

May 11, 2017

Cordel Schmidt  
Weston Solutions  
1435 Garrison Street  
Suite 100  
Denver, CO 80215

RE: Project: BNSF Somer  
Pace Project No.: 10387826

Dear Cordel Schmidt:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kang Khang  
kang.khang@pacelabs.com  
406-384-0561  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: BNSF Somer

Pace Project No.: 10387826

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### Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: UST-078

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas Certification #: 88-0680

California Certification #: MN00064

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia WW Certification #: 382

Wisconsin Certification #: 999407970

Wyoming via EPA Region 8 Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: BNSF Somer

Pace Project No.: 10387826

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10387826001	BNSF-SW-01-050517	Water	05/05/17 14:24	05/06/17 09:00
10387826002	BNSF-SW-02-050517	Water	05/05/17 15:10	05/06/17 09:00
10387826003	BNSF-TB-01-050517	Water	05/05/17 12:00	05/06/17 09:00

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## SAMPLE ANALYTE COUNT

Project: BNSF Somer

Pace Project No.: 10387826

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10387826001	BNSF-SW-01-050517	EPA 8015C Modified	MT	3	PASI-M
		EPA 8015C	AJK	2	PASI-M
		EPA 8270D	JLR	72	PASI-M
		EPA 8260B	DJB	72	PASI-M
		EPA 1664A OG	AR3	1	PASI-M
10387826002	BNSF-SW-02-050517	EPA 8015C Modified	MT	3	PASI-M
		EPA 8015C	AJK	2	PASI-M
		EPA 8270D	JLR	72	PASI-M
		EPA 8260B	DJB	72	PASI-M
		EPA 1664A OG	AR3	1	PASI-M
10387826003	BNSF-TB-01-050517	EPA 8260B	PRD	72	PASI-M

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-01-050517		Lab ID: 10387826001		Collected: 05/05/17 14:24		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8015C GCS THC-Diesel		Analytical Method: EPA 8015C Modified Preparation Method: EPA Mod. 3510C							
TPH-DRO (C10-C28)	1.4	mg/L	0.027	1	05/09/17 13:33	05/10/17 10:49			
Surrogates									
o-Terphenyl (S)	82	%.	75-125	1	05/09/17 13:33	05/10/17 10:49	84-15-1		
n-Triacontane (S)	84	%.	60-125	1	05/09/17 13:33	05/10/17 10:49	638-68-6		
8015C GCV GRO		Analytical Method: EPA 8015C							
Gasoline Range Organics	ND	ug/L	100	1		05/08/17 20:05			
Surrogates									
a,a,a-Trifluorotoluene (S)	77	%.	75-125	1		05/08/17 20:05	98-08-8		
8270D MSSV		Analytical Method: EPA 8270D Preparation Method: EPA 3520							
Phenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	111-44-4		
2-Chlorophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	95-57-8		
1,3-Dichlorobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	106-46-7		
1,2-Dichlorobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	95-50-1		
2-Methylphenol(o-Cresol)	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	108-60-1		
3&4-Methylphenol(m&p Cresol)	ND	ug/L	22.5	1	05/09/17 11:07	05/10/17 17:53			
N-Nitroso-di-n-propylamine	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	621-64-7		
Hexachloroethane	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	67-72-1		
Nitrobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	98-95-3		
Isophorone	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	78-59-1		
2-Nitrophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	88-75-5		
2,4-Dimethylphenol	ND	ug/L	56.2	1	05/09/17 11:07	05/10/17 17:53	105-67-9		
bis(2-Chloroethoxy)methane	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	111-91-1		
2,4-Dichlorophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	120-82-1		
Naphthalene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	91-20-3		
4-Chloroaniline	ND	ug/L	56.2	1	05/09/17 11:07	05/10/17 17:53	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	87-68-3		
4-Chloro-3-methylphenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	59-50-7		
2-Methylnaphthalene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	91-57-6		
2,4,6-Trichlorophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	88-06-2		
2,4,5-Trichlorophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	95-95-4		
2-Chloronaphthalene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	91-58-7		
2-Nitroaniline	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	88-74-4		
Dimethylphthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	131-11-3		
Acenaphthylene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	208-96-8		
2,6-Dinitrotoluene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	606-20-2		
3-Nitroaniline	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	99-09-2		
Acenaphthene	35.1	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	83-32-9		
2,4-Dinitrophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	51-28-5		
4-Nitrophenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	100-02-7		
Dibenzofuran	15.1	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	132-64-9		
2,4-Dinitrotoluene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	121-14-2		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-01-050517 Lab ID: 10387826001 Collected: 05/05/17 14:24 Received: 05/06/17 09:00 Matrix: Water								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV</b> Analytical Method: EPA 8270D Preparation Method: EPA 3520								
Diethylphthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	84-66-2	
4-Chlorophenylphenyl ether	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	7005-72-3	
Fluorene	20.4	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	86-73-7	
4-Nitroaniline	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	100-01-6	
4,6-Dinitro-2-methylphenol	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	86-30-6	
4-Bromophenylphenyl ether	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	101-55-3	
Hexachlorobenzene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	118-74-1	
Pentachlorophenol	ND	ug/L	22.5	1	05/09/17 11:07	05/10/17 17:53	87-86-5	
Phenanthrene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	85-01-8	
Anthracene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	120-12-7	
Di-n-butylphthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	84-74-2	
Fluoranthene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	206-44-0	
Pyrene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	129-00-0	
Butylbenzylphthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	85-68-7	
3,3'-Dichlorobenzidine	ND	ug/L	56.2	1	05/09/17 11:07	05/10/17 17:53	91-94-1	
Benzo(a)anthracene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	56-55-3	
Chrysene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	117-81-7	
Di-n-octylphthalate	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	117-84-0	
Benzo(b)fluoranthene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	205-99-2	
Benzo(k)fluoranthene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	207-08-9	
Benzo(a)pyrene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	50-32-8	
Indeno(1,2,3-cd)pyrene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	193-39-5	
Dibenz(a,h)anthracene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	53-70-3	
Benzo(g,h,i)perylene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	191-24-2	
N-Nitrosodimethylamine	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	62-75-9	
1,2-Diphenylhydrazine	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	122-66-7	
Carbazole	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	86-74-8	
1-Methylnaphthalene	ND	ug/L	11.2	1	05/09/17 11:07	05/10/17 17:53	90-12-0	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	78	%.	44-125	1	05/09/17 11:07	05/10/17 17:53	4165-60-0	
2-Fluorobiphenyl (S)	90	%.	30-125	1	05/09/17 11:07	05/10/17 17:53	321-60-8	
p-Terphenyl-d14 (S)	89	%.	31-125	1	05/09/17 11:07	05/10/17 17:53	1718-51-0	
Phenol-d6 (S)	71	%.	59-125	1	05/09/17 11:07	05/10/17 17:53	13127-88-3	
2-Fluorophenol (S)	66	%.	49-125	1	05/09/17 11:07	05/10/17 17:53	367-12-4	
2,4,6-Tribromophenol (S)	105	%.	66-125	1	05/09/17 11:07	05/10/17 17:53	118-79-6	

### 8260B MSV

Analytical Method: EPA 8260B

Acetone	ND	ug/L	200	10		05/10/17 23:04	67-64-1	
Allyl chloride	ND	ug/L	40.0	10		05/10/17 23:04	107-05-1	
Benzene	ND	ug/L	10.0	10		05/10/17 23:04	71-43-2	
Bromobenzene	ND	ug/L	10.0	10		05/10/17 23:04	108-86-1	
Bromochloromethane	ND	ug/L	10.0	10		05/10/17 23:04	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	10		05/10/17 23:04	75-27-4	
Bromoform	ND	ug/L	40.0	10		05/10/17 23:04	75-25-2	
Bromomethane	ND	ug/L	40.0	10		05/10/17 23:04	74-83-9	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-01-050517		Lab ID: 10387826001		Collected: 05/05/17 14:24		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
2-Butanone (MEK)	ND	ug/L	50.0	10		05/10/17 23:04	78-93-3		
n-Butylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	104-51-8		
sec-Butylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	135-98-8		
tert-Butylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	98-06-6		
Carbon tetrachloride	ND	ug/L	10.0	10		05/10/17 23:04	56-23-5		
Chlorobenzene	ND	ug/L	10.0	10		05/10/17 23:04	108-90-7		
Chloroethane	ND	ug/L	10.0	10		05/10/17 23:04	75-00-3		
Chloroform	ND	ug/L	10.0	10		05/10/17 23:04	67-66-3		
Chloromethane	ND	ug/L	40.0	10		05/10/17 23:04	74-87-3		
2-Chlorotoluene	ND	ug/L	10.0	10		05/10/17 23:04	95-49-8		
4-Chlorotoluene	ND	ug/L	10.0	10		05/10/17 23:04	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	40.0	10		05/10/17 23:04	96-12-8	L2	
Dibromochloromethane	ND	ug/L	10.0	10		05/10/17 23:04	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	10.0	10		05/10/17 23:04	106-93-4		
Dibromomethane	ND	ug/L	40.0	10		05/10/17 23:04	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	10.0	10		05/10/17 23:04	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	10.0	10		05/10/17 23:04	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	10.0	10		05/10/17 23:04	106-46-7		
Dichlorodifluoromethane	ND	ug/L	10.0	10		05/10/17 23:04	75-71-8		
1,1-Dichloroethane	ND	ug/L	10.0	10		05/10/17 23:04	75-34-3		
1,2-Dichloroethane	ND	ug/L	10.0	10		05/10/17 23:04	107-06-2		
1,1-Dichloroethene	ND	ug/L	10.0	10		05/10/17 23:04	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	10.0	10		05/10/17 23:04	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	10.0	10		05/10/17 23:04	156-60-5		
Dichlorofluoromethane	ND	ug/L	10.0	10		05/10/17 23:04	75-43-4		
1,2-Dichloropropane	ND	ug/L	40.0	10		05/10/17 23:04	78-87-5		
1,3-Dichloropropane	ND	ug/L	10.0	10		05/10/17 23:04	142-28-9		
2,2-Dichloropropane	ND	ug/L	40.0	10		05/10/17 23:04	594-20-7		
1,1-Dichloropropene	ND	ug/L	10.0	10		05/10/17 23:04	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	40.0	10		05/10/17 23:04	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	40.0	10		05/10/17 23:04	10061-02-6		
Diethyl ether (Ethyl ether)	ND	ug/L	40.0	10		05/10/17 23:04	60-29-7		
Ethylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	10.0	10		05/10/17 23:04	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	10.0	10		05/10/17 23:04	98-82-8		
p-Isopropyltoluene	ND	ug/L	10.0	10		05/10/17 23:04	99-87-6		
Methylene Chloride	ND	ug/L	40.0	10		05/10/17 23:04	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	50.0	10		05/10/17 23:04	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	10.0	10		05/10/17 23:04	1634-04-4		
Naphthalene	1110	ug/L	40.0	10		05/10/17 23:04	91-20-3		
n-Propylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	103-65-1		
Styrene	ND	ug/L	10.0	10		05/10/17 23:04	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	10.0	10		05/10/17 23:04	630-20-6	L2	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	10		05/10/17 23:04	79-34-5		
Tetrachloroethene	ND	ug/L	10.0	10		05/10/17 23:04	127-18-4		
Tetrahydrofuran	ND	ug/L	100	10		05/10/17 23:04	109-99-9		
Toluene	ND	ug/L	10.0	10		05/10/17 23:04	108-88-3		

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-01-050517		Lab ID: 10387826001		Collected: 05/05/17 14:24		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
1,2,3-Trichlorobenzene	ND	ug/L	40.0	10		05/10/17 23:04	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	40.0	10		05/10/17 23:04	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	10.0	10		05/10/17 23:04	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	10.0	10		05/10/17 23:04	79-00-5		
Trichloroethene	ND	ug/L	4.0	10		05/10/17 23:04	79-01-6		
Trichlorofluoromethane	ND	ug/L	10.0	10		05/10/17 23:04	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	40.0	10		05/10/17 23:04	96-18-4		
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10.0	10		05/10/17 23:04	76-13-1		
1,2,4-Trimethylbenzene	12.0	ug/L	10.0	10		05/10/17 23:04	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	10.0	10		05/10/17 23:04	108-67-8		
Vinyl chloride	ND	ug/L	2.0	10		05/10/17 23:04	75-01-4		
Xylene (Total)	ND	ug/L	30.0	10		05/10/17 23:04	1330-20-7		
m&p-Xylene	ND	ug/L	20.0	10		05/10/17 23:04	179601-23-1		
o-Xylene	11.2	ug/L	10.0	10		05/10/17 23:04	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%.	75-137	10		05/10/17 23:04	17060-07-0		
Toluene-d8 (S)	95	%.	75-125	10		05/10/17 23:04	2037-26-5		
4-Bromofluorobenzene (S)	102	%.	75-125	10		05/10/17 23:04	460-00-4		
1664 HEM, Oil and Grease		Analytical Method: EPA 1664A OG							
Oil and Grease	ND	mg/L	5.1	1		05/09/17 14:56			

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-02-050517		Lab ID: 10387826002		Collected: 05/05/17 15:10		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8015C GCS THC-Diesel		Analytical Method: EPA 8015C Modified    Preparation Method: EPA Mod. 3510C							
TPH-DRO (C10-C28)	0.49	mg/L	0.026	1	05/09/17 13:33	05/10/17 11:00			
Surrogates									
o-Terphenyl (S)	84	%.	75-125	1	05/09/17 13:33	05/10/17 11:00	84-15-1		
n-Triacontane (S)	81	%.	60-125	1	05/09/17 13:33	05/10/17 11:00	638-68-6		
8015C GCV GRO		Analytical Method: EPA 8015C							
Gasoline Range Organics	ND	ug/L	100	1		05/08/17 20:26			
Surrogates									
a,a,a-Trifluorotoluene (S)	77	%.	75-125	1		05/08/17 20:26	98-08-8		
8270D MSSV		Analytical Method: EPA 8270D    Preparation Method: EPA 3520							
Phenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	111-44-4		
2-Chlorophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	95-57-8		
1,3-Dichlorobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	106-46-7		
1,2-Dichlorobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	95-50-1		
2-Methylphenol(o-Cresol)	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	108-60-1		
3&4-Methylphenol(m&p Cresol)	ND	ug/L	20.7	1	05/09/17 11:07	05/10/17 18:25			
N-Nitroso-di-n-propylamine	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	621-64-7		
Hexachloroethane	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	67-72-1		
Nitrobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	98-95-3		
Isophorone	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	78-59-1		
2-Nitrophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	88-75-5		
2,4-Dimethylphenol	ND	ug/L	51.8	1	05/09/17 11:07	05/10/17 18:25	105-67-9		
bis(2-Chloroethoxy)methane	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	111-91-1		
2,4-Dichlorophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	120-82-1		
Naphthalene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	91-20-3		
4-Chloroaniline	ND	ug/L	51.8	1	05/09/17 11:07	05/10/17 18:25	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	87-68-3		
4-Chloro-3-methylphenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	59-50-7		
2-Methylnaphthalene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	91-57-6		
2,4,6-Trichlorophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	88-06-2		
2,4,5-Trichlorophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	95-95-4		
2-Chloronaphthalene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	91-58-7		
2-Nitroaniline	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	88-74-4		
Dimethylphthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	131-11-3		
Acenaphthylene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	208-96-8		
2,6-Dinitrotoluene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	606-20-2		
3-Nitroaniline	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	99-09-2		
Acenaphthene	31.4	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	83-32-9		
2,4-Dinitrophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	51-28-5		
4-Nitrophenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	100-02-7		
Dibenzofuran	12.2	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	132-64-9		
2,4-Dinitrotoluene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	121-14-2		

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-02-050517      Lab ID: 10387826002      Collected: 05/05/17 15:10      Received: 05/06/17 09:00      Matrix: Water								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV</b> Analytical Method: EPA 8270D      Preparation Method: EPA 3520								
Diethylphthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	84-66-2	
4-Chlorophenylphenyl ether	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	7005-72-3	
Fluorene	15.1	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	86-73-7	
4-Nitroaniline	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	100-01-6	
4,6-Dinitro-2-methylphenol	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	86-30-6	
4-Bromophenylphenyl ether	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	101-55-3	
Hexachlorobenzene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	118-74-1	
Pentachlorophenol	ND	ug/L	20.7	1	05/09/17 11:07	05/10/17 18:25	87-86-5	
Phenanthrene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	85-01-8	
Anthracene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	120-12-7	
Di-n-butylphthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	84-74-2	
Fluoranthene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	206-44-0	
Pyrene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	129-00-0	
Butylbenzylphthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	85-68-7	
3,3'-Dichlorobenzidine	ND	ug/L	51.8	1	05/09/17 11:07	05/10/17 18:25	91-94-1	
Benzo(a)anthracene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	56-55-3	
Chrysene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	117-81-7	
Di-n-octylphthalate	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	117-84-0	
Benzo(b)fluoranthene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	205-99-2	
Benzo(k)fluoranthene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	207-08-9	
Benzo(a)pyrene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	50-32-8	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	193-39-5	
Dibenz(a,h)anthracene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	53-70-3	
Benzo(g,h,i)perylene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	191-24-2	
N-Nitrosodimethylamine	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	62-75-9	
1,2-Diphenylhydrazine	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	122-66-7	
Carbazole	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	86-74-8	
1-Methylnaphthalene	ND	ug/L	10.4	1	05/09/17 11:07	05/10/17 18:25	90-12-0	
<b>Surrogates</b>								
Nitrobenzene-d5 (S)	87	%.	44-125	1	05/09/17 11:07	05/10/17 18:25	4165-60-0	
2-Fluorobiphenyl (S)	100	%.	30-125	1	05/09/17 11:07	05/10/17 18:25	321-60-8	
p-Terphenyl-d14 (S)	93	%.	31-125	1	05/09/17 11:07	05/10/17 18:25	1718-51-0	
Phenol-d6 (S)	83	%.	59-125	1	05/09/17 11:07	05/10/17 18:25	13127-88-3	
2-Fluorophenol (S)	79	%.	49-125	1	05/09/17 11:07	05/10/17 18:25	367-12-4	
2,4,6-Tribromophenol (S)	110	%.	66-125	1	05/09/17 11:07	05/10/17 18:25	118-79-6	
<b>8260B MSV</b> Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	1		05/10/17 21:15	67-64-1	
Allyl chloride	ND	ug/L	4.0	1		05/10/17 21:15	107-05-1	
Benzene	ND	ug/L	1.0	1		05/10/17 21:15	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		05/10/17 21:15	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		05/10/17 21:15	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		05/10/17 21:15	75-27-4	
Bromoform	ND	ug/L	4.0	1		05/10/17 21:15	75-25-2	
Bromomethane	ND	ug/L	4.0	1		05/10/17 21:15	74-83-9	

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-02-050517		Lab ID: 10387826002		Collected: 05/05/17 15:10		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
2-Butanone (MEK)	ND	ug/L	5.0	1		05/10/17 21:15	78-93-3		
n-Butylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	104-51-8		
sec-Butylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	135-98-8		
tert-Butylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	98-06-6		
Carbon tetrachloride	ND	ug/L	1.0	1		05/10/17 21:15	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		05/10/17 21:15	108-90-7		
Chloroethane	ND	ug/L	1.0	1		05/10/17 21:15	75-00-3		
Chloroform	ND	ug/L	1.0	1		05/10/17 21:15	67-66-3		
Chloromethane	ND	ug/L	4.0	1		05/10/17 21:15	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		05/10/17 21:15	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		05/10/17 21:15	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		05/10/17 21:15	96-12-8	L2	
Dibromochloromethane	ND	ug/L	1.0	1		05/10/17 21:15	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/10/17 21:15	106-93-4		
Dibromomethane	ND	ug/L	4.0	1		05/10/17 21:15	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 21:15	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 21:15	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 21:15	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/10/17 21:15	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		05/10/17 21:15	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		05/10/17 21:15	107-06-2		
1,1-Dichloroethene	ND	ug/L	1.0	1		05/10/17 21:15	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/10/17 21:15	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/10/17 21:15	156-60-5		
Dichlorofluoromethane	ND	ug/L	1.0	1		05/10/17 21:15	75-43-4		
1,2-Dichloropropane	ND	ug/L	4.0	1		05/10/17 21:15	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		05/10/17 21:15	142-28-9		
2,2-Dichloropropane	ND	ug/L	4.0	1		05/10/17 21:15	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		05/10/17 21:15	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		05/10/17 21:15	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		05/10/17 21:15	10061-02-6		
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		05/10/17 21:15	60-29-7		
Ethylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		05/10/17 21:15	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/10/17 21:15	98-82-8		
p-Isopropyltoluene	ND	ug/L	1.0	1		05/10/17 21:15	99-87-6		
Methylene Chloride	ND	ug/L	4.0	1		05/10/17 21:15	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/10/17 21:15	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/10/17 21:15	1634-04-4		
Naphthalene	67.8	ug/L	4.0	1		05/10/17 21:15	91-20-3		
n-Propylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	103-65-1		
Styrene	ND	ug/L	1.0	1		05/10/17 21:15	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/10/17 21:15	630-20-6	L2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/10/17 21:15	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		05/10/17 21:15	127-18-4		
Tetrahydrofuran	ND	ug/L	10.0	1		05/10/17 21:15	109-99-9		
Toluene	ND	ug/L	1.0	1		05/10/17 21:15	108-88-3		

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-SW-02-050517		Lab ID: 10387826002		Collected: 05/05/17 15:10		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
1,2,3-Trichlorobenzene	ND	ug/L	4.0	1		05/10/17 21:15	87-61-6		
1,2,4-Trichlorobenzene	ND	ug/L	4.0	1		05/10/17 21:15	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/10/17 21:15	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/10/17 21:15	79-00-5		
Trichloroethene	ND	ug/L	0.40	1		05/10/17 21:15	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		05/10/17 21:15	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	4.0	1		05/10/17 21:15	96-18-4		
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/10/17 21:15	76-13-1		
1,2,4-Trimethylbenzene	1.5	ug/L	1.0	1		05/10/17 21:15	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		05/10/17 21:15	108-67-8		
Vinyl chloride	ND	ug/L	0.20	1		05/10/17 21:15	75-01-4		
Xylene (Total)	ND	ug/L	3.0	1		05/10/17 21:15	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		05/10/17 21:15	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		05/10/17 21:15	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-137	1		05/10/17 21:15	17060-07-0		
Toluene-d8 (S)	95	%.	75-125	1		05/10/17 21:15	2037-26-5		
4-Bromofluorobenzene (S)	98	%.	75-125	1		05/10/17 21:15	460-00-4		
1664 HEM, Oil and Grease		Analytical Method: EPA 1664A OG							
Oil and Grease	ND	mg/L	5.1	1		05/09/17 14:56			

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## ANALYTICAL RESULTS

Project: BNSF Somer

Pace Project No.: 10387826

Sample: BNSF-TB-01-050517		Lab ID: 10387826003		Collected: 05/05/17 12:00		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
Acetone	ND	ug/L	20.0	1		05/10/17 01:14	67-64-1		
Allyl chloride	ND	ug/L	4.0	1		05/10/17 01:14	107-05-1		
Benzene	ND	ug/L	1.0	1		05/10/17 01:14	71-43-2		
Bromobenzene	ND	ug/L	1.0	1		05/10/17 01:14	108-86-1		
Bromochloromethane	ND	ug/L	1.0	1		05/10/17 01:14	74-97-5		
Bromodichloromethane	ND	ug/L	1.0	1		05/10/17 01:14	75-27-4		
Bromoform	ND	ug/L	4.0	1		05/10/17 01:14	75-25-2		
Bromomethane	ND	ug/L	10.0	1		05/10/17 01:14	74-83-9		
2-Butanone (MEK)	ND	ug/L	5.0	1		05/10/17 01:14	78-93-3		
n-Butylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	104-51-8		
sec-Butylbenzene	ND	ug/L	4.0	1		05/10/17 01:14	135-98-8		
tert-Butylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	98-06-6		
Carbon tetrachloride	ND	ug/L	1.0	1		05/10/17 01:14	56-23-5		
Chlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	108-90-7		
Chloroethane	ND	ug/L	1.0	1		05/10/17 01:14	75-00-3		
Chloroform	ND	ug/L	1.0	1		05/10/17 01:14	67-66-3		
Chloromethane	ND	ug/L	4.0	1		05/10/17 01:14	74-87-3		
2-Chlorotoluene	ND	ug/L	1.0	1		05/10/17 01:14	95-49-8		
4-Chlorotoluene	ND	ug/L	1.0	1		05/10/17 01:14	106-43-4		
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	1		05/10/17 01:14	96-12-8		
Dibromochloromethane	ND	ug/L	1.0	1		05/10/17 01:14	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		05/10/17 01:14	106-93-4		
Dibromomethane	ND	ug/L	4.0	1		05/10/17 01:14	74-95-3		
1,2-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	95-50-1		
1,3-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	541-73-1		
1,4-Dichlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	106-46-7		
Dichlorodifluoromethane	ND	ug/L	1.0	1		05/10/17 01:14	75-71-8		
1,1-Dichloroethane	ND	ug/L	1.0	1		05/10/17 01:14	75-34-3		
1,2-Dichloroethane	ND	ug/L	1.0	1		05/10/17 01:14	107-06-2		
1,1-Dichloroethene	ND	ug/L	1.0	1		05/10/17 01:14	75-35-4		
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/10/17 01:14	156-59-2		
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/10/17 01:14	156-60-5		
Dichlorofluoromethane	ND	ug/L	1.0	1		05/10/17 01:14	75-43-4		
1,2-Dichloropropane	ND	ug/L	4.0	1		05/10/17 01:14	78-87-5		
1,3-Dichloropropane	ND	ug/L	1.0	1		05/10/17 01:14	142-28-9		
2,2-Dichloropropane	ND	ug/L	4.0	1		05/10/17 01:14	594-20-7		
1,1-Dichloropropene	ND	ug/L	1.0	1		05/10/17 01:14	563-58-6		
cis-1,3-Dichloropropene	ND	ug/L	4.0	1		05/10/17 01:14	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/L	4.0	1		05/10/17 01:14	10061-02-6		
Diethyl ether (Ethyl ether)	ND	ug/L	4.0	1		05/10/17 01:14	60-29-7		
Ethylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	100-41-4		
Hexachloro-1,3-butadiene	ND	ug/L	4.0	1		05/10/17 01:14	87-68-3		
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		05/10/17 01:14	98-82-8		
p-Isopropyltoluene	ND	ug/L	4.0	1		05/10/17 01:14	99-87-6		
Methylene Chloride	ND	ug/L	4.0	1		05/10/17 01:14	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		05/10/17 01:14	108-10-1		
Methyl-tert-butyl ether	ND	ug/L	1.0	1		05/10/17 01:14	1634-04-4		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BNSF Somer  
Pace Project No.: 10387826

Sample: BNSF-TB-01-050517		Lab ID: 10387826003		Collected: 05/05/17 12:00		Received: 05/06/17 09:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260B MSV		Analytical Method: EPA 8260B							
Naphthalene	ND	ug/L	4.0	1		05/10/17 01:14	91-20-3	L2	
n-Propylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	103-65-1		
Styrene	ND	ug/L	1.0	1		05/10/17 01:14	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		05/10/17 01:14	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/10/17 01:14	79-34-5		
Tetrachloroethene	ND	ug/L	1.0	1		05/10/17 01:14	127-18-4		
Tetrahydrofuran	ND	ug/L	10.0	1		05/10/17 01:14	109-99-9		
Toluene	ND	ug/L	1.0	1		05/10/17 01:14	108-88-3		
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	87-61-6	L2	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		05/10/17 01:14	120-82-1		
1,1,1-Trichloroethane	ND	ug/L	4.0	1		05/10/17 01:14	71-55-6		
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/10/17 01:14	79-00-5		
Trichloroethene	ND	ug/L	0.40	1		05/10/17 01:14	79-01-6		
Trichlorofluoromethane	ND	ug/L	1.0	1		05/10/17 01:14	75-69-4		
1,2,3-Trichloropropane	ND	ug/L	4.0	1		05/10/17 01:14	96-18-4		
1,1,2-Trichlorotrifluoroethane	ND	ug/L	10.0	1		05/10/17 01:14	76-13-1		
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	95-63-6		
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		05/10/17 01:14	108-67-8		
Vinyl chloride	ND	ug/L	0.20	1		05/10/17 01:14	75-01-4		
Xylene (Total)	ND	ug/L	3.0	1		05/10/17 01:14	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	1		05/10/17 01:14	179601-23-1		
o-Xylene	ND	ug/L	1.0	1		05/10/17 01:14	95-47-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	124	%.	75-137	1		05/10/17 01:14	17060-07-0		
Toluene-d8 (S)	103	%.	75-125	1		05/10/17 01:14	2037-26-5		
4-Bromofluorobenzene (S)	107	%.	75-125	1		05/10/17 01:14	460-00-4		

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## QUALITY CONTROL DATA

Project: BNSF Somer  
Pace Project No.: 10387826

QC Batch: 472705 Analysis Method: EPA 8015C  
QC Batch Method: EPA 8015C Analysis Description: 8015 GAS  
Associated Lab Samples: 10387826001, 10387826002

METHOD BLANK: 2579110 Matrix: Water  
Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	ug/L	ND	100	05/08/17 13:04	
a,a,a-Trifluorotoluene (S)	%.	77	75-125	05/08/17 13:04	

LABORATORY CONTROL SAMPLE & LCSD: 2579111			2579112							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	ug/L	1000	903	842	90	84	74-132	7	20	
a,a,a-Trifluorotoluene (S)	%.				83	90	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:			2579355	2579356								
Parameter	Units	10387562005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Gasoline Range Organics	ug/L	<8.9	1000	1000	916	952	91	95	63-141	4	20	
a.a.a-Trifluorotoluene (S)	%.						84	86	75-125			

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

QC Batch: 472995

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260B MSV

Associated Lab Samples: 10387826001, 10387826002

METHOD BLANK: 2580337

Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1,1-Trichloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1-Dichloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,1-Dichloroethene	ug/L	ND	1.0	05/10/17 20:53	
1,1-Dichloropropene	ug/L	ND	1.0	05/10/17 20:53	
1,2,3-Trichlorobenzene	ug/L	ND	4.0	05/10/17 20:53	MN
1,2,3-Trichloropropane	ug/L	ND	4.0	05/10/17 20:53	
1,2,4-Trichlorobenzene	ug/L	ND	4.0	05/10/17 20:53	MN
1,2,4-Trimethylbenzene	ug/L	ND	1.0	05/10/17 20:53	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	05/10/17 20:53	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/10/17 20:53	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/10/17 20:53	
1,2-Dichloroethane	ug/L	ND	1.0	05/10/17 20:53	
1,2-Dichloropropane	ug/L	ND	4.0	05/10/17 20:53	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	05/10/17 20:53	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/10/17 20:53	
1,3-Dichloropropane	ug/L	ND	1.0	05/10/17 20:53	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/10/17 20:53	
2,2-Dichloropropane	ug/L	ND	4.0	05/10/17 20:53	
2-Butanone (MEK)	ug/L	ND	5.0	05/10/17 20:53	
2-Chlorotoluene	ug/L	ND	1.0	05/10/17 20:53	
4-Chlorotoluene	ug/L	ND	1.0	05/10/17 20:53	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/10/17 20:53	
Acetone	ug/L	ND	20.0	05/10/17 20:53	
Allyl chloride	ug/L	ND	4.0	05/10/17 20:53	
Benzene	ug/L	ND	1.0	05/10/17 20:53	
Bromobenzene	ug/L	ND	1.0	05/10/17 20:53	
Bromochloromethane	ug/L	ND	1.0	05/10/17 20:53	
Bromodichloromethane	ug/L	ND	1.0	05/10/17 20:53	
Bromoform	ug/L	ND	4.0	05/10/17 20:53	
Bromomethane	ug/L	ND	4.0	05/10/17 20:53	
Carbon tetrachloride	ug/L	ND	1.0	05/10/17 20:53	
Chlorobenzene	ug/L	ND	1.0	05/10/17 20:53	
Chloroethane	ug/L	ND	1.0	05/10/17 20:53	
Chloroform	ug/L	ND	1.0	05/10/17 20:53	
Chloromethane	ug/L	ND	4.0	05/10/17 20:53	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/10/17 20:53	
cis-1,3-Dichloropropene	ug/L	ND	4.0	05/10/17 20:53	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

METHOD BLANK: 2580337

Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	1.0	05/10/17 20:53	
Dibromomethane	ug/L	ND	4.0	05/10/17 20:53	
Dichlorodifluoromethane	ug/L	ND	1.0	05/10/17 20:53	
Dichlorofluoromethane	ug/L	ND	1.0	05/10/17 20:53	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	05/10/17 20:53	
Ethylbenzene	ug/L	ND	1.0	05/10/17 20:53	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	05/10/17 20:53	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	05/10/17 20:53	
m&p-Xylene	ug/L	ND	2.0	05/10/17 20:53	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/10/17 20:53	
Methylene Chloride	ug/L	ND	4.0	05/10/17 20:53	
n-Butylbenzene	ug/L	ND	1.0	05/10/17 20:53	
n-Propylbenzene	ug/L	ND	1.0	05/10/17 20:53	
Naphthalene	ug/L	ND	4.0	05/10/17 20:53	
o-Xylene	ug/L	ND	1.0	05/10/17 20:53	
p-Isopropyltoluene	ug/L	ND	1.0	05/10/17 20:53	
sec-Butylbenzene	ug/L	ND	1.0	05/10/17 20:53	
Styrene	ug/L	ND	1.0	05/10/17 20:53	
tert-Butylbenzene	ug/L	ND	1.0	05/10/17 20:53	
Tetrachloroethene	ug/L	ND	1.0	05/10/17 20:53	
Tetrahydrofuran	ug/L	ND	10.0	05/10/17 20:53	
Toluene	ug/L	ND	1.0	05/10/17 20:53	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/10/17 20:53	
trans-1,3-Dichloropropene	ug/L	ND	4.0	05/10/17 20:53	
Trichloroethene	ug/L	ND	0.40	05/10/17 20:53	
Trichlorofluoromethane	ug/L	ND	1.0	05/10/17 20:53	
Vinyl chloride	ug/L	ND	0.20	05/10/17 20:53	
Xylene (Total)	ug/L	ND	3.0	05/10/17 20:53	
1,2-Dichloroethane-d4 (S)	%	102	75-137	05/10/17 20:53	
4-Bromofluorobenzene (S)	%	99	75-125	05/10/17 20:53	
Toluene-d8 (S)	%	94	75-125	05/10/17 20:53	

LABORATORY CONTROL SAMPLE & LCSD: 2580338

2581517

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	15.4	14.6	77	73	75-125	5	20	L2
1,1,1-Trichloroethane	ug/L	20	18.6	17.3	93	86	69-125	7	20	
1,1,2,2-Tetrachloroethane	ug/L	20	18.6	18.0	93	90	70-125	3	20	
1,1,2-Trichloroethane	ug/L	20	20.2	19.1	101	95	75-125	6	20	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.0	15.6	85	78	70-133	8	20	
1,1-Dichloroethane	ug/L	20	19.3	18.1	96	91	62-130	6	20	
1,1-Dichloroethene	ug/L	20	19.4	17.7	97	89	64-134	9	20	
1,1-Dichloropropene	ug/L	20	19.8	18.3	99	92	65-129	8	20	
1,2,3-Trichlorobenzene	ug/L	20	19.2	19.1	96	96	75-125	1	20	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE & LCSD: 2580338

2581517

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,3-Trichloropropane	ug/L	20	18.7	17.8	93	89	70-125	5	20	
1,2,4-Trichlorobenzene	ug/L	20	18.3	18.6	92	93	75-125	1	20	
1,2,4-Trimethylbenzene	ug/L	20	19.1	17.8	96	89	69-135	7	20	
1,2-Dibromo-3-chloropropane	ug/L	50	36.3	35.8	73	72	73-130	1	20	L2
1,2-Dibromoethane (EDB)	ug/L	20	19.2	18.9	96	95	75-125	2	20	
1,2-Dichlorobenzene	ug/L	20	20.2	19.3	101	97	75-125	4	20	
1,2-Dichloroethane	ug/L	20	18.8	18.1	94	90	64-126	4	20	
1,2-Dichloropropane	ug/L	20	20.6	19.2	103	96	73-125	7	20	
1,3,5-Trimethylbenzene	ug/L	20	20.7	19.2	104	96	71-129	8	20	
1,3-Dichlorobenzene	ug/L	20	20.4	19.1	102	95	75-125	6	20	
1,3-Dichloropropane	ug/L	20	19.4	18.9	97	95	74-125	3	20	
1,4-Dichlorobenzene	ug/L	20	20.7	19.5	104	98	75-125	6	20	
2,2-Dichloropropane	ug/L	20	17.8	16.6	89	83	59-135	7	20	
2-Butanone (MEK)	ug/L	100	95.3	93.1	95	93	57-142	2	20	
2-Chlorotoluene	ug/L	20	20.0	18.6	100	93	73-125	7	20	
4-Chlorotoluene	ug/L	20	20.1	18.6	100	93	74-128	8	20	
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.2	89.2	92	89	56-142	3	20	
Acetone	ug/L	100	111	108	111	108	75-133	3	20	
Allyl chloride	ug/L	20	17.6	16.4	88	82	62-139	7	20	
Benzene	ug/L	20	20.0	18.6	100	93	74-125	7	20	
Bromobenzene	ug/L	20	20.3	18.9	102	95	75-125	7	20	
Bromochloromethane	ug/L	20	20.6	19.5	103	98	75-125	5	20	
Bromodichloromethane	ug/L	20	18.4	18.1	92	91	72-125	1	20	
Bromoform	ug/L	20	14.8	14.8	74	74	74-125	0	20	
Bromomethane	ug/L	20	17.3	18.0	87	90	30-150	4	20	
Carbon tetrachloride	ug/L	20	16.0	15.4	80	77	67-130	4	20	
Chlorobenzene	ug/L	20	19.6	18.7	98	93	75-125	5	20	
Chloroethane	ug/L	20	20.0	18.7	100	94	63-137	7	20	
Chloroform	ug/L	20	20.4	19.1	102	95	68-128	7	20	
Chloromethane	ug/L	20	19.7	18.4	98	92	46-145	7	20	
cis-1,2-Dichloroethene	ug/L	20	20.2	19.1	101	95	75-125	6	20	
cis-1,3-Dichloropropene	ug/L	20	17.9	17.2	89	86	73-125	4	20	
Dibromochloromethane	ug/L	20	15.6	15.5	78	78	75-125	0	20	
Dibromomethane	ug/L	20	20.6	20.1	103	100	73-125	2	20	
Dichlorodifluoromethane	ug/L	20	18.8	17.2	94	86	36-150	9	20	
Dichlorofluoromethane	ug/L	20	19.0	17.7	95	89	75-125	7	20	
Diethyl ether (Ethyl ether)	ug/L	20	18.2	17.6	91	88	62-136	3	20	
Ethylbenzene	ug/L	20	20.4	18.8	102	94	73-125	8	20	
Hexachloro-1,3-butadiene	ug/L	20	20.5	19.9	103	99	69-141	3	20	
Isopropylbenzene (Cumene)	ug/L	20	20.3	18.7	101	93	75-126	8	20	
m&p-Xylene	ug/L	40	42.3	38.7	106	97	75-125	9	20	
Methyl-tert-butyl ether	ug/L	20	18.3	17.8	92	89	70-130	3	20	
Methylene Chloride	ug/L	20	17.9	16.9	90	84	74-125	6	20	
n-Butylbenzene	ug/L	20	19.5	18.0	97	90	69-133	8	20	
n-Propylbenzene	ug/L	20	19.9	18.4	99	92	75-125	8	20	
Naphthalene	ug/L	20	17.4	17.5	87	87	66-129	1	20	
o-Xylene	ug/L	20	19.5	18.0	97	90	73-125	8	20	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer  
Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE & LCSD: 2580338			2581517							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
p-Isopropyltoluene	ug/L	20	20.0	18.4	100	92	73-127	8	20	
sec-Butylbenzene	ug/L	20	20.4	19.1	102	95	75-131	7	20	
Styrene	ug/L	20	19.4	18.6	97	93	75-128	4	20	
tert-Butylbenzene	ug/L	20	20.0	18.3	100	91	75-127	9	20	
Tetrachloroethene	ug/L	20	20.7	18.6	104	93	71-127	11	20	
Tetrahydrofuran	ug/L	200	241	231	120	115	75-132	4	20	
Toluene	ug/L	20	18.9	17.5	95	88	75-125	8	20	
trans-1,2-Dichloroethene	ug/L	20	19.6	17.9	98	90	69-127	9	20	
trans-1,3-Dichloropropene	ug/L	20	16.3	16.3	82	81	70-128	0	20	
Trichloroethene	ug/L	20	21.5	19.8	108	99	70-125	8	20	
Trichlorofluoromethane	ug/L	20	18.4	16.9	92	85	71-125	8	20	
Vinyl chloride	ug/L	20	19.3	17.7	96	88	69-133	9	20	
Xylene (Total)	ug/L	60	61.8	56.7	103	95	75-125	8	20	
1,2-Dichloroethane-d4 (S)	%				95	93	75-137			
4-Bromofluorobenzene (S)	%				97	96	75-125			
Toluene-d8 (S)	%				96	95	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581518			2581519									
Parameter	Units	10387826002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	15.2	15.5	76	77	75-138	2	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	18.8	19.0	94	95	75-145	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.9	17.3	90	87	73-150	3	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.7	18.4	93	92	75-140	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	19.2	19.0	96	95	74-150	1	30	
1,1-Dichloroethane	ug/L	ND	20	20	18.9	18.9	94	94	75-140	0	30	
1,1-Dichloroethene	ug/L	ND	20	20	19.5	19.8	98	99	73-150	2	30	
1,1-Dichloropropene	ug/L	ND	20	20	20.4	20.4	102	102	75-150	0	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20.0	19.6	100	98	57-147	2	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	17.3	16.5	86	82	75-147	5	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	19.8	19.8	99	99	59-142	0	30	
1,2,4-Trimethylbenzene	ug/L	1.5	20	20	20.1	19.1	93	88	73-141	5	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	35.2	36.9	70	74	65-136	5	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.3	17.9	92	90	75-131	2	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	19.6	18.9	98	95	75-141	3	30	
1,2-Dichloroethane	ug/L	ND	20	20	18.3	18.7	91	93	75-125	2	30	
1,2-Dichloropropane	ug/L	ND	20	20	20.0	19.6	100	98	71-147	2	30	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	20.8	19.5	103	96	75-139	6	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	19.9	18.8	100	94	75-142	6	30	
1,3-Dichloropropane	ug/L	ND	20	20	18.7	18.2	93	91	75-141	3	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	20.0	19.0	100	95	75-139	5	30	
2,2-Dichloropropane	ug/L	ND	20	20	18.4	18.3	92	92	60-150	1	30	
2-Butanone (MEK)	ug/L	ND	100	100	85.3	93.9	85	94	68-133	10	30	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581518 2581519											
Parameter	Units	10387826002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
2-Chlorotoluene	ug/L	ND	20	20	19.8	18.8	99	94	75-146	5	30
4-Chlorotoluene	ug/L	ND	20	20	19.8	18.9	99	94	75-149	5	30
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	85.5	85.5	85	85	67-150	0	30
Acetone	ug/L	ND	100	100	123	116	112	106	56-150	6	30
Allyl chloride	ug/L	ND	20	20	18.2	17.8	91	89	66-134	3	30
Benzene	ug/L	ND	20	20	19.8	19.4	99	97	74-134	2	30
Bromobenzene	ug/L	ND	20	20	19.8	18.9	99	94	75-138	5	30
Bromochloromethane	ug/L	ND	20	20	20.4	19.8	102	99	75-145	3	30
Bromodichloromethane	ug/L	ND	20	20	18.6	18.2	93	91	75-143	2	30
Bromoform	ug/L	ND	20	20	14.6	14.4	73	72	67-125	1	30
Bromomethane	ug/L	ND	20	20	20.3	20.7	102	104	30-150	2	30
Carbon tetrachloride	ug/L	ND	20	20	17.6	17.9	88	90	75-150	2	30
Chlorobenzene	ug/L	ND	20	20	19.4	18.9	97	94	75-133	3	30
Chloroethane	ug/L	ND	20	20	20.5	21.4	102	107	53-150	5	30
Chloroform	ug/L	ND	20	20	19.8	19.7	99	99	75-134	0	30
Chloromethane	ug/L	ND	20	20	20.4	20.4	102	102	41-150	0	30
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.8	19.9	99	100	73-140	1	30
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.2	17.2	86	86	72-140	0	30
Dibromochloromethane	ug/L	ND	20	20	15.7	15.7	79	79	74-130	0	30
Dibromomethane	ug/L	ND	20	20	20.0	19.5	100	97	70-141	2	30
Dichlorodifluoromethane	ug/L	ND	20	20	22.9	22.7	114	113	50-150	1	30
Dichlorofluoromethane	ug/L	ND	20	20	19.5	19.7	98	99	62-150	1	30
Diethyl ether (Ethyl ether)	ug/L	ND	20	20	17.4	17.5	87	88	71-141	1	30
Ethylbenzene	ug/L	ND	20	20	19.8	19.4	98	96	75-136	2	30
Hexachloro-1,3-butadiene	ug/L	ND	20	20	22.4	21.7	112	108	47-150	3	30
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20.2	19.5	101	97	75-138	4	30
m&p-Xylene	ug/L	ND	40	40	40.7	40.4	101	100	75-134	1	30
Methyl-tert-butyl ether	ug/L	ND	20	20	17.7	17.3	89	86	75-128	3	30
Methylene Chloride	ug/L	ND	20	20	17.5	17.0	88	85	69-150	3	30
n-Butylbenzene	ug/L	ND	20	20	20.9	20.0	105	100	68-150	5	30
n-Propylbenzene	ug/L	ND	20	20	20.0	18.9	100	94	74-150	6	30
Naphthalene	ug/L	67.8	20	20	81.9	85.1	70	86	61-138	4	30
o-Xylene	ug/L	ND	20	20	19.3	19.1	92	92	75-129	1	30
p-Isopropyltoluene	ug/L	ND	20	20	19.8	19.2	99	96	70-142	4	30
sec-Butylbenzene	ug/L	ND	20	20	20.7	19.8	103	99	74-150	4	30
Styrene	ug/L	ND	20	20	18.8	18.4	94	92	70-140	2	30
tert-Butylbenzene	ug/L	ND	20	20	20.0	19.0	100	95	73-140	5	30
Tetrachloroethene	ug/L	ND	20	20	20.2	19.7	101	99	72-141	2	30
Tetrahydrofuran	ug/L	ND	200	200	225	221	112	110	53-150	2	30
Toluene	ug/L	ND	20	20	18.2	17.9	90	89	71-138	1	30
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.3	19.0	97	95	74-149	2	30
trans-1,3-Dichloropropene	ug/L	ND	20	20	16.2	16.3	81	82	74-138	0	30
Trichloroethene	ug/L	ND	20	20	21.4	20.8	107	104	70-150	3	30
Trichlorofluoromethane	ug/L	ND	20	20	20.7	20.4	104	102	57-150	2	30
Vinyl chloride	ug/L	ND	20	20	20.8	21.1	104	105	59-150	1	30

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581518 2581519												
Parameter	Units	10387826002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Xylene (Total)	ug/L	ND	60	60	59.9	59.5	100	99	75-131	1	30	
1,2-Dichloroethane-d4 (S)	%.						94	96	75-137			
4-Bromofluorobenzene (S)	%.						97	96	75-125			
Toluene-d8 (S)	%.						93	94	75-125			

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

QC Batch: 473211

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260B MSV

Associated Lab Samples: 10387826003

METHOD BLANK: 2581358

Matrix: Water

Associated Lab Samples: 10387826003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	05/10/17 00:58	MN
1,1,1-Trichloroethane	ug/L	ND	4.0	05/10/17 00:58	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/10/17 00:58	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/10/17 00:58	MN
1,1,2-Trichlorotrifluoroethane	ug/L	ND	10.0	05/10/17 00:58	
1,1-Dichloroethane	ug/L	ND	1.0	05/10/17 00:58	
1,1-Dichloroethene	ug/L	ND	1.0	05/10/17 00:58	
1,1-Dichloropropene	ug/L	ND	1.0	05/10/17 00:58	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
1,2,3-Trichloropropane	ug/L	ND	4.0	05/10/17 00:58	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	05/10/17 00:58	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	05/10/17 00:58	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	05/10/17 00:58	
1,2-Dichlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
1,2-Dichloroethane	ug/L	ND	1.0	05/10/17 00:58	
1,2-Dichloropropane	ug/L	ND	4.0	05/10/17 00:58	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	05/10/17 00:58	
1,3-Dichlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
1,3-Dichloropropane	ug/L	ND	1.0	05/10/17 00:58	
1,4-Dichlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
2,2-Dichloropropane	ug/L	ND	4.0	05/10/17 00:58	
2-Butanone (MEK)	ug/L	ND	5.0	05/10/17 00:58	
2-Chlorotoluene	ug/L	ND	1.0	05/10/17 00:58	
4-Chlorotoluene	ug/L	ND	1.0	05/10/17 00:58	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	05/10/17 00:58	
Acetone	ug/L	ND	20.0	05/10/17 00:58	
Allyl chloride	ug/L	ND	4.0	05/10/17 00:58	
Benzene	ug/L	ND	1.0	05/10/17 00:58	
Bromobenzene	ug/L	ND	1.0	05/10/17 00:58	
Bromochloromethane	ug/L	ND	1.0	05/10/17 00:58	
Bromodichloromethane	ug/L	ND	1.0	05/10/17 00:58	
Bromoform	ug/L	ND	4.0	05/10/17 00:58	
Bromomethane	ug/L	ND	10.0	05/10/17 00:58	MN
Carbon tetrachloride	ug/L	ND	1.0	05/10/17 00:58	
Chlorobenzene	ug/L	ND	1.0	05/10/17 00:58	
Chloroethane	ug/L	ND	1.0	05/10/17 00:58	
Chloroform	ug/L	ND	1.0	05/10/17 00:58	
Chloromethane	ug/L	ND	4.0	05/10/17 00:58	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/10/17 00:58	
cis-1,3-Dichloropropene	ug/L	ND	4.0	05/10/17 00:58	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

METHOD BLANK: 2581358

Matrix: Water

Associated Lab Samples: 10387826003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	ND	1.0	05/10/17 00:58	
Dibromomethane	ug/L	ND	4.0	05/10/17 00:58	
Dichlorodifluoromethane	ug/L	ND	1.0	05/10/17 00:58	
Dichlorofluoromethane	ug/L	ND	1.0	05/10/17 00:58	
Diethyl ether (Ethyl ether)	ug/L	ND	4.0	05/10/17 00:58	
Ethylbenzene	ug/L	ND	1.0	05/10/17 00:58	
Hexachloro-1,3-butadiene	ug/L	ND	4.0	05/10/17 00:58	MN
Isopropylbenzene (Cumene)	ug/L	ND	1.0	05/10/17 00:58	
m&p-Xylene	ug/L	ND	2.0	05/10/17 00:58	
Methyl-tert-butyl ether	ug/L	ND	1.0	05/10/17 00:58	
Methylene Chloride	ug/L	ND	4.0	05/10/17 00:58	
n-Butylbenzene	ug/L	ND	1.0	05/10/17 00:58	
n-Propylbenzene	ug/L	ND	1.0	05/10/17 00:58	
Naphthalene	ug/L	ND	4.0	05/10/17 00:58	
o-Xylene	ug/L	ND	1.0	05/10/17 00:58	
p-Isopropyltoluene	ug/L	ND	4.0	05/10/17 00:58	MN
sec-Butylbenzene	ug/L	ND	4.0	05/10/17 00:58	MN
Styrene	ug/L	ND	1.0	05/10/17 00:58	
tert-Butylbenzene	ug/L	ND	1.0	05/10/17 00:58	
Tetrachloroethene	ug/L	ND	1.0	05/10/17 00:58	
Tetrahydrofuran	ug/L	ND	10.0	05/10/17 00:58	
Toluene	ug/L	ND	1.0	05/10/17 00:58	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/10/17 00:58	
trans-1,3-Dichloropropene	ug/L	ND	4.0	05/10/17 00:58	
Trichloroethene	ug/L	ND	0.40	05/10/17 00:58	
Trichlorofluoromethane	ug/L	ND	1.0	05/10/17 00:58	
Vinyl chloride	ug/L	ND	0.20	05/10/17 00:58	
Xylene (Total)	ug/L	ND	3.0	05/10/17 00:58	
1,2-Dichloroethane-d4 (S)	%	122	75-137	05/10/17 00:58	
4-Bromofluorobenzene (S)	%	106	75-125	05/10/17 00:58	
Toluene-d8 (S)	%	101	75-125	05/10/17 00:58	

LABORATORY CONTROL SAMPLE: 2581359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.9	105	75-125	
1,1,1-Trichloroethane	ug/L	20	22.6	113	69-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	70-125	
1,1,2-Trichloroethane	ug/L	20	21.2	106	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.2	91	70-133	
1,1-Dichloroethane	ug/L	20	22.3	111	62-130	
1,1-Dichloroethene	ug/L	20	20.9	105	64-134	
1,1-Dichloropropene	ug/L	20	21.8	109	65-129	
1,2,3-Trichlorobenzene	ug/L	20	13.6	68	75-125 L2	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE: 2581359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	ug/L	20	21.7	109	70-125	
1,2,4-Trichlorobenzene	ug/L	20	15.4	77	75-125	
1,2,4-Trimethylbenzene	ug/L	20	20.6	103	69-135	
1,2-Dibromo-3-chloropropane	ug/L	50	39.3	79	73-130	
1,2-Dibromoethane (EDB)	ug/L	20	20.4	102	75-125	
1,2-Dichlorobenzene	ug/L	20	19.4	97	75-125	
1,2-Dichloroethane	ug/L	20	22.5	112	64-126	
1,2-Dichloropropane	ug/L	20	22.1	111	73-125	
1,3,5-Trimethylbenzene	ug/L	20	21.6	108	71-129	
1,3-Dichlorobenzene	ug/L	20	20.7	103	75-125	
1,3-Dichloropropane	ug/L	20	21.5	107	74-125	
1,4-Dichlorobenzene	ug/L	20	19.8	99	75-125	
2,2-Dichloropropane	ug/L	20	19.3	96	59-135	
2-Butanone (MEK)	ug/L	100	95.3	95	57-142	
2-Chlorotoluene	ug/L	20	22.0	110	73-125	
4-Chlorotoluene	ug/L	20	21.5	107	74-128	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	56-142	
Acetone	ug/L	100	98.8	99	75-133	
Allyl chloride	ug/L	20	19.0	95	62-139	
Benzene	ug/L	20	21.3	107	74-125	
Bromobenzene	ug/L	20	20.3	102	75-125	
Bromochloromethane	ug/L	20	21.4	107	75-125	
Bromodichloromethane	ug/L	20	22.9	114	72-125	
Bromoform	ug/L	20	16.6	83	74-125	
Bromomethane	ug/L	20	21.4	107	30-150	
Carbon tetrachloride	ug/L	20	20.3	101	67-130	
Chlorobenzene	ug/L	20	21.8	109	75-125	
Chloroethane	ug/L	20	19.1	95	63-137	
Chloroform	ug/L	20	22.9	114	68-128	
Chloromethane	ug/L	20	20.2	101	46-145	
cis-1,2-Dichloroethene	ug/L	20	20.9	104	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.8	104	73-125	
Dibromochloromethane	ug/L	20	19.8	99	75-125	
Dibromomethane	ug/L	20	21.0	105	73-125	
Dichlorodifluoromethane	ug/L	20	21.9	109	36-150	
Dichlorofluoromethane	ug/L	20	21.8	109	75-125	
Diethyl ether (Ethyl ether)	ug/L	20	20.7	104	62-136	
Ethylbenzene	ug/L	20	21.3	107	73-125	
Hexachloro-1,3-butadiene	ug/L	20	16.1	81	69-141	
Isopropylbenzene (Cumene)	ug/L	20	20.5	102	75-126	
m&p-Xylene	ug/L	40	42.8	107	75-125	
Methyl-tert-butyl ether	ug/L	20	21.4	107	70-130	
Methylene Chloride	ug/L	20	20.3	101	74-125	
n-Butylbenzene	ug/L	20	16.1	81	69-133	
n-Propylbenzene	ug/L	20	21.3	107	75-125	
Naphthalene	ug/L	20	12.6	63	66-129	L2
o-Xylene	ug/L	20	20.4	102	73-125	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer  
Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE: 2581359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Isopropyltoluene	ug/L	20	17.0	85	73-127	
sec-Butylbenzene	ug/L	20	17.3	87	75-131	
Styrene	ug/L	20	20.5	102	75-128	
tert-Butylbenzene	ug/L	20	20.9	105	75-127	
Tetrachloroethene	ug/L	20	20.1	101	71-127	
Tetrahydrofuran	ug/L	200	226	113	75-132	
Toluene	ug/L	20	21.0	105	75-125	
trans-1,2-Dichloroethene	ug/L	20	21.0	105	69-127	
trans-1,3-Dichloropropene	ug/L	20	20.7	103	70-128	
Trichloroethene	ug/L	20	21.2	106	70-125	
Trichlorofluoromethane	ug/L	20	20.0	100	71-125	
Vinyl chloride	ug/L	20	21.4	107	69-133	
Xylene (Total)	ug/L	60	63.2	105	75-125	
1,2-Dichloroethane-d4 (S)	%			114	75-137	
4-Bromofluorobenzene (S)	%			104	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581431 2581432

Parameter	Units	10388127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	22.4	29.1	112	145	75-138	26	30	M1
1,1,1-Trichloroethane	ug/L	ND	20	20	27.1	35.5	135	177	75-145	27	30	M1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	21.4	28.2	107	141	73-150	28	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	23.1	30.4	115	152	75-140	28	30	M1
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	25.1	31.4	125	157	74-150	22	30	M1
1,1-Dichloroethane	ug/L	ND	20	20	25.8	33.4	129	167	75-140	26	30	M1
1,1-Dichloroethene	ug/L	ND	20	20	26.4	32.0	132	160	73-150	19	30	M1
1,1-Dichloropropene	ug/L	ND	20	20	26.6	33.2	133	166	75-150	22	30	M1
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20.8	25.7	104	128	57-147	21	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	23.0	30.7	115	153	75-147	29	30	M1
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.2	25.6	101	128	59-142	24	30	
1,2,4-Trimethylbenzene	ug/L	10.6	20	20	34.2	39.4	118	144	73-141	14	30	M1
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	44.8	59.0	90	118	65-136	27	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	21.9	28.8	109	144	75-131	27	30	M1
1,2-Dichlorobenzene	ug/L	ND	20	20	21.9	27.6	110	138	75-141	23	30	
1,2-Dichloroethane	ug/L	ND	20	20	24.5	32.0	122	159	75-125	27	30	M1
1,2-Dichloropropane	ug/L	ND	20	20	24.4	31.4	122	157	71-147	25	30	M1
1,3,5-Trimethylbenzene	ug/L	4.3	20	20	28.1	34.0	119	148	75-139	19	30	M1
1,3-Dichlorobenzene	ug/L	ND	20	20	21.9	27.8	109	139	75-142	24	30	
1,3-Dichloropropane	ug/L	ND	20	20	23.5	30.2	117	151	75-141	25	30	M1
1,4-Dichlorobenzene	ug/L	ND	20	20	21.5	26.8	107	134	75-139	22	30	
2,2-Dichloropropane	ug/L	ND	20	20	22.5	29.5	113	147	60-150	27	30	
2-Butanone (MEK)	ug/L	ND	100	100	96.5	128	97	128	68-133	28	30	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581431											
2581432											
Parameter	Units	10388127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
2-Chlorotoluene	ug/L	ND	20	20	24.7	31.1	124	155	75-146	23	30 M1
4-Chlorotoluene	ug/L	ND	20	20	23.6	29.7	118	148	75-149	23	30
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	108	142	108	142	67-150	27	30
Acetone	ug/L	ND	100	100	98.1	120	86	107	56-150	20	30
Allyl chloride	ug/L	ND	20	20	22.8	29.5	111	145	66-134	26	30 M1
Benzene	ug/L	ND	20	20	25.1	32.1	123	158	74-134	24	30 M1
Bromobenzene	ug/L	ND	20	20	21.5	28.4	107	142	75-138	28	30 M1
Bromochloromethane	ug/L	ND	20	20	23.0	30.3	115	151	75-145	28	30 M1
Bromodichloromethane	ug/L	ND	20	20	25.2	32.4	126	162	75-143	25	30 M1
Bromoform	ug/L	ND	20	20	16.6	22.9	83	115	67-125	32	30 R1
Bromomethane	ug/L	ND	20	20	34.3	31.3	171	156	30-150	9	30 M1
Carbon tetrachloride	ug/L	ND	20	20	25.2	32.2	126	161	75-150	25	30 M1
Chlorobenzene	ug/L	ND	20	20	23.1	29.8	116	149	75-133	25	30 M1
Chloroethane	ug/L	ND	20	20	22.9	27.5	114	137	53-150	18	30
Chloroform	ug/L	ND	20	20	25.6	33.6	128	168	75-134	27	30 M1
Chloromethane	ug/L	ND	20	20	24.4	28.1	122	140	41-150	14	30
cis-1,2-Dichloroethene	ug/L	ND	20	20	24.1	30.4	120	151	73-140	23	30 M1
cis-1,3-Dichloropropene	ug/L	ND	20	20	22.0	29.0	110	145	72-140	27	30 M1
Dibromochloromethane	ug/L	ND	20	20	21.1	28.7	105	144	74-130	31	30 M1,R1
Dibromomethane	ug/L	ND	20	20	22.7	29.7	114	148	70-141	27	30 M1
Dichlorodifluoromethane	ug/L	ND	20	20	29.6	36.3	148	182	50-150	20	30 M1
Dichlorofluoromethane	ug/L	ND	20	20	26.1	30.3	130	151	62-150	15	30 M1
Diethyl ether (Ethyl ether)	ug/L	ND	20	20	22.5	29.5	112	147	71-141	27	30 M1
Ethylbenzene	ug/L	5.8	20	20	29.1	34.2	117	142	75-136	16	30 M1
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20.1	22.9	101	115	47-150	13	30
Isopropylbenzene (Cumene)	ug/L	ND	20	20	23.6	30.5	116	150	75-138	25	30 M1
m&p-Xylene	ug/L	13.6	40	40	60.4	71.9	117	146	75-134	17	30 M1
Methyl-tert-butyl ether	ug/L	ND	20	20	23.6	31.7	118	159	75-128	29	30 M1
Methylene Chloride	ug/L	ND	20	20	22.7	29.1	114	146	69-150	25	30
n-Butylbenzene	ug/L	ND	20	20	23.1	27.6	112	135	68-150	18	30
n-Propylbenzene	ug/L	ND	20	20	24.6	30.4	122	150	74-150	21	30
Naphthalene	ug/L	1040	20	20	1070	986	156	-251	61-138	8	30 E,M0
o-Xylene	ug/L	7.7	20	20	30.0	35.7	112	140	75-129	17	30 M1
p-Isopropyltoluene	ug/L	ND	20	20	22.4	27.9	112	139	70-142	22	30
sec-Butylbenzene	ug/L	ND	20	20	21.4	27.7	107	139	74-150	26	30
Styrene	ug/L	1.6	20	20	24.0	30.2	112	143	70-140	23	30 M1
tert-Butylbenzene	ug/L	1.5	20	20	23.2	29.4	109	140	73-140	24	30
Tetrachloroethene	ug/L	ND	20	20	22.1	26.6	111	133	72-141	18	30
Tetrahydrofuran	ug/L	ND	200	200	234	310	117	155	53-150	28	30 M1
Toluene	ug/L	5.4	20	20	27.5	33.9	111	143	71-138	21	30 M1
trans-1,2-Dichloroethene	ug/L	ND	20	20	24.2	31.1	121	155	74-149	25	30 M1
trans-1,3-Dichloropropene	ug/L	ND	20	20	21.9	28.4	110	142	74-138	26	30 M1
Trichloroethene	ug/L	96.9	20	20	23.6	29.3	-366	-338	70-150	22	30 M1
Trichlorofluoromethane	ug/L	ND	20	20	27.2	32.4	136	162	57-150	18	30 M1
Vinyl chloride	ug/L	ND	20	20	26.3	30.9	132	155	59-150	16	30 M1

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2581431 2581432												
Parameter	Units	10388127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Xylene (Total)	ug/L	21.2	60	60	90.4	108	115	144	75-131	17	30	MS
1,2-Dichloroethane-d4 (S)	%.						120	119	75-137			
4-Bromofluorobenzene (S)	%.						105	103	75-125			
Toluene-d8 (S)	%.						99	99	75-125			

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

QC Batch:	472957	Analysis Method:	EPA 8015C Modified
QC Batch Method:	EPA Mod. 3510C	Analysis Description:	8015C GCS
Associated Lab Samples:	10387826001, 10387826002		

METHOD BLANK: 2580197 Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO (C10-C28)	mg/L	ND	0.050	05/10/17 10:15	
n-Triacontane (S)	%.	62	60-125	05/10/17 10:15	
o-Terphenyl (S)	%.	75	75-125	05/10/17 10:15	

LABORATORY CONTROL SAMPLE & LCSD: 2580198

LABORATORY CONTROL SAMPLE & LCSD: 2580198			2580199							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH-DRO (C10-C28)	mg/L	1	0.75	0.67	75	67	57-125	12	20	
n-Triacontane (S)	%.				75	60	60-125			
o-Terphenyl (S)	%.				88	81	75-125			

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

QC Batch: 472933

Analysis Method: EPA 8270D

QC Batch Method: EPA 3520

Analysis Description: 8270D Water MSSV

Associated Lab Samples: 10387826001, 10387826002

METHOD BLANK: 2580052

Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	10.0	05/10/17 16:50	
1,2-Dichlorobenzene	ug/L	ND	10.0	05/10/17 16:50	
1,2-Diphenylhydrazine	ug/L	ND	10.0	05/10/17 16:50	
1,3-Dichlorobenzene	ug/L	ND	10.0	05/10/17 16:50	
1,4-Dichlorobenzene	ug/L	ND	10.0	05/10/17 16:50	
1-Methylnaphthalene	ug/L	ND	10.0	05/10/17 16:50	
2,4,5-Trichlorophenol	ug/L	ND	10.0	05/10/17 16:50	
2,4,6-Trichlorophenol	ug/L	ND	10.0	05/10/17 16:50	
2,4-Dichlorophenol	ug/L	ND	10.0	05/10/17 16:50	
2,4-Dimethylphenol	ug/L	ND	50.0	05/10/17 16:50	
2,4-Dinitrophenol	ug/L	ND	10.0	05/10/17 16:50	
2,4-Dinitrotoluene	ug/L	ND	10.0	05/10/17 16:50	
2,6-Dinitrotoluene	ug/L	ND	10.0	05/10/17 16:50	
2-Chloronaphthalene	ug/L	ND	10.0	05/10/17 16:50	
2-Chlorophenol	ug/L	ND	10.0	05/10/17 16:50	
2-Methylnaphthalene	ug/L	ND	10.0	05/10/17 16:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	05/10/17 16:50	
2-Nitroaniline	ug/L	ND	10.0	05/10/17 16:50	
2-Nitrophenol	ug/L	ND	10.0	05/10/17 16:50	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	05/10/17 16:50	
3,3'-Dichlorobenzidine	ug/L	ND	50.0	05/10/17 16:50	
3-Nitroaniline	ug/L	ND	10.0	05/10/17 16:50	
4,6-Dinitro-2-methylphenol	ug/L	ND	10.0	05/10/17 16:50	
4-Bromophenylphenyl ether	ug/L	ND	10.0	05/10/17 16:50	
4-Chloro-3-methylphenol	ug/L	ND	10.0	05/10/17 16:50	
4-Chloroaniline	ug/L	ND	50.0	05/10/17 16:50	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	05/10/17 16:50	
4-Nitroaniline	ug/L	ND	10.0	05/10/17 16:50	
4-Nitrophenol	ug/L	ND	10.0	05/10/17 16:50	
Acenaphthene	ug/L	ND	10.0	05/10/17 16:50	
Acenaphthylene	ug/L	ND	10.0	05/10/17 16:50	
Anthracene	ug/L	ND	10.0	05/10/17 16:50	
Benzo(a)anthracene	ug/L	ND	10.0	05/10/17 16:50	
Benzo(a)pyrene	ug/L	ND	10.0	05/10/17 16:50	
Benzo(b)fluoranthene	ug/L	ND	10.0	05/10/17 16:50	
Benzo(g,h,i)perylene	ug/L	ND	10.0	05/10/17 16:50	
Benzo(k)fluoranthene	ug/L	ND	10.0	05/10/17 16:50	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	05/10/17 16:50	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	05/10/17 16:50	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	05/10/17 16:50	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10.0	05/10/17 16:50	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

METHOD BLANK: 2580052

Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	10.0	05/10/17 16:50	
Carbazole	ug/L	ND	10.0	05/10/17 16:50	
Chrysene	ug/L	ND	10.0	05/10/17 16:50	
Di-n-butylphthalate	ug/L	ND	10.0	05/10/17 16:50	
Di-n-octylphthalate	ug/L	ND	10.0	05/10/17 16:50	
Dibenz(a,h)anthracene	ug/L	ND	10.0	05/10/17 16:50	
Dibenzofuran	ug/L	ND	10.0	05/10/17 16:50	
Diethylphthalate	ug/L	ND	10.0	05/10/17 16:50	
Dimethylphthalate	ug/L	ND	10.0	05/10/17 16:50	
Fluoranthene	ug/L	ND	10.0	05/10/17 16:50	
Fluorene	ug/L	ND	10.0	05/10/17 16:50	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	05/10/17 16:50	
Hexachlorobenzene	ug/L	ND	10.0	05/10/17 16:50	
Hexachloroethane	ug/L	ND	10.0	05/10/17 16:50	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	05/10/17 16:50	
Isophorone	ug/L	ND	10.0	05/10/17 16:50	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	05/10/17 16:50	
N-Nitrosodimethylamine	ug/L	ND	10.0	05/10/17 16:50	
N-Nitrosodiphenylamine	ug/L	ND	10.0	05/10/17 16:50	
Naphthalene	ug/L	ND	10.0	05/10/17 16:50	
Nitrobenzene	ug/L	ND	10.0	05/10/17 16:50	
Pentachlorophenol	ug/L	ND	20.0	05/10/17 16:50	
Phenanthrene	ug/L	ND	10.0	05/10/17 16:50	
Phenol	ug/L	ND	10.0	05/10/17 16:50	
Pyrene	ug/L	ND	10.0	05/10/17 16:50	
2,4,6-Tribromophenol (S)	%	106	66-125	05/10/17 16:50	
2-Fluorobiphenyl (S)	%	90	30-125	05/10/17 16:50	
2-Fluorophenol (S)	%	78	49-125	05/10/17 16:50	
Nitrobenzene-d5 (S)	%	87	44-125	05/10/17 16:50	
p-Terphenyl-d14 (S)	%	98	31-125	05/10/17 16:50	
Phenol-d6 (S)	%	83	59-125	05/10/17 16:50	

LABORATORY CONTROL SAMPLE: 2580053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	46.7	93	50-125	
1,2-Dichlorobenzene	ug/L	50	40.5	81	40-125	
1,2-Diphenylhydrazine	ug/L	50	47.2	94	66-125	
1,3-Dichlorobenzene	ug/L	50	39.1	78	37-125	
1,4-Dichlorobenzene	ug/L	50	39.0	78	38-125	
1-Methylnaphthalene	ug/L	50	43.6	87	64-125	
2,4,5-Trichlorophenol	ug/L	50	48.1	96	72-125	
2,4,6-Trichlorophenol	ug/L	50	50.7	101	70-125	
2,4-Dichlorophenol	ug/L	50	44.3	89	66-125	

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE: 2580053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dimethylphenol	ug/L	50	38.7J	77	30-125	
2,4-Dinitrophenol	ug/L	50	47.2	94	30-125	
2,4-Dinitrotoluene	ug/L	50	48.0	96	74-125	
2,6-Dinitrotoluene	ug/L	50	44.5	89	75-125	
2-Chloronaphthalene	ug/L	50	44.5	89	68-125	
2-Chlorophenol	ug/L	50	40.2	80	59-125	
2-Methylnaphthalene	ug/L	50	44.3	89	63-125	
2-Methylphenol(o-Cresol)	ug/L	50	40.8	82	59-125	
2-Nitroaniline	ug/L	50	47.9	96	71-125	
2-Nitrophenol	ug/L	50	46.0	92	64-125	
3&4-Methylphenol(m&p Cresol)	ug/L	50	40.4	81	62-125	
3,3'-Dichlorobenzidine	ug/L	50	48.8J	98	61-125	
3-Nitroaniline	ug/L	50	50.0	100	60-125	
4,6-Dinitro-2-methylphenol	ug/L	50	45.1	90	30-136	
4-Bromophenylphenyl ether	ug/L	50	46.9	94	73-125	
4-Chloro-3-methylphenol	ug/L	50	45.3	91	71-125	
4-Chloroaniline	ug/L	50	46.2J	92	50-125	
4-Chlorophenylphenyl ether	ug/L	50	54.5	109	72-125	1M
4-Nitroaniline	ug/L	50	47.7	95	63-125	
4-Nitrophenol	ug/L	50	50.0	100	66-125	
Acenaphthene	ug/L	50	48.5	97	70-125	
Acenaphthylene	ug/L	50	48.9	98	70-125	
Anthracene	ug/L	50	44.4	89	68-125	
Benzo(a)anthracene	ug/L	50	44.9	90	73-125	
Benzo(a)pyrene	ug/L	50	48.7	97	75-125	
Benzo(b)fluoranthene	ug/L	50	49.7	99	75-125	
Benzo(g,h,i)perylene	ug/L	50	46.2	92	75-125	
Benzo(k)fluoranthene	ug/L	50	50.5	101	71-125	
bis(2-Chloroethoxy)methane	ug/L	50	45.0	90	66-125	
bis(2-Chloroethyl) ether	ug/L	50	41.8	84	58-125	
bis(2-Chloroisopropyl) ether	ug/L	50	41.4	83	53-125	
bis(2-Ethylhexyl)phthalate	ug/L	50	45.7	91	73-125	
Butylbenzylphthalate	ug/L	50	42.9	86	73-125	
Carbazole	ug/L	50	43.7	87	75-125	
Chrysene	ug/L	50	45.8	92	75-125	
Di-n-butylphthalate	ug/L	50	44.3	89	75-125	
Di-n-octylphthalate	ug/L	50	42.9	86	75-125	
Dibenz(a,h)anthracene	ug/L	50	46.5	93	75-125	
Dibenzofuran	ug/L	50	48.7	97	72-125	
Diethylphthalate	ug/L	50	50.1	100	75-125	
Dimethylphthalate	ug/L	50	46.0	92	75-125	
Fluoranthene	ug/L	50	46.4	93	74-125	
Fluorene	ug/L	50	48.6	97	73-125	
Hexachloro-1,3-butadiene	ug/L	50	50.0	100	39-125	1M
Hexachlorobenzene	ug/L	50	43.8	88	75-125	
Hexachloroethane	ug/L	50	41.5	83	30-125	
Indeno(1,2,3-cd)pyrene	ug/L	50	46.2	92	75-125	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

LABORATORY CONTROL SAMPLE: 2580053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isophorone	ug/L	50	45.4	91	70-125	
N-Nitroso-di-n-propylamine	ug/L	50	41.7	83	65-125	
N-Nitrosodimethylamine	ug/L	50	40.9	82	46-125	
N-Nitrosodiphenylamine	ug/L	50	42.9	86	72-125	
Naphthalene	ug/L	50	43.9	88	61-125	
Nitrobenzene	ug/L	50	45.0	90	65-125	
Pentachlorophenol	ug/L	50	42.9	86	44-125	
Phenanthrene	ug/L	50	42.2	84	75-125	
Phenol	ug/L	50	40.9	82	60-125	
Pyrene	ug/L	50	46.2	92	74-125	
2,4,6-Tribromophenol (S)	%			105	66-125	
2-Fluorobiphenyl (S)	%			95	30-125	
2-Fluorophenol (S)	%			81	49-125	
Nitrobenzene-d5 (S)	%			90	44-125	
p-Terphenyl-d14 (S)	%			94	31-125	
Phenol-d6 (S)	%			82	59-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2580054 2580055

Parameter	Units	10387602002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trichlorobenzene	ug/L	ND	50.8	51.5	47.4	50.3	93	98	58-125	6	30	
1,2-Dichlorobenzene	ug/L	ND	50.8	51.5	39.9	42.0	79	81	55-125	5	30	
1,2-Diphenylhydrazine	ug/L	ND	50.8	51.5	50.3	50.5	99	98	64-125	0	30	
1,3-Dichlorobenzene	ug/L	ND	50.8	51.5	39.8	40.2	78	78	52-125	1	30	
1,4-Dichlorobenzene	ug/L	ND	50.8	51.5	39.2	42.1	77	82	53-125	7	30	
1-Methylnaphthalene	ug/L	ND	50.8	51.5	44.5	48.4	88	94	64-125	8	30	
2,4,5-Trichlorophenol	ug/L	ND	50.8	51.5	54.6	53.7	108	104	70-125	2	30	
2,4,6-Trichlorophenol	ug/L	ND	50.8	51.5	57.6	56.7	114	110	70-125	2	30	
2,4-Dichlorophenol	ug/L	ND	50.8	51.5	46.2	50.2	91	97	60-125	8	30	
2,4-Dimethylphenol	ug/L	995	50.8	51.5	924	975	-141	-38	30-150	5	30	E,M1
2,4-Dinitrophenol	ug/L	ND	50.8	51.5	57.3	58.9	113	114	30-143	3	30	
2,4-Dinitrotoluene	ug/L	ND	50.8	51.5	51.4	51.9	101	101	75-125	1	30	
2,6-Dinitrotoluene	ug/L	ND	50.8	51.5	48.3	48.4	95	94	73-125	0	30	
2-Chloronaphthalene	ug/L	ND	50.8	51.5	48.1	47.8	95	93	69-125	1	30	
2-Chlorophenol	ug/L	ND	50.8	51.5	41.4	43.2	82	84	54-125	4	30	
2-Methylnaphthalene	ug/L	ND	50.8	51.5	46.3	48.6	91	94	63-125	5	30	
2-Methylphenol(o-Cresol)	ug/L	ND	50.8	51.5	44.3	45.9	87	89	54-125	4	30	
2-Nitroaniline	ug/L	ND	50.8	51.5	54.6	57.6	108	112	62-125	5	30	
2-Nitrophenol	ug/L	ND	50.8	51.5	47.9	50.5	94	98	61-125	5	30	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50.8	51.5	45.8	48.0	90	93	57-125	5	30	
3,3'-Dichlorobenzidine	ug/L	ND	50.8	51.5	ND	ND	0	0	30-125		30	M1
3-Nitroaniline	ug/L	ND	50.8	51.5	35.5	35.0	70	68	30-140	1	30	
4,6-Dinitro-2-methylphenol	ug/L	ND	50.8	51.5	49.5	49.6	97	96	30-135	0	30	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2580054 2580055											
Parameter	Units	10387602002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
4-Bromophenylphenyl ether	ug/L	ND	50.8	51.5	50.7	50.8	100	99	54-125	0	30
4-Chloro-3-methylphenol	ug/L	ND	50.8	51.5	49.6	51.5	98	100	73-125	4	30
4-Chloroaniline	ug/L	ND	50.8	51.5	27.1J	25.9J	53	50	30-128		30
4-Chlorophenylphenyl ether	ug/L	ND	50.8	51.5	60.3	59.1	119	115	57-125	2	30 1M
4-Nitroaniline	ug/L	ND	50.8	51.5	45.1	45.5	89	88	30-138	1	30
4-Nitrophenol	ug/L	ND	50.8	51.5	56.0	54.9	110	106	69-125	2	30
Acenaphthene	ug/L	ND	50.8	51.5	54.0	53.8	106	104	65-125	0	30
Acenaphthylene	ug/L	ND	50.8	51.5	52.4	52.6	103	102	67-125	0	30
Anthracene	ug/L	ND	50.8	51.5	45.5	47.0	90	91	75-125	3	30
Benzo(a)anthracene	ug/L	ND	50.8	51.5	49.1	50.9	97	99	73-125	3	30
Benzo(a)pyrene	ug/L	ND	50.8	51.5	51.5	55.3	101	107	53-125	7	30
Benzo(b)fluoranthene	ug/L	ND	50.8	51.5	54.6	57.7	108	112	54-125	5	30
Benzo(g,h,i)perylene	ug/L	ND	50.8	51.5	50.7	52.3	100	101	71-125	3	30
Benzo(k)fluoranthene	ug/L	ND	50.8	51.5	52.8	55.3	104	107	75-125	5	30
bis(2-Chloroethoxy)methane	ug/L	ND	50.8	51.5	44.5	47.4	88	92	68-125	6	30
bis(2-Chloroethyl) ether	ug/L	ND	50.8	51.5	41.8	44.8	82	87	58-125	7	30
bis(2-Chloroisopropyl) ether	ug/L	ND	50.8	51.5	42.3	43.6	83	85	56-125	3	30
bis(2-Ethylhexyl)phthalate	ug/L	ND	50.8	51.5	49.6	50.9	98	99	75-125	2	30
Butylbenzylphthalate	ug/L	ND	50.8	51.5	48.5	48.8	96	95	54-125	1	30
Carbazole	ug/L	ND	50.8	51.5	45.8	47.3	90	92	72-125	3	30
Chrysene	ug/L	ND	50.8	51.5	50.0	50.5	99	98	73-125	1	30
Di-n-butylphthalate	ug/L	ND	50.8	51.5	48.1	49.6	95	96	75-125	3	30
Di-n-octylphthalate	ug/L	ND	50.8	51.5	49.8	51.1	98	99	57-125	2	30
Dibenz(a,h)anthracene	ug/L	ND	50.8	51.5	50.6	52.8	100	103	73-125	4	30
Dibenzofuran	ug/L	ND	50.8	51.5	51.9	52.7	102	102	63-125	2	30
Diethylphthalate	ug/L	ND	50.8	51.5	55.2	54.6	109	106	75-125	1	30
Dimethylphthalate	ug/L	ND	50.8	51.5	49.9	49.2	98	95	75-125	1	30
Fluoranthene	ug/L	ND	50.8	51.5	49.8	50.6	98	98	57-125	2	30
Fluorene	ug/L	ND	50.8	51.5	52.6	52.5	104	102	69-125	0	30
Hexachloro-1,3-butadiene	ug/L	ND	50.8	51.5	51.2	54.3	101	105	47-125	6	30 1M
Hexachlorobenzene	ug/L	ND	50.8	51.5	45.6	47.6	90	92	75-125	4	30
Hexachloroethane	ug/L	ND	50.8	51.5	40.5	41.9	80	81	46-125	4	30
Indeno(1,2,3-cd)pyrene	ug/L	ND	50.8	51.5	50.2	52.2	99	101	72-125	4	30
Isophorone	ug/L	ND	50.8	51.5	48.1	49.6	95	96	72-125	3	30
N-Nitroso-di-n-propylamine	ug/L	ND	50.8	51.5	43.6	45.5	86	88	73-125	4	30
N-Nitrosodimethylamine	ug/L	ND	50.8	51.5	43.3	43.0	85	83	59-125	1	30
N-Nitrosodiphenylamine	ug/L	ND	50.8	51.5	45.2	46.7	89	91	55-125	3	30
Naphthalene	ug/L	ND	50.8	51.5	45.0	46.8	89	91	63-125	4	30
Nitrobenzene	ug/L	ND	50.8	51.5	46.2	48.3	91	94	55-125	4	30
Pentachlorophenol	ug/L	ND	50.8	51.5	52.3	52.1	103	101	30-150	1	30
Phenanthrene	ug/L	ND	50.8	51.5	44.8	46.6	88	90	63-125	4	30
Phenol	ug/L	ND	50.8	51.5	43.9	45.9	84	86	39-129	4	30
Pyrene	ug/L	ND	50.8	51.5	49.3	51.7	97	100	75-125	5	30
2,4,6-Tribromophenol (S)	%						118	113	66-125		
2-Fluorobiphenyl (S)	%						103	103	30-125		
2-Fluorophenol (S)	%						81	84	49-125		

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2580054 2580055											
Parameter	Units	10387602002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Nitrobenzene-d5 (S)	%.						89	94	44-125		
p-Terphenyl-d14 (S)	%.						99	101	31-125		
Phenol-d6 (S)	%.						84	89	59-125		

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## QUALITY CONTROL DATA

Project: BNSF Somer

Pace Project No.: 10387826

QC Batch: 472859

Analysis Method: EPA 1664A OG

QC Batch Method: EPA 1664A OG

Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 10387826001, 10387826002

METHOD BLANK: 2579792

Matrix: Water

Associated Lab Samples: 10387826001, 10387826002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	05/09/17 13:30	

LABORATORY CONTROL SAMPLE: 2579793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 2580032

Parameter	Units	40148999001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	48.8	41.2	84.1	86	78-114	

SAMPLE DUPLICATE: 2581151

Parameter	Units	10388016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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## QUALIFIERS

Project: BNSF Somer

Pace Project No.: 10387826

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

### BATCH QUALIFIERS

Batch: 472859

[BE] Batch extracted by solid phase extraction (SPE).

Batch: 473173

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1M The associated compound was outside of 20% for the associated continuing calibration but within 40% of the true value.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

R1 RPD value was outside control limits.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BNSF Somer

Pace Project No.: 10387826

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10387826001	BNSF-SW-01-050517	EPA Mod. 3510C	472957	EPA 8015C Modified	473173
10387826002	BNSF-SW-02-050517	EPA Mod. 3510C	472957	EPA 8015C Modified	473173
10387826001	BNSF-SW-01-050517	EPA 8015C	472705		
10387826002	BNSF-SW-02-050517	EPA 8015C	472705		
10387826001	BNSF-SW-01-050517	EPA 3520	472933	EPA 8270D	473288
10387826002	BNSF-SW-02-050517	EPA 3520	472933	EPA 8270D	473288
10387826001	BNSF-SW-01-050517	EPA 8260B	472995		
10387826002	BNSF-SW-02-050517	EPA 8260B	472995		
10387826003	BNSF-TB-01-050517	EPA 8260B	473211		
10387826001	BNSF-SW-01-050517	EPA 1664A OG	472859		
10387826002	BNSF-SW-02-050517	EPA 1664A OG	472859		

## REPORT OF LABORATORY ANALYSIS

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10387826


Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	WESTON SOLUTIONS	Report To:	CORDEL SCHMIDT	Attention:	CORDEL SCHMIDT
Address:	1435 GARRISON ST LAKE WATERS, CO 80125	Copy To:		Company Name:	WESTON SOLUTIONS
Email:	CORDEL.SCHMIDT@WESTON-SOLUTIONS.COM			Address:	
Phone:	720-474-1412	Project Name:	BASE SOMER	Pace Quote Reference:	
Fax:		Project Manager:		Pace Project Manager:	
Requested Due Date/TAT: 3 DAY		Project Number:		Pace Profile #:	

REGULATORY AGENCY		REGULATORY AGENCY	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER	
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	
Site Location		STATE	
MT		MT	

Page: 1 of 2

2111140

[illegible]

	Document Name:	Document Revised: 21Dec2016
	Sample Condition Upon Receipt Form - ESI	Page 1 of 2
	Document No.: F-MN-L-210-rev.22	Issuing Authority: Pace Minnesota Quality Office

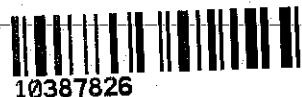
Sample Condition  
Upon Receipt - ESI  
Tech Specs

Client Name:

Project #:

Weston / BNSF

WO#: **10387826**



10387826

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client

☐ Commercial ☐ Pace ☐ Speedee ☐ Other:

Tracking Number: 8106 7893 3518 675242095761

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No

Seals Intact? ☒ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:

Thermometer ☒ 151401163

Used: ☐ 151401164

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Temp Blank? ☒ Yes ☐ No

Cooler Temp Read (°C): 5.95.2

Cooler Temp Corrected (°C): 5.95.2

Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C

Correction Factor: none

Date and Initials of Person Examining Contents: R65/6/17

USDA Regulated Soil ( ☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: <u>VOA Coliform, TOC/DOC, Oil and Grease, DRC/8015 (water) and Dioxin.</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: Lot # of added preservative:
Per method, VOA pH is checked after analysis			
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15. <u>only 2 blanks</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>not visible</u>			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>16:10</u>	Temp: <u>5.95.2</u>	Corrected Temp: <u>5.95.2</u>
Time: <u>16:30</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: Ky K

Date: 5/8/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)