

ACT Number: 2017040017 - 3
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8422
Description:

Sample Date: 04/04/2017
Sample Time: 10:20:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Organics					
Oil and Grease	3.7	mg/L	EPA 1664	04/05/2017 04:00:00 PM	RL
PPCP					
1,7-Dimethyylxanthine	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Acetaminophen	1300	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Atenolol	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Azithromycin	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Caffeine	1300	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Carbamazepine	<1.0	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Continine	<270	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Primidone	<270	ng/L	1694	04/20/2017 10:05:00 PM	ALS
Urobilin	<270	ng/L	1694	04/20/2017 10:05:00 PM	ALS

ACT Number: 2017040017 - 4
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8399
Description:

Sample Date: 04/04/2017
Sample Time: 11:10:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst

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New Haven, CT 06510

Report Date: 05/26/2017

ACT Number: 2017040017 - 4
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 8399
Description:

Sample Date: 04/04/2017
Sample Time: 11:10:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Inorganic					
Ammonia Nitrogen	4.52	mg/L	EPA 350.1	04/06/2017 05:34:00 PM	EAG
Chemical Oxygen Demand	454	mg/L	EPA 410.4	04/07/2017 02:22:00 PM	EAG
MBAS (Surfactants)	0.12	mg/L	SM5540 C	04/06/2017 10:30:00 AM	NS
Nitrite/Nitrate Nitrogens	<0.20	mg/L	EPA 300	04/06/2017 11:22:00 PM	RL
Nitrogen, Total Kjeldahl	7.24	mg/L	SM 4500 Norg	04/19/2017 11:45:00 AM	DJC
pH	6.38	S.U.	SM 4500-H+B	04/04/2017 01:00:00 PM	OD
Phosphorus, Total	0.193	mg/L	SM 4500 -PE	04/17/2017 02:00:00 PM	EAG
Specific Conductance	1078	umho/cm	EPA 120.1	04/04/2017 01:30:00 AM	OD
Total Suspended Solids	784.5	mg/L	SM2540D	04/07/2017 10:00:00 AM	EG
Turbidity	39.8	NTU	EPA 180.1	04/05/2017 04:30:00 PM	NS
Metals					
Hardness	1241.0	mg/L	EPA 200.7	04/07/2017 02:54:19 PM	TU
Microbiology					
E-Coli	100	col./100ml	SM9222G	04/04/2017 04:45:00 PM	EG
Enterococcus - 48 Hour	1000	ENT/100ml	SM 9230C	04/04/2017 05:00:00 PM	EG

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Sample Type: Grab | Sample Time: 11:10: | Project number
Collected by: O. Diedrich | Sample Matrix: Stormwater
Location/ID: 8399
Description:

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Organics					
Oil and Grease	12	mg/L	EPA 1664	04/05/2017 04:00:00 PM	RL
PPCP					
1,7-Dimethyylxanthine	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Acetaminophen	130	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Atenolol	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Azithromycin	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Caffeine	1500	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Carbamazepine	<10	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Continine	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Primidone	<260	ng/L	1694	04/20/2017 10:05:00 PM	ALS
Urobilin	<260	ng/L	1694	04/20/2017 10:05:00 PM	ALS

ACT Number: 2017040017 - 5 | Sample Date: 04/04/2017 | Date Received: 04/04/2017
Sample Type: Grab | Sample Time: 13:00: | Project number
Collected by: O. Diedrich | Sample Matrix: Stormwater
Location/ID: 9278
Description:

Laboratory Test	Result	Units	Method	Analysis Date	Analyst

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Report Date: 05/26/2017

ACT Number: 2017040017 - 5
Sample Type: Grab
Collected by: O. Diedrich
Location/ID: 9278
Description:

Sample Date: 04/04/2017
Sample Time: 13:00:

Date Received: 04/04/2017
Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Inorganic					
Ammonia Nitrogen	<0.100	mg/L	EPA 350.1	04/06/2017 05:34:00 PM	EAG
Chemical Oxygen Demand	293	mg/L	EPA 410.4	04/07/2017 02:22:00 PM	EAG
MBAS (Surfactants)	<0.02	mg/L	SM5540 C	04/06/2017 10:30:00 AM	NS
Nitrite/Nitrate Nitrogens	<2.0	mg/L	EPA 300	04/06/2017 11:44:00 PM	RL
Nitrogen, Total Kjeldahl	4.52	mg/L	SM 4500 Norg	04/19/2017 11:45:00 AM	DJC
pH	7.63	S.U.	SM 4500-H+B	04/04/2017 01:30:00 PM	OD
Phosphorus, Total	0.082	mg/L	SM 4500 -PE	04/17/2017 02:00:00 PM	EAG
Specific Conductance	37	umho/cm	EPA 120.1	04/04/2017 01:30:00 PM	OD
Total Suspended Solids	386.5	mg/L	SM2540D	04/07/2017 10:00:00 AM	EG
Turbidity	16.3	NTU	EPA 180.1	04/05/2017 04:30:00 PM	NS
Metals					
Hardness	299.9	mg/L	EPA 200.7	04/06/2017 12:37:18 PM	TU
Microbiology					
E-Coli	2400	col./100ml	SM9222G	04/04/2017 04:45:00 PM	EG
Enterococcus - 48 Hour	3000	ENT/100ml	SM 9230C	04/04/2017 05:00:00 PM	EG

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For Analytical Consulting Technology, Inc. _____ 2017040017
Laboratory Director

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Certified Laboratory

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Collected by: O. Diedrich
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Project number
Sample Matrix: Stormwater

Laboratory Test	Result	Units	Method	Analysis Date	Analyst
Organics					
Oil and Grease	3.9	mg/L	EPA 1664	04/05/2017 04:00:00 PM	RL
PPCP					
1,7-Dimethyylxanthine	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Acetaminophen	72	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Atenolol	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Azithromycin	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Caffeine	1400	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Carbamazepine	<10	ng/L	1694	04/20/2017 11:29:00 PM	ALS
Continine	<260	ng/L	1694	04/25/2017 06:41:00 PM	ALS
Primidone	<260	ng/L	1694	04/20/2017 10:05:00 PM	ALS
Urobilin	<260	ng/L	1694	04/20/2017 10:05:00 PM	ALS

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: New Haven

Mailing Address: 200 Orange Street, Room 503, New Haven. Ct. 06510

Contact Person: Ian Juden PE Title: Project Manager

Phone: 203 946-8094 Permit Registration #GSM: 000030

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): No. 109 - Temple & Elm Street

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Outlet 8309

Time of Start of Discharge: 04/04/2017 11:30

Date/Time Collected: 04/04/2017 11:30 Water Temperature: 8.8°C

Person Collecting Sample: O.Diedrich

Storm Magnitude (inches): 0.29" Storm Duration (hours): >12 HRS

Date of Previous Storm Event: 3/31/2017

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500 H+B	7.6 s.u	ACT
Rain pH	SM4500 H+B	7.6 s.u	ACT
Hardness	EPA 200.7	165.1 mg/L	ACT
Conductivity	EPA 120.1	145 umhos	ACT
Oil & Grease	EPA 1664	40 mg/L	ACT
COD	EPA 410.4	247 mg/L	ACT
Turbidity	EPA 180.1	39.9 NTU	ACT
TSS	SM2450D	1635.0 mg/L	ACT
TP	SM 4500 PE	0.334 mg/L	ACT
Ammonia	EPA 350.1	0.364 mg/L	ACT
TKN	SM 4500 Norg	1.20 mg/L	ACT
NO_3+NO_2	EPA 300	<0.20 mg/L	ACT
E. coli	SM9222G	400 col./100ml	ACT

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Giovanni Zinn, PE City Engineer
(Print Name)

Signature: _____ Date: _____

New Haven Special MH4

Location: .Temple & Elm St.
Latitude N 41° 18' 24"
Long W 72° 55' 39"

Order Number 2017040017-1

Catch Basin: Outlet No. 8309 outlet 109

Quarter: 1st 2nd 3rd 4th Year: 2017

Date/Time Collected: 4/4/2017 1130

Date/Time Examined: 4/4/2017 1700

Rainfall Amount: 1.5"

Qualifying Storm? Yes No

Runoff Source: Rainfall Snowmelt

Contact Person: Ian Juden

Examiner (print): Oliver Diedrich

Examiner (sign):

PARAMETER	OBSERVATION	CHARACTERISTICS
Color	Does the storm water appear to be colored? YES NO	Describe:
Odor	Does the sample have an odor? YES NO	Describe:
Clarity	Is the storm water clear or transparent? YES NO	Which best describes the clarity? CLEAR MILKY Slightly CLOUDY
Floating Solids	Is something floating on the surface of the sample? YES NO	Describe: Debris/leaf matter
Settled Solids	Is something settled on the bottom of the sample? YES NO	Describe: Debris
Suspended Solids	Is something suspended in the sample's water column? YES NO	Describe:
Foam	Is there foam or material forming on the top of the sample surface? YES NO	Describe:
Oil Sheen	Can you see a rainbow effect or sheen on the surface? YES NO	Which bests describes the sheen? Rainbow Sheen Floating oil globules Describe:
Ph 7.6 s.u.	8.8 C Temp	145 Conductivity
Turbidity > 999 NTU		

RETAIN THIS FORM WITH SPPP FOR THE PERMIT TERM

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: New Haven

Mailing Address: 200 Orange Street, Room 503, New Haven. Ct. 06510

Contact Person: Ian Juden PE Title: Project Manager

Phone: 203 946-8094 Permit Registration #GSM: 000030

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): No. 109 - Broadway & York St

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Outlet 8327

Time of Start of Discharge: 04/04/2017 11:30

Date/Time Collected: 04/04/2017 11:30 Water Temperature: 9.2°C

Person Collecting Sample: O.Diedrich

Storm Magnitude (inches): 0.29" Storm Duration (hours): >12 HRS

Date of Previous Storm Event: 3/31/2017

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500 H+B	7.53 s.u	ACT
Rain pH	SM4500 H+B	7.53 s.u	ACT
Hardness	EPA 200.7	126.8 mg/L	ACT
Conductivity	EPA 120.1	111 umhos	ACT
Oil & Grease	EPA 1664	14 mg/L	ACT
COD	EPA 410.4	491 mg/L	ACT
Turbidity	EPA 180.1	43.8 NTU	ACT
TSS	SM2450D	1436.5 mg/L	ACT
TP	SM 4500 PE	0.724 mg/L	ACT
Ammonia	EPA 350.1	<0.100 mg/L	ACT
TKN	SM 4500 Norg	1.20 mg/L	ACT
NO_3+NO_2	EPA 300	<0.20 mg/L	ACT
E. coli	SM9222G	700 col./100ml	ACT

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Giovanni Zinn, PE City Engineer
(Print Name)

Signature: _____ Date: _____

New Haven Special MH4

Location: .Broadway & York St.
Latitude N 41° 18' 37"
Long W 72° 55' 49"

Order Number 2017040017-2

Catch Basin: Outlet No. 8327 outlet 109

Quarter: 1st 2nd 3rd 4th Year: 2017

Date/Time Collected: 4/4/2017 1230

Date/Time Examined: 4/4/2017 1700

Rainfall Amount: 1.5"

Qualifying Storm? Yes No

Runoff Source: Rainfall Snowmelt

Contact Person: Ian Juden

Examiner (print): Oliver Diedrich

Examiner (sign): Oliver Diedrich

PARAMETER	OBSERVATION	CHARACTERISTICS
Color	Does the storm water appear to be colored? YES NO	Describe: Lt.Gray
Odor	Does the sample have an odor? YES NO	Describe:
Clarity	Is the storm water clear or transparent? YES NO	Which best describes the clarity? CLEAR MILKY Slightly CLOUDY
Floating Solids	Is something floating on the surface of the sample? YES NO	Describe: Debris/leaf matter
Settled Solids	Is something settled on the bottom of the sample? YES NO	Describe: Debris
Suspended Solids	Is something suspended in the sample's water column? YES NO	Describe:
Foam	Is there foam or material forming on the top of the sample surface? YES NO	Describe:
Oil Sheen	Can you see a rainbow effect or sheen on the surface? YES NO	Which bests describes the sheen? Rainbow Sheen Floating oil globules Describe:
Ph 7.53s.u.	9.2 C Temp	111 Conductivity
Turbidity > 999 NTU		

RETAIN THIS FORM WITH SPPP FOR THE PERMIT TERM

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: New Haven

Mailing Address: 200 Orange Street, Room 503, New Haven. Ct. 06510

Contact Person: Ian Juden PE Title: Project Manager

Phone: 203 946-8094 Permit Registration #GSM: 000030

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): South Frontage & Congress

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Outlet 8422

Time of Start of Discharge: 04/04/2017 11:30

Date/Time Collected: 04/04/2017 11:30 Water Temperature: 9.1°C

Person Collecting Sample: O.Diedrich

Storm Magnitude (inches): 0.29" Storm Duration (hours): >12 HRS

Date of Previous Storm Event: 3/31/2017

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500 H+B	6.91 s.u	ACT
Rain pH	SM4500 H+B	6.91 s.u	ACT
Hardness	EPA 200.7	6.7 mg/L	ACT
Conductivity	EPA 120.1	77 umhos	ACT
Oil & Grease	EPA 1664	3.7 mg/L	ACT
COD	EPA 410.4	53.6 mg/L	ACT
Turbidity	EPA 180.1	23.6 NTU	ACT
TSS	SM2450D	66.0 mg/L	ACT
TP	SM 4500 PE	0.113 mg/L	ACT
Ammonia	EPA 350.1	0.143 mg/L	ACT
TKN	SM 4500 Norg	0.488 mg/L	ACT
NO_3+NO_2	EPA 300	<0.20 mg/L	ACT
E. coli	SM9222G	300 col./100ml	ACT

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Giovanni Zinn, PE City Engineer
(Print Name)

Signature: _____ Date: _____

New Haven Special MH4

Location: .South Frontage & Congress
Latitude N 41° 18' 9"
Long W 72° 55' 6"

Order Number 2017040017-3

Catch Basin: Outlet No. 8422

Quarter: 1st 2nd 3rd 4th Year: 2017

Date/Time Collected: 4/4/2017 1020

Date/Time Examined: 4/4/2017 1700

Rainfall Amount: 1.5"

Qualifying Storm? Yes No

Runoff Source: Rainfall Snowmelt

Contact Person: Ian Juden

Examiner (print): Oliver Diedrich

Examiner (sign): Oliver Diedrich

PARAMETER	OBSERVATION	CHARACTERISTICS
Color	Does the storm water appear to be colored? YES NO	Describe: Lt.Gray
Odor	Does the sample have an odor? YES NO	Describe:
Clarity	Is the storm water clear or transparent? YES NO	Which best describes the clarity? CLEAR MILKY Slightly CLOUDY
Floating Solids	Is something floating on the surface of the sample? YES NO	Describe: Debris/leaf matter
Settled Solids	Is something settled on the bottom of the sample? YES NO	Describe: Debris
Suspended Solids	Is something suspended in the sample's water column? YES NO	Describe:
Foam	Is there foam or material forming on the top of the sample surface? YES NO	Describe:
Oil Sheen	Can you see a rainbow effect or sheen on the surface? YES NO	Which bests describes the sheen? Rainbow Sheen Floating oil globules Describe:
Ph 6.91 s.u.	9.1 C Temp	77 Conductivity
Turbidity > 999 NTU		

RETAIN THIS FORM WITH SPPP FOR THE PERMIT TERM

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

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BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: New Haven

Mailing Address: 200 Orange Street, Room 503, New Haven, Ct. 06510

Contact Person: Ian Juden PE Title: Project Manager

Phone: 203 946-8094 Permit Registration #GSM: 000030

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): George & Temple Street

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Outlet 8399

Time of Start of Discharge: 04/04/2017 11:30

Date/Time Collected: 04/04/2017 11:30 Water Temperature: 7.8°C

Person Collecting Sample: O.Diedrich

Storm Magnitude (inches): 0.29" Storm Duration (hours): >12 HRS

Date of Previous Storm Event: 3/31/2017

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500 H+B	6.38 s.u	ACT
Rain pH	SM4500 H+B	6.38 s.u	ACT
Hardness	EPA 200.7	1241.0 mg/L	ACT
Conductivity	EPA 120.1	1078 umhos	ACT
Oil & Grease	EPA 1664	12.0 mg/L	ACT
COD	EPA 410.4	454 mg/L	ACT
Turbidity	EPA 180.1	39.8 NTU	ACT
TSS	SM2450D	784.5 mg/L	ACT
TP	SM 4500 PE	0.193 mg/L	ACT
Ammonia	EPA 350.1	4.52 mg/L	ACT
TKN	SM 4500 Norg	7.24 mg/L	ACT
NO_3+NO_2	EPA 300	<0.20 mg/L	ACT
E. coli	SM9222G	100 col./100ml	ACT

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Giovanni Zinn, PE City Engineer
(Print Name)

Signature: _____ Date: _____

New Haven Special MH4

Location: .George & Temple St.
Latitude N 41° 18' 23"
Long W 72° 55' 38"

Order Number 2017040017-4

Catch Basin: Outlet No. 8399

Quarter: 1st 2nd 3rd 4th Year: 2017

Date/Time Collected: 4/4/2017 1300

Date/Time Examined: 4/4/2017 1700

Rainfall Amount: 1.5"

Qualifying Storm? Yes No

Runoff Source: Rainfall Snowmelt

Contact Person: Ian Juden

Examiner (print): Oliver Diedrich

Examiner (sign): Oliver Diedrich

PARAMETER	OBSERVATION	CHARACTERISTICS
Color	Does the storm water appear to be colored? YES NO	Describe: Dk..Gray
Odor	Does the sample have an odor? YES NO	Describe: garbage
Clarity	Is the storm water clear or transparent? YES NO	Which best describes the clarity? CLEAR MILKY CLOUDY
Floating Solids	Is something floating on the surface of the sample? YES NO	Describe: Debris/leaf matter
Settled Solids	Is something settled on the bottom of the sample? YES NO	Describe: Debris
Suspended Solids	Is something suspended in the sample's water column? YES NO	Describe:
Foam	Is there foam or material forming on the top of the sample surface? YES NO	Describe:
Oil Sheen	Can you see a rainbow effect or sheen on the surface? YES NO	Which bests describes the sheen? Rainbow Sheen Floating oil globules Describe:
Ph 6.38 s.u.	7.8 C Temp	1078 Conductivity
Turbidity > 999 NTU		

RETAIN THIS FORM WITH SPPP FOR THE PERMIT TERM

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

PERMITTEE INFORMATION

Town: New Haven

Mailing Address: 200 Orange Street, Room 503, New Haven. Ct. 06510

Contact Person: Ian Juden PE Title: Project Manager

Phone: 203 946-8094 Permit Registration #GSM: 000030

SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): Coldspring & Orange Street

Please check the appropriate area description: ☐ Industrial ☐ Commercial ☒ Residential

Receiving Water (name, basin): Outlet 9278

Time of Start of Discharge: 04/04/2017 13:30

Date/Time Collected: 04/04/2017 13:30 Water Temperature: 9.1°C

Person Collecting Sample: O.Diedrich

Storm Magnitude (inches): 0.29" Storm Duration (hours): >12 HRS

Date of Previous Storm Event: 3/31/2017

MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM4500 H+B	7.63 s.u	ACT
Rain pH	SM4500 H+B	7.63 s.u	ACT
Hardness	EPA 200.7	299.9 mg/L	ACT
Conductivity	EPA 120.1	37 umhos	ACT
Oil & Grease	EPA 1664	3.9 mg/L	ACT
COD	EPA 410.4	293 mg/L	ACT
Turbidity	EPA 180.1	16.3 NTU	ACT
TSS	SM2450D	386.5 mg/L	ACT
TP	SM 4500 PE	0.082 mg/L	ACT
Ammonia	EPA 350.1	<0.100 mg/L	ACT
TKN	SM 4500 Norg	4.52 mg/L	ACT
NO_3+NO_2	EPA 300	<2.0 mg/L	ACT
E. coli	SM9222G	2400 col./100ml	ACT

STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Giovanni Zinn, PE City Engineer
(Print Name)

Signature: _____ Date: _____

New Haven Special MH4

Location: .Coldspring & Orange St.
Latitude N 41° 18' 28"
Long W 72° 55' 37"

Order Number 2017040017-5

Catch Basin: Outlet No. 9278

Quarter: 1st 2nd 3rd 4th Year: 2017

Date/Time Collected: 4/4/2017 1330

Date/Time Examined: 4/4/2017 1700

Rainfall Amount: 1.5"

Qualifying Storm? Yes No

Runoff Source: Rainfall Snowmelt

Contact Person: Ian Juden

Examiner (print): Oliver Diedrich

Examiner (sign): Oli Diedrich

PARAMETER	OBSERVATION	CHARACTERISTICS
Color	Does the storm water appear to be colored? YES NO	Describe:
Odor	Does the sample have an odor? YES NO	Describe:
Clarity	Is the storm water clear or transparent? YES NO	Which best describes the clarity? CLEAR MILKY CLOUDY
Floating Solids	Is something floating on the surface of the sample? YES NO	Describe: Debris/leaf matter
Settled Solids	Is something settled on the bottom of the sample? YES NO	Describe: Debris
Suspended Solids	Is something suspended in the sample's water column? YES NO	Describe:
Foam	Is there foam or material forming on the top of the sample surface? YES NO	Describe:
Oil Sheen	Can you see a rainbow effect or sheen on the surface? YES NO	Which bests describes the sheen? Rainbow Sheen Floating oil globules Describe:
Ph 7.63 s.u.	9.1 C Temp	37 Conductivity
Turbidity 325 NTU		

RETAIN THIS FORM WITH SPPP FOR THE PERMIT TERM

Analytical Consulting Technology, Inc.

168 Railroad Hill Street, Waterbury, CT 06708 (203)757-3960

2017040017-1

WW SS DW GW MAT

Client Name: NEW HAVEN

Client Phone: _____

Client Contact: IAN JOHN

Client Address: _____

Account Number : 005545

Purchase Order #: _____

Sample Number	Location	Container Number	Container Preservative	Sample Matrix	Date of Sample	Sample Time	Composite or Grab	Analysis Required		Test Group
	8307	8	HNO3	SW	4/4	1130	G	NH3, COD, mBAS, NOX, TKN, P, TSS		
	8371					1230		METALS HARDNESS, F, COLI		
	8422					1026		ENTEROCCI, DRO		
	8399		H2SO4			1110		PPCP		
	9278	8				1300	G			

Note: It is the client's responsibility to verify all information on this chain of custody.

Containers: Non Preserve 1000=10NP,500=50NP,250=25NP,125=12NP, Nitric Acid 1000=10NA,500=50NA,250=25NA,125=12NA
Sodium Hydroxide 500=50SH,250=25SH,125=12SH Sulfuric(Plastic) 1000=10SP,500=50SP,250=25SP
Sulfuric Glass 100SG,Baked Glass 1000BG, Sterile Cup = S, Vials = 40ml = VOA, Phenols 1000=P

Sampler Signature	Time	Date	Relinquished By:	Accepted By:	Date	Time
MATT DIEDRICH	11-1330	4/4			4/4	1630

Log in Custodian DD Date 4/4/17

Cooler Temp <10°C 3.8

H2SO4 pH <2 ✓ HNO3 pH <2 ✓

NaOH pH >11 ____

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

May 02, 2017

Analytical Report for Service Request No: K1703369

Ms. Jean Noga
Analytical Consulting Technology, Inc (ACT Labs)
168 Railroad Hill St
Waterbury, CT 06708

RE: PPCP - Storm water samples

Dear Ms.Noga,

Enclosed are the results of the sample(s) submitted to our laboratory April 06, 2017
For your reference, these analyses have been assigned our service request number **K1703369.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3356. You may also contact me via email at Kurt.Clarkson@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kurt Clarkson
Client Services
Manager

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS Environmental

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client:	Analytical Consulting Technology, Inc.	**Service Request No.:**	K1703369
Project:	PPCP - Storm water samples	**Date Received:**	04/06/17
Sample Matrix:	Water		

Case Narrative

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

Sample Receipt

Five water samples were received for analysis at ALS Environmental on 04/06/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Steroids and Endocrine Disrupting Compounds by Method 1694

Holding Time Exceptions:
The extraction of all field samples was started within the preparation holding time. Due to high levels of particulate present in the sample matrix, samples 2017040017-2 and 2017040017-5 required an extended amount of time to load onto the solid phase extraction media. A minority of the sample volume (less than approximately 30%) for these samples loaded onto the solid phase extraction media one day past the preparation holding time. No additional corrective action was feasible.

Surrogate Exceptions:
The surrogate recovery of Atenolol-d7 in Method Blank KQ1704131-03 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recovery observed was in the range expected for this procedure. No further corrective action was taken.

The surrogate recovery of Atenolol-d7 in Lab Control Sample (LCS) KQ1704131-01 and Duplicate Lab Control Sample (DLCS) KQ1704131-02 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. The spike recoveries of the associated native analyte Atenolol were within acceptance limits, which confirmed the analysis was in control. No further corrective action was taken.

Lab Control Sample Exceptions:
The spike recovery of Urobilin in Lab Control Sample (LCS) KQ1704131-01 and Duplicate Lab Control Sample (DLCS) KQ1704131-02 was outside the control limits listed in the results summary. The limits are default values temporarily in use until sufficient data points are generated to calculate statistical control limits. Based on the method and historic data, the recoveries observed were in the range expected for this procedure. No further corrective action was taken.

Approved by Kent Claussen

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Urobilin in the replicate Laboratory Control Sample (LCS) analyses (LCS KQ1704131-01 and DLCS KQ1704131-02) was outside control criteria. The associated spike recoveries were within the range expected for this procedure, which indicated the analysis was in control. No further corrective action was taken.

Elevated Detection Limits:
All field samples required dilution due to matrix interferences that caused suppression of the instrument internal standard. The detection limits were adjusted to reflect the dilution.

Samples 2017040017-2 and 2017040017-3 required dilution due to the presence of elevated levels of Acetaminophen and/or Caffeine. The reporting limits were adjusted to reflect the dilution.

No other anomalies associated with the analysis of these samples were observed.

Approved by 

ALS Environmental

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Columbia Analytical Services
800.695.7222
www.caslab.com

CHAIN of CUSTODY

Page 1 of 1

Client: Analytical Consulting
1168 Railroad Hill
Waterbury CT 06708

Project Manager: Jean Noga

Project:

Telephone No.:

Fax No.:

Method of Shipment:

Special Detection Limit/Reporting:

Sample I.D.	Lab Sample No.	No. of Containers	Matrix: Soil	Water	Air	Other	Prsv.: Yes	No	Sampling Date	Sampling Time	DEPP	Turn Around Time (working days)
20170400 17-1				X			4/4/17		4/4/17	1130	X	
20170400 17-2				X					4/4/17	1230	X	
20170400 17-3				X					4/4/17	1020	X	
20170400 17-4				X					4/4/17	1110	X	
20170400 17-5				X					4/4/17	1300	X	

MARKS

Sample Received Intact: Yes No

Temperature received: Ice No ice

Relinq. by sampler (Sign & Print Name)	Date	Time	Received by (Sign & Print Name)
J. Noga	4/5/17	210	
Relinquished by	4/6/17	1000	Received by
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by laboratory

Lab Work No.: K1703369

PC KC

Cooler Receipt and Preservation Form

Client Analytical Cons. Service Request K17 63369

Received: 4/6/17 Opened: 4/6/17 By: [illegible] Unloaded: 4/6/17 By: [illegible]

1. Samples were received via? *USPS* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
2.9	2.8	—	.	-0.1	377		1Z X47 402 01 0X5 462 7	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

7/25/16 *Page* ____ *of* ____

ALS Environmental

Steroids and Endocrine Disrupting Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	04/04/17 11:30
Sample Matrix:	Water	**Date Received:**	04/06/17 10:00
Sample Name:	2017040017-1	**Units:**	ng/L
Lab Code:	K1703369-001	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	**260**	53	10	04/20/17 22:05	4/11/17	
Caffeine	**1300**	21	10	04/20/17 22:05	4/11/17	
Carbamazepine	ND U	11	10	04/20/17 22:05	4/11/17	
Atenolol	ND U	270	50	04/25/17 05:51	4/11/17	
Cotinine	ND U	270	50	04/25/17 11:32	4/11/17	
Azithromycin	ND U	270	50	04/25/17 05:51	4/11/17	
Primidone	ND U	270	50	04/25/17 05:51	4/11/17	
Urobilin	ND U	270	50	04/25/17 05:51	4/11/17	*
1,7-Dimethylxanthine	ND U	270	50	04/25/17 05:51	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	83	10 - 179	04/20/17 22:05	
Caffeine-trimethyl-13C3	123	22 - 146	04/20/17 22:05	
Carbamazepine-d10	73	28 - 171	04/20/17 22:05	
Atenolol-d7	38	30 - 130	04/25/17 05:51	
Cotinine-d3	5	5 - 145	04/25/17 11:32	

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	04/04/17 12:30
Sample Matrix:	Water	**Date Received:**	04/06/17 10:00
Sample Name:	2017040017-2	**Units:**	ng/L
Lab Code:	K1703369-002	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	**450**	52	10	04/20/17 22:26	4/11/17	
Caffeine	**5800**	100	50	04/24/17 22:10	4/11/17	
Carbamazepine	ND U	10	10	04/20/17 22:26	4/11/17	
Atenolol	ND U	110	20	04/25/17 06:54	4/11/17	
Cotinine	**250**	110	20	04/25/17 06:54	4/11/17	
Azithromycin	ND U	110	20	04/25/17 06:54	4/11/17	
Primidone	ND U	110	20	04/25/17 06:54	4/11/17	
Urobilin	ND U	110	20	04/25/17 06:54	4/11/17	*
1,7-Dimethylxanthine	**310**	110	20	04/25/17 06:54	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	78	10 - 179	04/20/17 22:26	
Caffeine-trimethyl-13C3	70	22 - 146	04/24/17 22:10	
Carbamazepine-d10	62	28 - 171	04/20/17 22:26	
Atenolol-d7	50	30 - 130	04/25/17 06:54	
Cotinine-d3	14	5 - 145	04/25/17 06:54	

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	04/04/17 10:20
Sample Matrix:	Water	**Date Received:**	04/06/17 10:00
Sample Name:	2017040017-3	**Units:**	ng/L
Lab Code:	K1703369-003	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	**1300**	52	10	04/20/17 22:47	4/11/17	
Caffeine	**1300**	21	10	04/20/17 22:47	4/11/17	
Carbamazepine	ND U	1.0	1	04/20/17 15:49	4/11/17	
Atenolol	ND U	270	50	04/25/17 06:16	4/11/17	
Cotinine	ND U	270	50	04/25/17 06:16	4/11/17	
Azithromycin	ND U	270	50	04/25/17 06:16	4/11/17	
Primidone	ND U	270	50	04/25/17 06:16	4/11/17	
Urobilin	ND U	270	50	04/25/17 06:16	4/11/17	*
1,7-Dimethylxanthine	ND U	270	50	04/25/17 06:16	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	60	10 - 179	04/20/17 22:47	
Caffeine-trimethyl-13C3	98	22 - 146	04/20/17 22:47	
Carbamazepine-d10	125	28 - 171	04/20/17 15:49	
Atenolol-d7	32	30 - 130	04/25/17 06:16	
Cotinine-d3	7	5 - 145	04/25/17 06:16	

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	04/04/17 11:10
Sample Matrix:	Water	**Date Received:**	04/06/17 10:00
Sample Name:	2017040017-4	**Units:**	ng/L
Lab Code:	K1703369-004	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	**130**	52	10	04/20/17 23:08	4/11/17	
Caffeine	**1500**	21	10	04/20/17 23:08	4/11/17	
Carbamazepine	ND U	10	10	04/20/17 23:08	4/11/17	
Atenolol	ND U	260	50	04/25/17 06:29	4/11/17	
Cotinine	ND U	260	50	04/25/17 06:29	4/11/17	
Azithromycin	ND U	260	50	04/25/17 06:29	4/11/17	
Primidone	ND U	260	50	04/25/17 06:29	4/11/17	
Urobilin	ND U	260	50	04/25/17 06:29	4/11/17	*
1,7-Dimethylxanthine	ND U	260	50	04/25/17 06:29	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	101	10 - 179	04/20/17 23:08	
Caffeine-trimethyl-13C3	100	22 - 146	04/20/17 23:08	
Carbamazepine-d10	95	28 - 171	04/20/17 23:08	
Atenolol-d7	95	30 - 130	04/25/17 06:29	
Cotinine-d3	9	5 - 145	04/25/17 06:29	

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	04/04/17 13:00
Sample Matrix:	Water	**Date Received:**	04/06/17 10:00
Sample Name:	2017040017-5	**Units:**	ng/L
Lab Code:	K1703369-005	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	**72**	51	10	04/20/17 23:29	4/11/17	
Caffeine	**1400**	20	10	04/20/17 23:29	4/11/17	
Carbamazepine	ND U	10	10	04/20/17 23:29	4/11/17	
Atenolol	ND U	260	50	04/25/17 06:41	4/11/17	
Cotinine	ND U	260	50	04/25/17 06:41	4/11/17	
Azithromycin	ND U	260	50	04/25/17 06:41	4/11/17	
Primidone	ND U	260	50	04/25/17 06:41	4/11/17	
Urobilin	ND U	260	50	04/25/17 06:41	4/11/17	*
1,7-Dimethylxanthine	ND U	260	50	04/25/17 06:41	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	83	10 - 179	04/20/17 23:29	
Caffeine-trimethyl-13C3	80	22 - 146	04/20/17 23:29	
Carbamazepine-d10	89	28 - 171	04/20/17 23:29	
Atenolol-d7	30	30 - 130	04/25/17 06:41	
Cotinine-d3	8	5 - 145	04/25/17 06:41	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Analytical Consulting Technology, Inc (ACT Labs)	**Service Request:**	K1703369
Project:	PPCP - Storm water samples	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KQ1704131-03	**Basis:**	NA

Steroids and Endocrine Disrupting Compounds

Analysis Method: 1694
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Acetaminophen	ND U	5.0	1	04/20/17 14:46	4/11/17	
Caffeine	2.1	2.0	1	04/20/17 14:46	4/11/17	
Carbamazepine	ND U	1.0	1	04/20/17 14:46	4/11/17	
Atenolol	ND U	5.0	1	04/25/17 05:38	4/11/17	
Cotinine	ND U	5.0	1	04/25/17 05:38	4/11/17	
Azithromycin	ND U	5.0	1	04/25/17 05:38	4/11/17	
Primidone	ND U	5.0	1	04/25/17 05:38	4/11/17	
Urobilin	ND U	5.0	1	04/25/17 05:38	4/11/17	
1,7-Dimethylxanthine	ND U	5.0	1	04/25/17 05:38	4/11/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Acetaminophen-C13	73	10 - 179	04/20/17 14:46	
Caffeine-trimethyl-13C3	97	22 - 146	04/20/17 14:46	
Carbamazepine-d10	101	28 - 171	04/20/17 14:46	
Atenolol-d7	9	30 - 130	04/25/17 05:38	*
Cotinine-d3	7	5 - 145	04/25/17 05:38	