UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202093

Dimock Residential GW Site- 1201028 1202029	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	02/16/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	02/16/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	02/16/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	02/16/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	NO	*	DK	02/16/2012

LCS Recovery for Anionic Surfactants (124%) was outside acceptance limits (85-115) in B202093-BS1 for Surfactants (MBAS)

LCS Recovery for Anionic Surfactants (120%) was outside acceptance limits (85-115) in B202093-BSD1 for Surfactants (MBAS)

No qualifier needed for high recovery since samples are both ND.

LCS's analyzed at the required frequency?	YES	*	DK	02/16/2012
LCS RPD less than or equal to 20?	YES	*	DK	02/16/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	02/16/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	02/16/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	02/16/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	02/16/2012

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202093

Dimock Residential GW Site- 1201028 1202029	Analysis	Matrix
	Surfactants (MBAS)	Aqueous

ICV/CCV recoveries within 10% of the true value?	YES	DK	02/16/2012
ICB/CCB result less than the reporting limit?	YES	DK	02/16/2012

Data review			Analyst Initials	Date
Was data peer reviewed?	YES	*	JH	02/16/2012

* = Automated Response from Promium

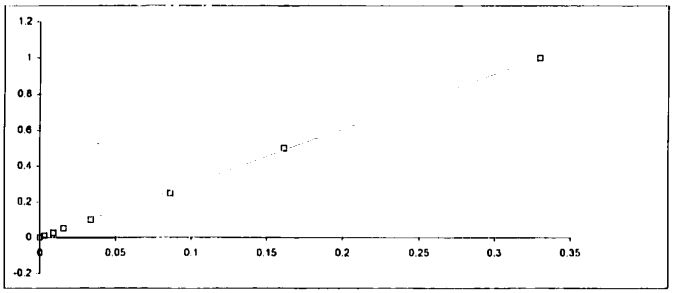
Initial Calibration Date: 1/26/2012	Batch ID: B202072
Analyst: Dkay	Analysis Date/Time: 2/16/12 10:18
Units: mg/L	Wavelength: 652
Analyte: Anionic Surfactants	

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation; mg/L = (Raw value from curve) * DF

Calculation; mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Sample Absorbance	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.032	10:18	100	1	0.096	0.096
ICB			0	10:18	100	1	-0.001	-0.001
1202029-01	FB18	Sample	-0.001	10:18	100	1	-0.004	-0.004
1202029-02	HW07	Sample	0.002	10:18	100	1	0.005	0.005
B202093-BS1	-	LCS	0.107	10:18	100	2	0.324	0.648
B202093-BSD1	-	LCS Dup	0.104	10:18	100	2	0.315	0.630
B202093-MS1	1202029-02	Matrix Spike	0.184	10:18	100	1	0.558	0.558
MDL #6			0.016	10:18	100	1	0.047	0.047
MDL #7			0.016	10:18	100	1	0.047	0.047
CCV			0.030	10:18	100	1	0.090	0.090
CCB			0.000	10:18	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202093
Matrix: Aqueous

Prepared by: DK
Prepared on: 02/16/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202029-01	<300		
	1202029-02	<300		
	B202093-BS1	<300	D2A2526	
	B202093-BSD1	<300	D2A2526	
	B202093-MS1	<300	D2A2527	1202029-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202040

Instrument: Hach DR 5000

Printed: 2/16/2012 10:15:30AM

Project Name	Lab Number	Analysis	STD ID
	S202040-CAL1	QC	D2A2528
	S202040-CAL2	QC	D2A2529
	S202040-CAL3	QC	D2A2530
	S202040-CAL4	QC	D2A2531
	S202040-CAL5	QC	D2A2532
	S202040-CAL6	QC	D2A2533
	S202040-CAL7	QC	D2A2534
	S202040-ICV1	QC	D2A2531
	S202040-ICB1	QC	
	S202040-CCV1	QC	D2A2531
	S202040-CCB1	QC	
Dimock Residential GW Site- 120102	1202029-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202029-01	Surfactants (MBAS)	
	B202093-BS1	QC	
	B202093-BSD1	QC	
	B202093-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202081

Dimock Residential GW Site- 1201028 1202023	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	02/15/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	02/15/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	02/15/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	02/15/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	02/15/2012
LCS's analyzed at the required frequency?	YES	*	DK	02/15/2012
LCS RPD less than or equal to 20?	YES	*	DK	02/15/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	02/15/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	02/15/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	02/15/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	02/15/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	02/15/2012
ICB/CCB result less than the reporting limit?	YES	DK	02/15/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202081

Dimock Residential GW Site- 1201028 1202023	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 02/15/2012

* = Automated Response from Promium

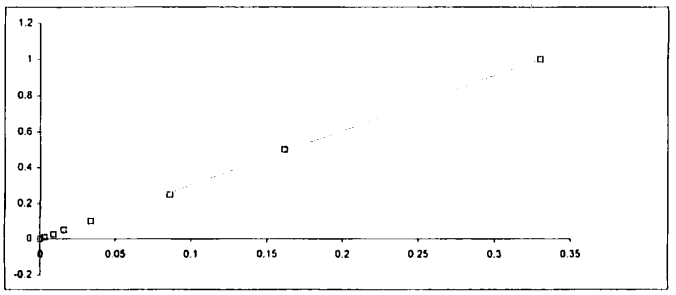
Initial Calibration Date: 1/26/2012	**Batch ID:** B202072
Analyst: Dkay	Analysis Date/Time: 2/15/12 1:47
Units: mg/L	Wavelength: 652
Analyte: Anionic Surfactants	

Measured Response	Standards ID	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF

Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Sample Absorbance	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	2/15/12 1:47	100	1	0.093	0.093
ICB			0	2/15/12 1:47	100	1	-0.001	-0.001
1202023-01	FB17	Sample	-0.001	2/15/12 1:47	100	1	-0.004	-0.004
1202023-02	HW03	Sample	0.003	2/15/12 1:47	100	1	0.008	0.008
1202023-03	HW03z	Sample	0.003	2/15/12 1:47	100	1	0.008	0.008
1202023-04	HW57	Sample	0.001	2/15/12 1:47	100	1	0.002	0.002
1202023-05	HW57-P	Sample	-0.003	2/15/12 1:47	100	1	-0.010	-0.010
1202023-06	HW58	Sample	-0.001	2/15/12 1:47	100	1	-0.004	-0.004
1202023-07	HW59	Sample	0.002	2/15/12 1:47	100	1	0.005	0.005
CCV			0.030	2/15/12 1:47	100	1	0.090	0.090
CCB			0.000	2/15/12 1:47	100	1	-0.001	-0.001
B202081-BS1	-	LCS	0.163	2/15/12 1:47	100	1	0.494	0.494
B202081-BSD1	-	LCS Dup	0.167	2/15/12 1:47	100	1	0.506	0.506
B202081-MS1	1202023-02	Matrix Spike	0.135	2/15/12 1:47	100	1	0.409	0.409
CCV			0.030	2/15/12 1:47	100	1	0.090	0.090
CCB			0.000	2/15/12 1:47	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202081
Matrix: Aqueous

Prepared by: DK
Prepared on: 02/15/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	[redacted]	[redacted]		
	1202023-02	<300		
[redacted]	[redacted]	[redacted]		
	1202023-04	<300		
[redacted]	[redacted]	[redacted]		
	1202023-06	<300		
[redacted]	[redacted]	[redacted]		
	B202081-BS1	<300	D2A2526	
[redacted]	[redacted]	[redacted]	[redacted]	
	B202081-MS1	<300	D2A2527	1202023-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202036

Instrument: Hach DR 5000

Printed: 2/15/2012 1:51:56PM

Project Name	Lab Number	Analysis	STD ID
	S202036-CAL1	QC	D2A2528
	S202036-CAL2	QC	D2A2529
	S202036-CAL3	QC	D2A2530
	S202036-CAL4	QC	D2A2531
	S202036-CAL5	QC	D2A2532
	S202036-CAL6	QC	D2A2533
	S202036-CAL7	QC	D2A2534
	S202036-ICV1	QC	D2A2531
	S202036-ICB1	QC	
Dimock Residential GW Site- 120102	1202023-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202023-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202023-03	Surfactants (MBAS)	
	S202036-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202023-04	Surfactants (MBAS)	
	S202036-CCB1	QC	
Dimock Residential GW Site- 120102	1202023-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202023-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202023-07	Surfactants (MBAS)	
	B202081-BS1	QC	
	B202081-BSD1	QC	
	B202081-MS1	QC	
	S202036-CCB2	QC	
	S202036-CCV2	QC	D2A2531

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202072

Dimock Residential GW Site- 1201028 1202022	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/14/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/14/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/14/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/14/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	NO	*	JH	02/14/2012

LCS Recovery for Anionic Surfactants (119%) was outside acceptance limits (85-115) in B202072-BSD1 for Surfactants (MBAS)

No qualifier was needed due to samples being ND. No high sample bias

LCS's analyzed at the required frequency?	YES	*	JH	02/14/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/14/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/14/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/14/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/14/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/14/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/14/2012

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202072

Dimock Residential GW Site- 1201028 1202022	Analysis	Matrix
	Surfactants (MBAS)	Aqueous

ICB/CCB result less than the reporting limit?	YES	JH	02/14/2012

Data review		Analyst Initials	Date
Was data peer reviewed?	YES *	DK	02/14/2012

* = Automated Response from Promium

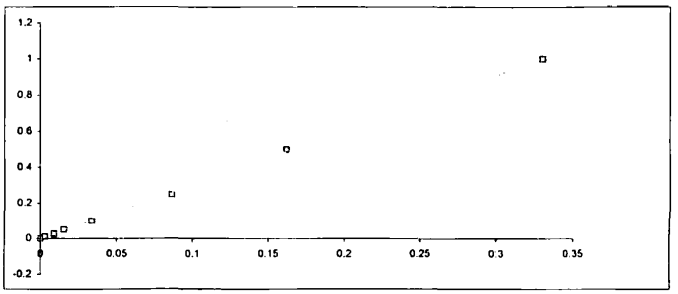
Initial Calibration Date: 1/26/2012	Batch ID: B202072
Analyst: Jhale	Analysis Date/Time: 2/14/12 11:18
Units: mg/L	Wavelength: 652
Analyte: Anionic Surfactants	

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9996816



Calculation: mg/L = (Raw value from curve) * DF

Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Sample Absorbance	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	2/14/12 11:18		1	0.093	0.093
ICB			-0.001	2/14/12 11:18		1	-0.004	-0.004
1202022-01	FB16	Sample	0.001	2/14/12 11:18		1	0.002	0.002
1202022-02	HW11	Sample	-0.001	2/14/12 11:18		1	0.002	0.002
1202022-03	HW11-P	Sample	0.001	2/14/12 11:18		1	0.002	0.002
1202022-04	HW27	Sample	-0.002	2/14/12 11:18		1	-0.007	-0.007
1202022-05	HW27r	Sample	0.001	2/14/12 11:18		1	0.002	0.002
1202022-06	HW53	Sample	-0.002	2/14/12 11:18		1	-0.007	-0.007
1202022-07	HW53-P	Sample	0.000	2/14/12 11:18		1	-0.001	-0.001
1202022-08	HW55	Sample	0.000	2/14/12 11:18		1	-0.001	-0.001
CCV			0.030	2/14/12 11:18		1	0.090	0.090
CCB			0.000	2/14/12 11:18		1	-0.001	-0.001
B202072-BS1	-	LCS	0.172	2/14/12 11:18		1	0.521	0.521
B202072-BSD1	-	LCS Dup	0.206	2/14/12 11:18		1	0.625	0.625
B202072-MS1	1202022-02	Matrix Spike	0.155	2/14/12 11:18		1	0.470	0.470
CCV			0.030	2/14/12 11:18		1	0.090	0.090
CCB			-0.001	2/14/12 11:18		1	-0.004	-0.004

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202031

Instrument: Hach DR 5000

Printed: 2/14/2012 11:15:59AM

Project Name	Lab Number	Analysis	STD ID
	S202031-CAL1	QC	D2A2528
	S202031-CAL2	QC	D2A2529
	S202031-CAL3	QC	D2A2530
	S202031-CAL4	QC	D2A2531
	S202031-CAL5	QC	D2A2532
	S202031-CAL6	QC	D2A2533
	S202031-CAL7	QC	D2A2534
	S202031-ICV1	QC	D2A2531
	S202031-ICB1	QC	
Dimock Residential GW Site- 120102	1202022-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202022-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202022-03	Surfactants (MBAS)	
	S202031-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202022-04	Surfactants (MBAS)	
	S202031-CCB1	QC	
Dimock Residential GW Site- 120102	1202022-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202022-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202022-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202022-08	Surfactants (MBAS)	
	B202072-BS1	QC	
	B202072-BSD1	QC	
	B202072-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202072
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/14/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC. ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	1202022-01	<300		
	1202022-02	<300		
[redacted]	1202022-03	<300		
	1202022-04	<300		
[redacted]	1202022-05	<300		
	1202022-06	<300		
[redacted]	1202022-07	<300		
	1202022-08	<300		
[redacted]	B202072-BS1		D2A2526	
	B202072-BSD1		D2A2526	
[redacted]	B202072-MS1	<300	D2A2527	1202022-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202065

Dimock Residential GW Site- 1201028 1202021	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/13/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/13/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/13/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/13/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	JH	02/13/2012
LCS's analyzed at the required frequency?	YES	*	JH	02/13/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/13/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/13/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/13/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/13/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/13/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/13/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/13/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202065

Dimock Residential GW Site- 1201028 1202021	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * DK 02/13/2012

* = Automated Response from Promium

Initial Calibration Date: 1/26/2012
Analyst: JHALE
Units: mg/L
Analyte: Anionic Surfactants

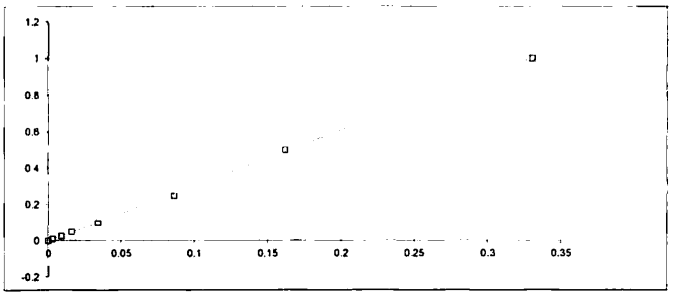
Batch ID: ~~B201104~~ B202005
Analysis Date/Time: 2/11/12 14:50

[illegible]	[illegible]	[illegible]	[illegible]
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

$y=a+bx$

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	2/11/12 14:50	100	1	0.093	0.0930
ICB			0.000	2/11/12 14:50	100	1	-0.001	-0.0013
1202021-01	FB15	Sample	0.001	2/11/12 14:50	100	1	0.002	0.0018
-02	HW16	Sample	0.008	2/11/12 14:50	100	1	0.023	0.0231
-03	HW16-P	Sample	0.003	2/11/12 14:50	100	1	0.008	0.0079
-04	HW16z	Sample	0.008	2/11/12 14:50	100	1	0.023	0.0231
-05	HW36n	Sample	0.001	2/11/12 14:50	100	1	0.002	0.0018
-06	HW36n-P	Sample	0.001	2/11/12 14:50	100	1	0.002	0.0018
ICV			0.031	2/11/12 14:50	100	1	0.093	0.0930
ICB			0.000	2/11/12 14:50	100	1	-0.001	-0.0013
-07	HW54	Sample	0.000	2/11/12 14:50	100	1	-0.001	-0.0013
-08	HW54-P	Sample	0.001	2/11/12 14:50	100	1	0.002	0.0018
AQC 1	-	LCS	0.172	2/11/12 14:50	100	1	0.521	0.5215
AQC 2	-	LCS Dup	0.170	2/11/12 14:50	100	1	0.515	0.5154
HW16 MS	HW16	Matrix Spike	0.168	2/11/12 14:50	100	1	0.509	0.5093
CCV			0.031	2/11/12 14:50	100	1	0.093	0.0930
CCB			0.000	2/11/12 14:50	100	1	-0.001	-0.0013

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202030

Instrument: Hach DR 5000

Printed: 2/13/2012 11:20:31AM

Project Name	Lab Number	Analysis	STD ID
	S202030-CAL1	QC	D2A2528
	S202030-CAL2	QC	D2A2529
	S202030-CAL3	QC	D2A2530
	S202030-CAL4	QC	D2A2531
	S202030-CAL5	QC	D2A2532
	S202030-CAL6	QC	D2A2533
	S202030-CAL7	QC	D2A2534
	S202030-ICV1	QC	D2A2531
	S202030-ICB1	QC	
Dimock Residential GW Site- 120102	1202021-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202021-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202021-03	Surfactants (MBAS)	
	S202030-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202021-04	Surfactants (MBAS)	
	S202030-CCB1	QC	
Dimock Residential GW Site- 120102	1202021-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202021-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202021-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202021-08	Surfactants (MBAS)	
	B202065-BS1	QC	
	B202065-BSD1	QC	
	B202065-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202065
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/11/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	[redacted]	[redacted]		
	1202021-02	<300		
[redacted]	[redacted]	[redacted]		
	1202021-04	<300		
	1202021-05	<300		
	1202021-06	<300		
	1202021-07	<300		
	1202021-08	<300		
	B202065-BS1		D2A2526	
	B202065-BSD1		D2A2526	
[redacted]	[redacted]		[redacted]	[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202058

Dimock Residential GW Site- 1201028 1202019	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	02/10/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	02/10/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	02/10/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	02/10/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	02/10/2012
LCS's analyzed at the required frequency?	YES	*	DK	02/10/2012
LCS RPD less than or equal to 20?	YES	*	DK	02/10/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	02/10/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	02/10/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	02/10/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	02/10/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	02/10/2012
ICB/CCB result less than the reporting limit?	YES	DK	02/10/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202058

Dimock Residential GW Site- 1201028 1202019	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * FE 02/10/2012

* = Automated Response from Promium

VFF
2/10/12

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE
S202026

Instrument: Hach DR 5000

Printed: 2/10/2012

Project Name	Lab Number	Analysis	STD ID
	S202026-CAL1	QC	D2A2528
	S202026-CAL2	QC	D2A2529
	S202026-CAL3	QC	D2A2530
	S202026-CAL4	QC	D2A2531
	S202026-CAL5	QC	D2A2532
	S202026-CAL6	QC	D2A2533
	S202026-CAL7	QC	D2A2534
	S202026-ICV1	QC	D2A2531
	S202026-ICB1	QC	
Dimock Residential GW Site- 120102	1202019-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202019-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202019-03	Surfactants (MBAS)	
	S202026-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202019-04	Surfactants (MBAS)	
	S202026-CCB1	QC	
Dimock Residential GW Site- 120102	1202019-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202019-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202019-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202019-08	Surfactants (MBAS)	
	B202058-BS1	QC	
	B202058-BSD1	QC	
	B202058-MS1	QC	
	S202026-CCB2	QC	
	S202026-CCV2	QC	D2A2531

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

UFE
2/13/12

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202058
Matrix: Aqueous

Prepared by: DK
Prepared on: 02/10/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std.. 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202019-01	<300		
	1202019-02	<300		
	1202019-03	<300		
	1202019-04	<300		
	1202019-05	<300		
	1202019-06	<300		
	1202019-07	<300		
	1202019-08	<300		
	B202058-BS1	<300	D2A2526	
	B202058-BSD1	<300	D2A2526	
	B202058-MS1	<300	D2A2527	1202019-02

Initial Calibration Date: 1/26/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B202058
Analysis Date/Time: 2/10/12 13:37
Wavelength: 652

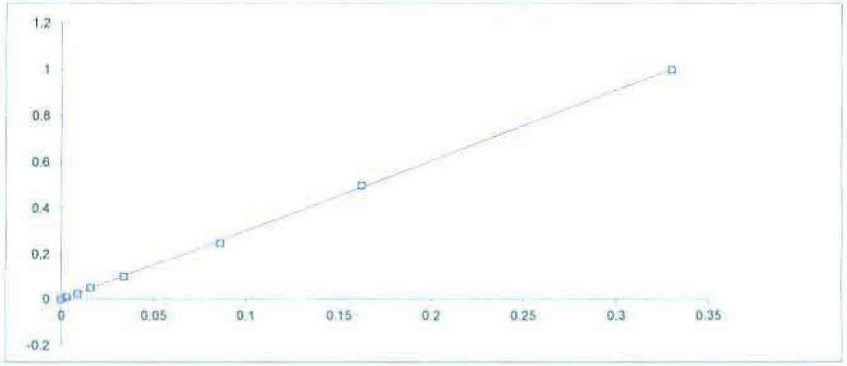
Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

VFX
2/10/12

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Sample Absorbance	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	13:37	100	1	0.093	0.093
ICB			0	13:37	100	1	-0.001	-0.001
1202019-01	FB14	Sample	-0.002	13:37	100	1	-0.007	-0.007
1202019-02	HW21	Sample	0.002	13:37	100	1	0.005	0.005
1202019-03	HW21z	Sample	0.000	13:37	100	1	-0.001	-0.001
1202019-04	HW22	Sample	0.003	13:37	100	1	0.008	0.008
1202019-05	HW22-P	Sample	0.001	13:37	100	1	0.002	0.002
1202019-06	HW44	Sample	0.000	13:37	100	1	-0.001	-0.001
1202019-07	HW49	Sample	-0.002	13:37	100	1	-0.007	-0.007
1202019-08	HW49-P	Sample	0.001	13:37	100	1	0.002	0.002
CCV			0.031	13:37	100	1	0.093	0.093
CCB			0.000	13:37	100	1	-0.001	-0.001
B202058-BS1	-	LCS	0.160	13:37	100	1	0.485	0.485
B202058-BSD1	-	LCS Dup	0.163	13:37	100	1	0.494	0.494
B202058-MS1	1202019-02	Matrix Spike	0.147	13:37	100	1	0.445	0.445
CCV			0.031	13:37	100	1	0.093	0.093
CCB			-0.001	13:37	100	1	-0.004	-0.004

DIM0201139
DIM0201115

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202050

Dimock Residential GW Site- 1201028 1202018	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	02/09/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	02/09/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	02/09/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	02/09/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	02/09/2012
LCS's analyzed at the required frequency?	YES	*	DK	02/09/2012
LCS RPD less than or equal to 20?	YES	*	DK	02/09/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	02/09/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	02/09/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	02/09/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	02/09/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	02/09/2012
ICB/CCB result less than the reporting limit?	YES	DK	02/09/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202050

Dimock Residential GW Site- 1201028 1202018	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * FE 02/09/2012

* = Automated Response from Promium

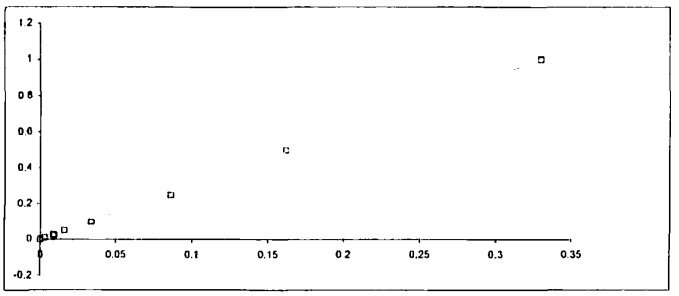
Initial Calibration Date: 1/26/2012	Batch ID: B202050
Analyst: Dkay	Analysis Date/Time: 2/9/12 13:20
Units: mg/L	Wavelength: 652
Analyte: Anionic Surfactants	

VFL
2/9/12

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Sample Absorbance	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.033	2/9/12 13:20	100	1	0.099	0.099
ICB			0	2/9/12 13:20	100	1	-0.001	-0.001
1202018-01	FB13	Sample	0.002	2/9/12 13:20	100	1	0.005	0.005
1202018-02	HW23	Sample	0.000	2/9/12 13:20	100	1	-0.001	-0.001
1202018-03	HW23-P	Sample	0.000	2/9/12 13:20	100	1	-0.001	-0.001
1202018-04	HW38	Sample	0.001	2/9/12 13:20	100	1	0.002	0.002
1202018-05	HW38-P	Sample	0.002	2/9/12 13:20	100	1	0.005	0.005
1202018-06	HW47	Sample	0.005	2/9/12 13:20	100	1	0.014	0.014
1202018-07	HW47-P	Sample	0.001	2/9/12 13:20	100	1	0.002	0.002
1202018-08	HW48	Sample	0.002	2/9/12 13:20	100	1	0.005	0.005
1202018-09	HW48z	Sample	0.006	2/9/12 13:20	100	1	0.017	0.017
CCV			0.031	2/9/12 13:20	100	1	0.093	0.093
CCB			0.000	2/9/12 13:20	100	1	-0.001	-0.001
B202050-BS1	-	LCS	0.177	2/9/12 13:20	100	1	0.537	0.537
B202050-BSD1	-	LCS Dup	0.187	2/9/12 13:20	100	1	0.567	0.567
B202050-MS1	1202018-02	Matrix Spike	0.151	2/9/12 13:20	100	1	0.458	0.458
CCV			0.032	2/9/12 13:20	100	1	0.096	0.096
CCB			0.000	2/9/12 13:20	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

VFL
2/9

Analysis: Surfactants (MBAS)

Preparation Method: MBAS Extraction

Batch ID: B202050

Matrix: Aqueous

Prepared by: DK
Prepared on: 02/09/2012

VFL
2/9/12

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2B0804	Chloroform	02/07/2017

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202018-01	<300		
	1202018-02	<300		
	1202018-03	<300		
	1202018-04	<300		
	1202018-05	<300		
	1202018-06	<300		
	1202018-07	<300		
	1202018-08	<300		
	1202018-09	<300		
	B202050-BS1		D2A2526	
	B202050-BSD1		D2A2526	
	B202050-MS1	<300	D2A2527	1202018-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202021

Instrument: Hach DR 5000

Printed: 2/9/2012 1:22:33PM

Project Name	Lab Number	Analysis	STD ID
	S202021-CAL1	QC	D2A2528
	S202021-CAL2	QC	D2A2529
	S202021-CAL3	QC	D2A2530
	S202021-CAL4	QC	D2A2531
	S202021-CAL5	QC	D2A2532
	S202021-CAL6	QC	D2A2533
	S202021-CAL7	QC	D2A2534
	S202021-ICV1	QC	D2A2531
	S202021-ICB1	QC	
	S202021-CCV1	QC	D2A2531
	S202021-CCB1	QC	
Dimock Residential GW Site- 120102	1202018-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-03	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-04	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-08	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202018-09	Surfactants (MBAS)	
	B202050-BS1	QC	
	B202050-BSD1	QC	
	B202050-MS1	QC	
	S202021-CCB2	QC	
	S202021-CCV2	QC	D2A2531

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202043

Dimock Residential GW Site- 1201028 1202014	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/08/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/08/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/08/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/08/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	JH	02/08/2012
LCS's analyzed at the required frequency?	YES	*	JH	02/08/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/08/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/08/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/08/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/08/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/08/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/08/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/08/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202043

Dimock Residential GW Site- 1201028 1202014	Analysis	Matrix
	Surfactants (MBAS)	Aqueous

Was data peer reviewed? YES * DK 02/08/2012

* = Automated Response from Promium

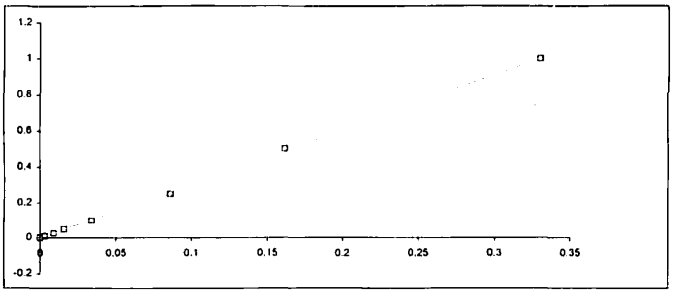
Initial Calibration Date: 1/26/2012
Analyst: Jhale
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B202043
Analysis Date/Time: 2/7/12 13:36

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.032	2/7/12 13:36		1	0.09599878	0.09600
ICB			0.000	2/7/12 13:36		1	-0.001252033	-0.00125
1202014-01	FB12	Sample	-0.002	2/7/12 13:36		1	-0.007330209	-0.00733
1202014-02	HW15a	Sample	0.002	2/7/12 13:36		1	0.004826143	0.00483
1202014-03	HW15a-P	Sample	-0.003	2/7/12 13:36		1	-0.010369297	-0.01037
1202014-04	HW31	Sample	0.010	2/7/12 13:36		1	0.029138846	0.02914
1202014-05	HW31-P	Sample	-0.002	2/7/12 13:36		1	-0.007330209	-0.00733
1202014-06	HW31z	Sample	0.010	2/7/12 13:36		1	0.029138846	0.02914
1202014-07	HW51	Sample	-0.003	2/7/12 13:36		1	-0.010369297	-0.01037
1202014-08	HW51-P	Sample	-0.003	2/7/12 13:36		1	-0.010369297	-0.01037
CCV			0.032	2/7/12 13:36		1	0.09599878	0.09600
CCB			0.001	2/7/12 13:36		1	0.001787055	0.00179
B202043-BS1	-	LCS	0.167	2/7/12 13:36		1	0.506275648	0.50628
B202043-BSD1	-	LCS Dup	0.167	2/7/12 13:36		1	0.506275648	0.50628
B202043-MS1	1202014-02	Matrix Spike	0.170	2/7/12 13:36		1	0.515392912	0.51539
MDL (0.05mg/L)			0.009	2/7/12 13:36		1	0.026099758	0.02610
CCV			0.032	2/7/12 13:36		1	0.09599878	0.09600
CCB			0.001	2/7/12 13:36		1	0.001787055	0.00179

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202015

Instrument: Hach DR 5000

Printed: 2/8/2012 1:49:39PM

Project Name	Lab Number	Analysis	STD ID
	S202015-CAL1	QC	D2A2528
	S202015-CAL2	QC	D2A2529
	S202015-CAL3	QC	D2A2530
	S202015-CAL4	QC	D2A2531
	S202015-CAL5	QC	D2A2532
	S202015-CAL6	QC	D2A2533
	S202015-CAL7	QC	D2A2534
	S202015-ICV1	QC	D2A2531
	S202015-ICB1	QC	
Dimock Residential GW Site- 120102	1202014-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202014-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202014-03	Surfactants (MBAS)	
	S202015-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202014-04	Surfactants (MBAS)	
	S202015-CCB1	QC	
Dimock Residential GW Site- 120102	1202014-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202014-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202014-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202014-08	Surfactants (MBAS)	
	B202043-BS1	QC	
	B202043-BSD1	QC	
	B202043-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202043
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/08/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202014-01	<300		
	1202014-02	<300		
	1202014-03	<300		
	1202014-04	<300		
	1202014-05	<300		
	1202014-06	<300		
	1202014-07	<300		
	1202014-08	<300		
	B202043-BS1		D2A2526	
	B202043-BSD1		D2A2526	
	B202043-MS1	<300	D2A2527	1202014-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202038

Dimock Residential GW Site- 1201028 1202011	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/07/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/07/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/07/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/07/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	JH	02/07/2012
LCS's analyzed at the required frequency?	YES	*	JH	02/07/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/07/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/07/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/07/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/07/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/07/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/07/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/07/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202038

Dimock Residential GW Site- 1201028 1202011	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * DK 02/07/2012

* = Automated Response from Promium

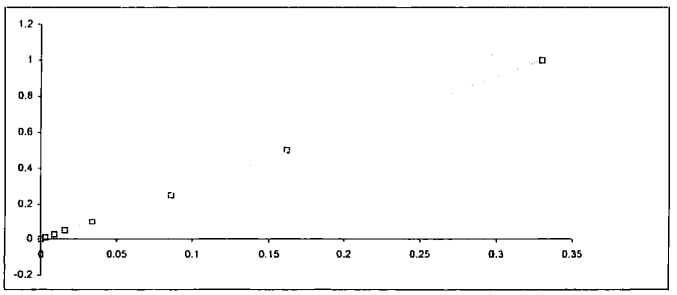
Initial Calibration Date:	1/26/2012	**Batch ID:**	B202038
Analyst:	Jhale	Analysis Date/Time:	2/7/12 14:42
Units:	mg/L		
Analyte:	Anionic Surfactants		

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF

Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVol	Final Conc. mg/L
ICV			0.034	2/7/12 14:42		1	0.102076956	0.1021
ICB			0.002	2/7/12 14:42		1	0.004826143	0.0048
1202011-01	EB02	Sample	-0.003	2/7/12 14:42		1	-0.010369297	-0.0104
1202011-02	FB11	Sample	-0.003	2/7/12 14:42		1	-0.010369297	-0.0104
1202011-03	HW30	Sample	-0.002	2/7/12 14:42		1	-0.007330209	-0.0073
1202011-04	HW30-P	Sample	-0.001	2/7/12 14:42		1	-0.004291121	-0.0043
1202011-05	HW43	Sample	-0.002	2/7/12 14:42		1	-0.007330209	-0.0073
1202011-06	HW43-P	Sample	-0.002	2/7/12 14:42		1	-0.007330209	-0.0073
1202011-07	HW45	Sample	-0.003	2/7/12 14:42		1	-0.010369297	-0.0104
1202011-08	HW45-P	Sample	-0.002	2/7/12 14:42		1	-0.007330209	-0.0073
CCV			0.032	2/7/12 14:42		1	0.09599878	0.0960
CCB			0.002	2/7/12 14:42		1	0.004826143	0.0048
B202038-BS1	-	LCS	0.171	2/7/12 14:42		1	0.518432	0.5184
B202038-BSD1	-	LCS Dup	0.185	2/7/12 14:42		1	0.560979231	0.5610
B202038-MS1	1202011-03	Matrix Spike	0.168	2/7/12 14:42		1	0.509314736	0.5093
CCV			0.032	2/7/12 14:42		1	0.09599878	0.0960
CCB			0.001	2/7/12 14:42		1	0.001787055	0.0018

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202009

Instrument: Hach DR 5000

Printed: 2/7/2012 2:38:55PM

Project Name	Lab Number	Analysis	STD ID
	S202009-CAL1	QC	D2A2528
	S202009-CAL2	QC	D2A2529
	S202009-CAL3	QC	D2A2530
	S202009-CAL4	QC	D2A2531
	S202009-CAL5	QC	D2A2532
	S202009-CAL6	QC	D2A2533
	S202009-CAL7	QC	D2A2534
	S202009-ICV1	QC	D2A2531
	S202009-ICB1	QC	
Dimock Residential GW Site- 120102	1202010-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202010-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202010-03	Surfactants (MBAS)	
	S202009-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202010-04	Surfactants (MBAS)	
	S202009-CCB1	QC	
Dimock Residential GW Site- 120102	1202010-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202010-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202010-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202010-08	Surfactants (MBAS)	
	B202030-BS1	QC	
	B202030-BSD1	QC	
	B202030-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202038
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/07/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC. ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202011-01	<300		
	1202011-02	<300		
	1202011-03	<300		
	1202011-04	<300		
	1202011-05	<300		
	1202011-06	<300		
	1202011-07	<300		
	1202011-08	<300		
	B202038-BS1		D2A2526	
	B202038-BSD1		D2A2526	
	B202038-MS1	<300	D2A2527	1202011-03

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202030

Dimock Residential GW Site- 1201028 1202010	Analysis Surfactants (MBAS)	Matrix Aqueous

Per Reviewed [illegible] 2/8/12

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/06/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/06/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/06/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/06/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	JH	02/06/2012
LCS's analyzed at the required frequency?	YES	*	JH	02/06/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/06/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/06/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/06/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/06/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/06/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/06/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/06/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202030

Dimock Residential GW Site- 1201028 1202010	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * FE 02/06/2012

Peer Reviewed By Fred Elsen 2/6/12

Fred W. Elsen Jr. 2/6/12

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

VFE
2/6/12

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202030
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/04/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202010-01	<300		
	1202010-02	<300		
	1202010-03	<300		
	1202010-04	<300		
	1202010-05	<300		
	1202010-06	<300		
	1202010-07	<300		
	1202010-08	<300		
	B202030-BS1		D2A2526	
	B202030-BSD1		D2A2526	
	B202030-MS1		D2A2527	1202010-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

VFC
2/6/12

ANALYSIS SEQUENCE
S202006

Instrument: Hach DR 5000

Printed: 2/6/2012 9:29:22AM

Project Name	Lab Number	Analysis	STD ID
	S202006-CAL1	QC	D2A2528
	S202006-CAL2	QC	D2A2529
	S202006-CAL3	QC	D2A2530
	S202006-CAL4	QC	D2A2531
	S202006-CAL5	QC	D2A2532
	S202006-CAL6	QC	D2A2533
	S202006-CAL7	QC	D2A2534
	S202006-ICV1	QC	D2A2531
	S202006-ICB1	QC	
Dimock Residential GW Site- 120102	1202008-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-03	Surfactants (MBAS)	
	S202006-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202008-04	Surfactants (MBAS)	
	S202006-CCB1	QC	
Dimock Residential GW Site- 120102	1202008-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-07	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-08	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202008-09	Surfactants (MBAS)	
	B202025-MS1	QC	
	B202025-BS1	QC	
	B202025-BSD1	QC	

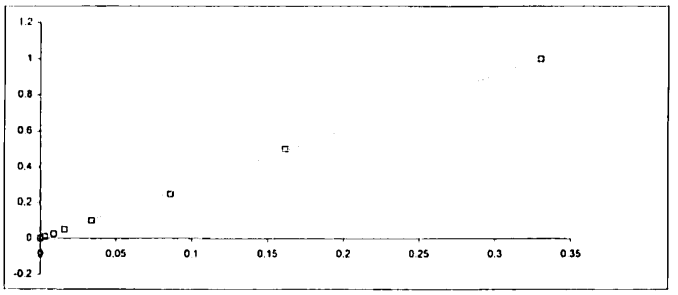
Initial Calibration Date: 1/26/2012	Batch ID: B201104
Analyst: JHALE	Analysis Date/Time: 2/4/12 13:40
Units: mg/L	
Analyte: Anionic Surfactants	

JFE
2/4/12

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.033	2/4/12 13:40	100	1	0.099	0.0990
ICB			0.000	2/4/12 13:40	100	1	-0.001	-0.0013
1L020 10-01	FB10	Sample	0.001	2/4/12 13:40	100	1	0.002	0.0018
-02	HW09	Sample	0.000	2/4/12 13:40	100	1	-0.001	-0.0013
-03	HW09-P	Sample	0.001	2/4/12 13:40	100	1	0.002	0.0018
-04	HW28a	Sample	0.001	2/4/12 13:40	100	1	0.002	0.0018
-05	HW28a-P	Sample	0.002	2/4/12 13:40	100	1	0.005	0.0048
-06	HW28b-P	Sample	0.001	2/4/12 13:40	100	1	0.002	0.0018
ICV			0.033	2/4/12 13:40	100	1	0.099	0.0990
ICB			0.001	2/4/12 13:40	100	1	0.002	0.0018
-07	HW39	Sample	0.002	2/4/12 13:40	100	1	0.005	0.0048
-08	HW39-P	Sample	0.000	2/4/12 13:40	100	1	-0.001	-0.0013
AQC 1	-	LCS	0.171	2/4/12 13:40	100	1	0.518	0.5184
AQC 2	-	LCS Dup	0.170	2/4/12 13:40	100	1	0.515	0.5154
HW09 MS	HW09	Matrix Spike	0.171	2/4/12 13:40	100	1	0.518	0.5184
CCV			0.032	2/4/12 13:40	100	1	0.096	0.0960
CCB			0.000	2/4/12 13:40	100	1	-0.001	-0.0013

2RL.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202025

Dimock Residential GW Site- 1201028 1202008	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria		Analyst Initials	Date
Analysis performed within holding time?	YES *	JH	02/03/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA	JH	02/03/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/03/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/03/2012

Blank spike QC		Analyst Initials	Date
LCS recovery within acceptance criteria?	YES *	JH	02/03/2012
LCS's analyzed at the required frequency?	YES *	JH	02/03/2012
LCS RPD less than or equal to 20?	YES *	JH	02/03/2012

Matrix spike QC		Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES *	JH	02/03/2012
Matrix spike recovery within acceptance criteria?	YES *	JH	02/03/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA	JH	02/03/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/03/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/03/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/03/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202025

Dimock Residential GW Site- 1201028 1202008	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * FE 02/03/2012

Reviewed 2/3/12 Fred Elsen

Fred W. Elsen Jr. 2/3/12

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

VER
2/3/12

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202025
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/03/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202008-01	<300		
	1202008-02	<300		
	1202008-03	<300		
	1202008-04	<300		
	1202008-05	<300		
	1202008-06	<300		
	1202008-07	<300		
	1202008-08	<300		
	1202008-09	<300		
	B202025-BS1		D2A2526	
	B202025-BSD1		D2A2526	
	B202025-MS1	<300	D2A2527	1202008-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

VFR
2/3/12

ANALYSIS SEQUENCE
S202005

Instrument: Hach DR 5000

Printed: 2/3/2012 1:13:22PM

Project Name	Lab Number	Analysis	STD ID
	S202005-CAL1	QC	D2A2528
	S202005-CAL2	QC	D2A2529
	S202005-CAL3	QC	D2A2530
	S202005-CAL4	QC	D2A2531
	S202005-CAL5	QC	D2A2532
	S202005-CAL6	QC	D2A2533
	S202005-CAL7	QC	D2A2534
	S202005-ICV1	QC	D2A2531
	S202005-ICB1	QC	
Dimock Residential GW Site- 120102	1202005-09	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-10	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-08	Surfactants (MBAS)	
	S202005-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202005-07	Surfactants (MBAS)	
	S202005-CCB1	QC	
Dimock Residential GW Site- 120102	1202005-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-04	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-03	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-01	Surfactants (MBAS)	
	B202018-MS1	QC	
	B202018-BSD1	QC	
	B202018-BS1	QC	

Initial Calibration Date: 1/26/2012
Analyst: Jhale
Units: mg/L
Analyte: Anionic Surfactants

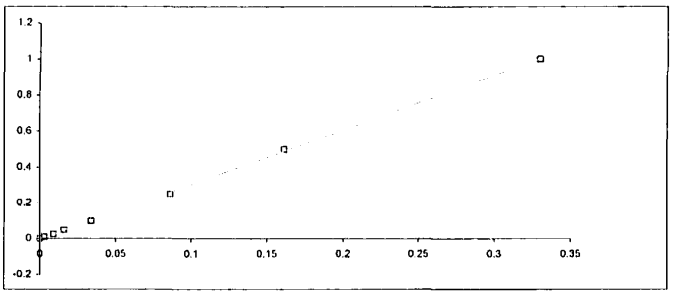
Batch ID: B202025
Analysis Date/Time: 2/3/12 13:10

VFE 2/3/12

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.034	2/3/12 13:10		1	0.102076956	0.102076956
ICB			0.001	2/3/12 13:10		1	0.001787055	0.001787055
1202008-01	FB09	Sample	-0.001	2/3/12 13:10		1	-0.004291121	-0.004291121
1202008-02	HW40	Sample	0.000	2/3/12 13:10		1	-0.001252033	-0.001252033
1202008-03	HW40-P	Sample	-0.002	2/3/12 13:10		1	-0.007330209	-0.007330209
1202008-04	HW41	Sample	-0.003	2/3/12 13:10		1	-0.010369297	-0.010369297
1202008-05	HW41-P	Sample	0.000	2/3/12 13:10		1	-0.001252033	-0.001252033
1202008-06	HW42	Sample	-0.001	2/3/12 13:10		1	-0.004291121	-0.004291121
1202008-07	HW42z	Sample	-0.002	2/3/12 13:10		1	-0.007330209	-0.007330209
CCV			0.033	2/3/12 13:10		1	0.099037868	0.099037868
CCB			0.000	2/3/12 13:10		1	-0.001252033	-0.001252033
1202008-08	HW46	Sample	-0.001	2/3/12 13:10		1	-0.004291121	-0.004291121
1202008-09	HW46-P	Sample	0.000	2/3/12 13:10		1	-0.001252033	-0.001252033
B202025-BS1	-	LCS	0.166	2/3/12 13:10		1	0.503236561	0.503236561
B202025-BSD1	-	LCS Dup	0.171	2/3/12 13:10		1	0.518432	0.518432
B202025-MS1	1202008-02	Matrix Spike	0.167	2/3/12 13:10		1	0.506275648	0.506275648
CCV			0.034	2/3/12 13:10		1	0.102076956	0.102076956
CCB			0.001	2/3/12 13:10		1	0.001787055	0.001787055

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202018

Dimock Residential GW Site- 1201028 1202005	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	JH	02/02/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		JH	02/02/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	JH	02/02/2012
Correlation coefficient greater than or equal to 0.995?	YES	JH	02/02/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	JH	02/02/2012
LCS's analyzed at the required frequency?	YES	*	JH	02/02/2012
LCS RPD less than or equal to 20?	YES	*	JH	02/02/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	JH	02/02/2012
Matrix spike recovery within acceptance criteria?	YES	*	JH	02/02/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		JH	02/02/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	JH	02/02/2012
ICV/CCV recoveries within 10% of the true value?	YES	JH	02/02/2012
ICB/CCB result less than the reporting limit?	YES	JH	02/02/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202018

Dimock Residential GW Site- 1201028 1202005	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * DK 02/02/2012

* = Automated Response from Promium

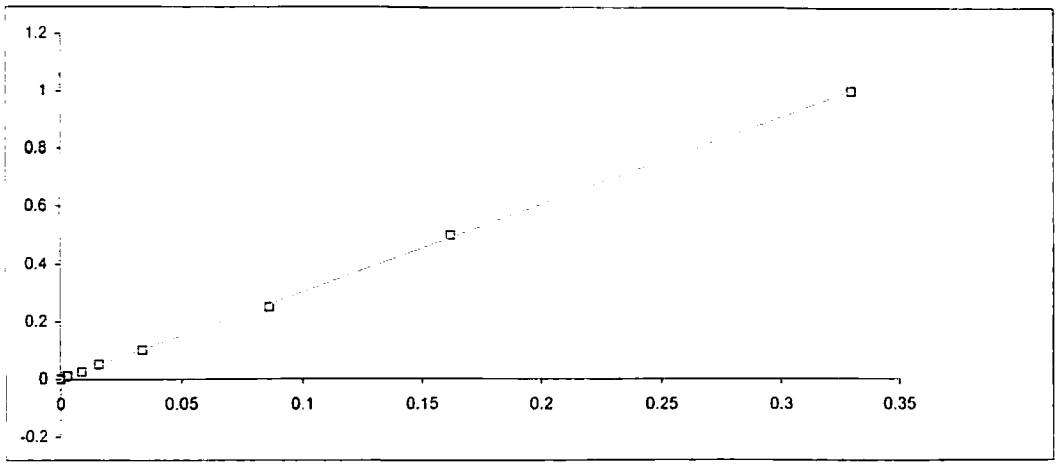
Initial Calibration Date: 1/26/2012
Analyst: Jhale
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B202018
Analysis Date/Time: 2/2/12 14:20

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.032	2/2/12 14:20		1	0.09599878	0.09599878
ICB			-0.001	2/2/12 14:20		1	-0.004291121	-0.004291121
1202005-01	HW29	Sample	0.011	2/2/12 14:20		1	0.032177934	0.032177934
1202005-02	HW29z	Sample	0.009	2/2/12 14:20		1	0.026099758	0.026099758
1202005-03	FB08	Sample	-0.001	2/2/12 14:20		1	-0.004291121	-0.004291121
1202005-04	HW32	Sample	0.002	2/2/12 14:20		1	0.004826143	0.004826143
1202005-05	HW32-P	Sample	0.002	2/2/12 14:20		1	0.004826143	0.004826143
1202005-06	HW33	Sample	0.001	2/2/12 14:20		1	0.001787055	0.001787055
1202005-07	HW33a-P	Sample	0.000	2/2/12 14:20		1	-0.001252033	-0.001252033
CCV			0.032	2/2/12 14:20		1	0.09599878	0.09599878
CCB			0.000	2/2/12 14:20		1	-0.001252033	-0.001252033
1202005-08	HW33b-P	Sample	0.037	2/2/12 14:20		1	0.11119422	0.11119422
1202005-09	HW34a	Sample	0.001	2/2/12 14:20		1	0.001787055	0.001787055
1202005-10	HW34a-P	Sample	0.009	2/2/12 14:20		1	0.026099758	0.026099758
B202018-BS1	-	LCS	0.169	2/2/12 14:20		1	0.512353824	0.512353824
B202018-BSD1	-	LCS Dup	0.173	2/2/12 14:20		1	0.524510176	0.524510176
B202018-MS1	1202005-01	Matrix Spike	0.175	2/2/12 14:20		1	0.530588352	0.530588352
CCV			0.033	2/2/12 14:20		1	0.099037868	0.099037868
CCB			-0.001	2/2/12 14:20		1	-0.004291121	-0.004291121

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202005

Instrument: Hach DR 5000

Printed: 2/2/2012 2:27:55PM

Project Name	Lab Number	Analysis	STD ID
	S202005-CAL1	QC	D2A2528
	S202005-CAL2	QC	D2A2529
	S202005-CAL3	QC	D2A2530
	S202005-CAL4	QC	D2A2531
	S202005-CAL5	QC	D2A2532
	S202005-CAL6	QC	D2A2533
	S202005-CAL7	QC	D2A2534
	S202005-ICV1	QC	D2A2531
	S202005-ICB1	QC	
Dimock Residential GW Site- 120102	1202005-09	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-10	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-08	Surfactants (MBAS)	
	S202005-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202005-07	Surfactants (MBAS)	
	S202005-CCB1	QC	
Dimock Residential GW Site- 120102	1202005-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-04	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-03	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202005-01	Surfactants (MBAS)	
	B202018-MS1	QC	
	B202018-BSD1	QC	
	B202018-BS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202018
Matrix: Aqueous

Prepared by: JH
Prepared on: 02/02/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site - 120103	1202005-01	<300		
	1202005-02	<300		
	1202005-03	<300		
	1202005-04	<300		
	1202005-05	<300		
	1202005-06	<300		
	1202005-07	<300		
	1202005-08	<300		
	1202005-09	<300		
	1202005-10	<300		
	B202018-BS1	NA	D2A2526	
	B202018-BSD1	NA	D2A2526	
	B202018-MS1	<300	D2A2527	1202005-01

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202008

Dimock Residential GW Site- 1201028 1202001	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	02/01/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	02/01/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	02/01/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	02/01/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	02/01/2012
LCS's analyzed at the required frequency?	YES	*	DK	02/01/2012
LCS RPD less than or equal to 20?	YES	*	DK	02/01/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	02/01/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	02/01/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	02/01/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	02/01/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	02/01/2012
ICB/CCB result less than the reporting limit?	YES	DK	02/01/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B202008

Dimock Residential GW Site- 1201028 1202001	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 02/01/2012

* = Automated Response from Promium

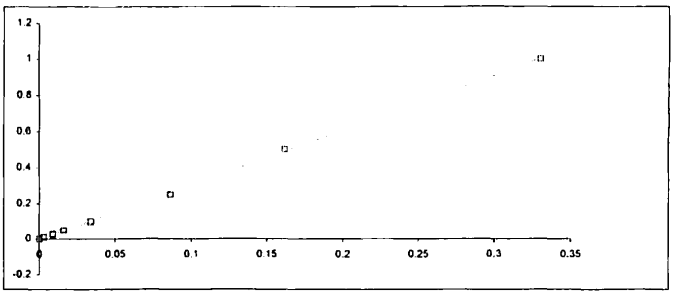
Initial Calibration Date:	1/26/2012	Batch ID:	B202008
Analyst:	Dkay	Analysis Date/Time:	2/1/12 14:00
Units:	mg/L		
Analyte:	Anionic Surfactants		

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (mg/L)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289882
r=	0.9998818



Calculation: mg/L = (Raw value from curve) * DF

Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	2/1/12 14:00	100	1	0.093	0.093
ICB			-0.001	2/1/12 14:00	100	1	-0.004	-0.004
1202001-01	FB07	Sample	0.002	2/1/12 14:00	100	1	0.005	0.005
1202001-02	HW26	Sample	0.004	2/1/12 14:00	100	1	0.011	0.011
1202001-03	HW26-P	Sample	0.003	2/1/12 14:00	100	1	0.008	0.008
1202001-04	HW35	Sample	0.000	2/1/12 14:00	100	1	-0.001	-0.001
1202001-05	HW52	Sample	0.000	2/1/12 14:00	100	1	-0.001	-0.001
B202008-BS1	-	LCS	0.168	2/1/12 14:00	100	1	0.503	0.503
B202008-BSD1	-	LCS Dup	0.168	2/1/12 14:00	100	1	0.509	0.509
B202008-MS1	1202001-02	Matrix Spike	0.165	2/1/12 14:00	100	1	0.500	0.500
CCV			0.031	2/1/12 14:00	100	1	0.093	0.093
CCB			0.000	2/1/12 14:00	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B202008
Matrix: Aqueous

Prepared by: DK
Prepared on: 02/01/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std.. 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1202001-01	<300		
	1202001-02	<300		
	1202001-03	<300		
	1202001-04	<300		
	1202001-05	<300		
	B202008-BS1	na	D2A2526	
	B202008-BSD1	na	D2A2526	
	B202008-MS1	<300	D2A2527	1202001-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S202002

Instrument: Hach DR 5000

Printed: 2/1/2012 2:01:51PM

Project Name	Lab Number	Analysis	STD ID
	S202002-CAL1	QC	D2A2528
	S202002-CAL2	QC	D2A2529
	S202002-CAL3	QC	D2A2530
	S202002-CAL4	QC	D2A2531
	S202002-CAL5	QC	D2A2532
	S202002-CAL6	QC	D2A2533
	S202002-CAL7	QC	D2A2534
	S202002-ICV1	QC	D2A2531
	S202002-ICB1	QC	
Dimock Residential GW Site- 120102	1202001-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202001-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1202001-03	Surfactants (MBAS)	
	S202002-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1202001-04	Surfactants (MBAS)	
	S202002-CCB1	QC	
Dimock Residential GW Site- 120102	1202001-05	Surfactants (MBAS)	
	B202008-BS1	QC	
	B202008-BSD1	QC	
	B202008-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201132

Dimock Residential GW Site- 1201028 1201042	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	01/31/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	01/31/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	01/31/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	01/31/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	01/31/2012
LCS's analyzed at the required frequency?	YES	*	DK	01/31/2012
LCS RPD less than or equal to 20?	YES	*	DK	01/31/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	01/31/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	01/31/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	01/31/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	01/31/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	01/31/2012
ICB/CCB result less than the reporting limit?	YES	DK	01/31/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201132

Dimock Residential GW Site- 1201028 1201042	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 01/31/2012

* = Automated Response from Promium

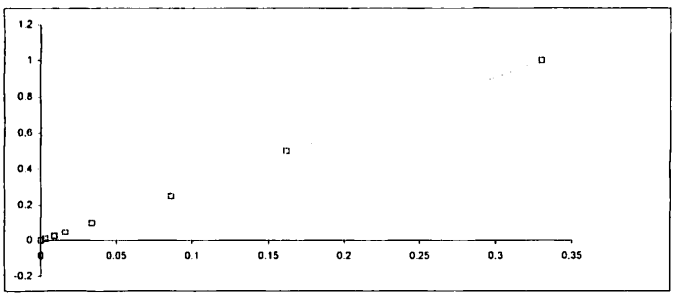
Initial Calibration Date: 1/26/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B201132
Analysis Date/Time: 1/31/12 13:38

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	1/31/12 13:38	100	1	0.093	0.093
ICB			0	1/31/12 13:38	100	1	-0.001	-0.001
1201042-01	FB06	Sample	-0.003	1/31/12 13:38	100	1	-0.010	-0.010
1201042-02	HW13	Sample	0.000	1/31/12 13:38	100	1	-0.001	-0.001
1201042-03	HW18	Sample	0.002	1/31/12 13:38	100	1	0.005	0.005
1201042-04	HW18-P	Sample	0.002	1/31/12 13:38	100	1	0.005	0.005
1201042-05	HW20	Sample	0.000	1/31/12 13:38	100	1	-0.001	-0.001
1201042-06	HW20-P	Sample	-0.001	1/31/12 13:38	100	1	-0.004	-0.004
1201042-07	HW25-P	Sample	0.008	1/31/12 13:38	100	1	0.023	0.023
B201132-BS1	-	LCS	0.172	1/31/12 13:38	100	1	0.521	0.521
B201132-BSD1	-	LCS Dup	0.175	1/31/12 13:38	100	1	0.531	0.531
B201132-MS1	1201042-02	Matrix Spike	0.166	1/31/12 13:38	100	1	0.503	0.503
CCV			0.031	1/31/12 13:38	100	1	0.093	0.093
CCB			0.000	1/31/12 13:38	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S201059

Instrument: Hach DR 5000

Printed: 1/31/2012 1:48:13PM

Project Name	Lab Number	Analysis	STD ID
	S201059-CAL1	QC	D2A2528
	S201059-CAL2	QC	D2A2529
	S201059-CAL3	QC	D2A2530
	S201059-CAL4	QC	D2A2531
	S201059-CAL5	QC	D2A2532
	S201059-CAL6	QC	D2A2533
	S201059-CAL7	QC	D2A2534
	S201059-ICV1	QC	D2A2531
	S201059-ICB1	QC	
Dimock Residential GW Site- 120102	1201042-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201042-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201042-03	Surfactants (MBAS)	
	S201059-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1201042-04	Surfactants (MBAS)	
	S201059-CCB1	QC	
Dimock Residential GW Site- 120102	1201042-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201042-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201042-07	Surfactants (MBAS)	
	B201132-BS1	QC	
	B201132-BSD1	QC	
	B201132-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B201132
Matrix: Aqueous

Prepared by: DK
Prepared on: 01/31/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1201042-01	<300		
	1201042-02	<300		
	1201042-03	<300		
	1201042-04	<300		
	1201042-05	<300		
	1201042-06	<300		
	1201042-07	<300		
	B201132-BS1	na	D2A2526	
	B201132-BSD1	na	D2A2526	
	B201132-MS1	<300	D2A2527	1201042-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201109

Dimock Residential GW Site- 1201028 1201040	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	01/30/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	01/30/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	01/30/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	01/30/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	01/30/2012
LCS's analyzed at the required frequency?	YES	*	DK	01/30/2012
LCS RPD less than or equal to 20?	YES	*	DK	01/30/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	01/30/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	01/30/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	01/30/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	01/30/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	01/30/2012
ICB/CCB result less than the reporting limit?	YES	DK	01/30/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201109

Dimock Residential GW Site- 1201028 1201040	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 01/30/2012

* = Automated Response from Promium

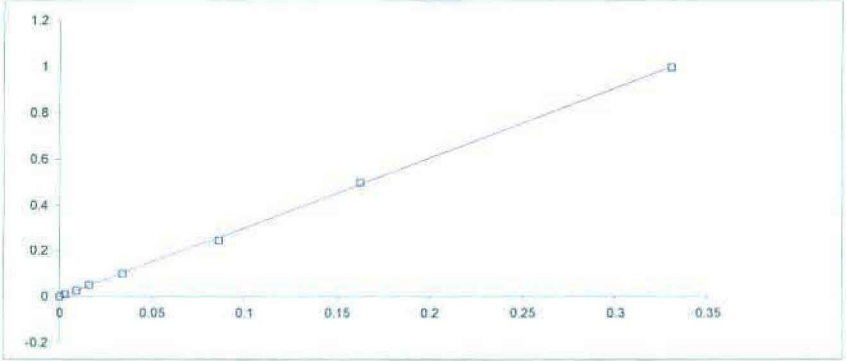
Initial Calibration Date: 1/26/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B201109
Analysis Date/Time: 1/28/12 10:38

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	1/28/12 10:38	100	1	0.093	0.093
ICB			0.000	1/28/12 10:38	100	1	-0.001	-0.001
1201040-01	FB05	Sample	0.000	1/28/12 10:38	100	1	-0.001	-0.001
1201040-02	HW17	Sample	0.000	1/28/12 10:38	100	1	-0.001	-0.001
1201040-03	HW24	Sample	-0.001	1/28/12 10:38	100	1	-0.004	-0.004
1201040-04	HW24-P	Sample	0.000	1/28/12 10:38	100	1	-0.001	-0.001
B201109-BS1	-	LCS	0.174	1/28/12 10:38	100	1	0.528	0.528
B201109-BSD1	-	LCS Dup	0.173	1/28/12 10:38	100	1	0.525	0.525
B201109-MS1	1201040-02	Matrix Spike	0.159	1/28/12 10:38	100	1	0.482	0.482
CCV			0.031	1/28/12 10:38	100	1	0.093	0.093
CCB			0.010	1/28/12 10:38	100	1	0.029	0.029

DIM0201182
DIM0201115

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B201109
Matrix: Aqueous

Prepared by: DK
Prepared on: 01/28/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
Dimock Residential GW Site- 1201028	1201040-01	<300		
	1201040-02	<300		
	1201040-03	<300		
	1201040-04	<300		
	B201109-BS1	na	D2A2526	
	B201109-BSD1	na	D2A2526	
	B201109-MS1	<300	D2A2527	1201040-02

ANALYSIS SEQUENCE

S201054

Instrument: Hach DR 5000

Calibnration ID: UNASSIGNED

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client
S201054-CAL1	QC		1		D2A2528		
S201054-CAL2	QC		2		D2A2529		
S201054-CAL3	QC		3		D2A2530		
S201054-CAL4	QC		4		D2A2531		
S201054-CAL5	QC		5		D2A2532		
S201054-CAL6	QC		6		D2A2533		
S201054-CAL7	QC		7		D2A2534		
S201054-ICV1	QC		8		D2A2531		
S201054-ICB1	QC		9				
S201054-CCV1	QC		10		D2A2531		
S201054-CCB1	QC		11				
1201040-01	Surfactants (MBAS)	A	12				US EPA Region 3 Envir
1201040-02	Surfactants (MBAS)	A	13				US EPA Region 3 Envir
1201040-03	Surfactants (MBAS)	A	14				US EPA Region 3 Envir
1201040-04	Surfactants (MBAS)	A	15				US EPA Region 3 Envir
B201109-MS1	QC		16				
B201109-BSD1	QC		17				
B201109-BS1	QC		18				

Samples Loaded By Date Data Processed By Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201104

Dimock Residential GW Site- 1201028 1201037	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	01/27/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	01/27/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	01/27/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	01/27/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	01/27/2012
LCS's analyzed at the required frequency?	YES	*	DK	01/27/2012
LCS RPD less than or equal to 20?	YES	*	DK	01/27/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	01/27/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	01/27/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	01/27/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	01/27/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	01/27/2012
ICB/CCB result less than the reporting limit?	YES	DK	01/27/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201104

Dimock Residential GW Site- 1201028 1201037	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 01/30/2012

* = Automated Response from Promium

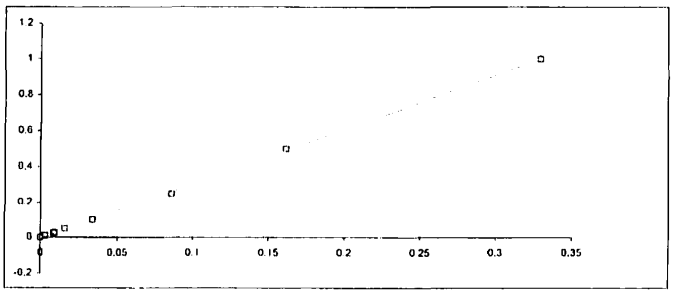
Initial Calibration Date: 1/26/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

Batch ID: B201104
Analysis Date/Time: 1/27/20 14:15

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.026
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION
y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.034	1/27/20 14:15	100	1	0.102	0.102
ICB			0.002	1/27/20 14:15	100	1	0.005	0.005
1201037-01	FB04	Sample	0.003	1/27/20 14:15	100	1	0.008	0.008
1201037-02	HW05	Sample	0.003	1/27/20 14:15	100	1	0.008	0.008
1201037-03	HW06	Sample	0.002	1/27/20 14:15	100	1	0.005	0.005
1201037-04	HW012	Sample	0.005	1/27/20 14:15	100	1	0.014	0.014
1201037-05	HW014	Sample	0.011	1/27/20 14:15	100	1	0.032	0.032
1201037-06	HW014-P	Sample	0.005	1/27/20 14:15	100	1	0.014	0.014
B201104-BS1	-	LCS	0.162	1/27/20 14:15	100	1	0.491	0.491
B201104-BSD1	-	LCS Dup	0.164	1/27/20 14:15	100	1	0.497	0.497
B201104-MS1	1201037-02	Matrix Spike	0.157	1/27/20 14:15	100	1	0.476	0.476
CCV			0.034	1/28/20 14:15	100	1	0.102	0.102
CCB			0.001	1/29/20 14:15	100	1	0.002	0.002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S201052

Instrument: Hach DR 5000

Printed: 1/27/2012 2:33:20PM

Project Name	Lab Number	Analysis	STD ID
	S201052-CAL1	QC	D2A2528
	S201052-CAL2	QC	D2A2529
	S201052-CAL3	QC	D2A2530
	S201052-CAL4	QC	D2A2531
	S201052-CAL5	QC	D2A2532
	S201052-CAL6	QC	D2A2533
	S201052-CAL7	QC	D2A2534
	S201052-ICV1	QC	D2A2531
	S201052-ICB1	QC	
Dimock Residential GW Site- 120102	1201037-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201037-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201037-03	Surfactants (MBAS)	
	S201052-CCV1	QC	D2A2531
Dimock Residential GW Site- 120102	1201037-04	Surfactants (MBAS)	
	S201052-CCB1	QC	
Dimock Residential GW Site- 120102	1201037-05	Surfactants (MBAS)	
	S201052-CAL8	QC	
Dimock Residential GW Site- 120102	1201037-06	Surfactants (MBAS)	
	B201104-BS1	QC	
	B201104-BSD1	QC	
	B201104-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B201104
Matrix: Aqueous

Prepared by: DK
Prepared on: 01/27/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2603	Methylene Blue Reagent	01/25/2014
D2A2604	Wash Solution, MBAS	01/25/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	[redacted]	[redacted]		
	1201037-02	<300		
[redacted]	[redacted]	[redacted]		
	1201037-04	<300		
[redacted]	[redacted]	[redacted]		
	1201037-06	<300		
[redacted]	[redacted]	[redacted]	[redacted]	
	B201104-BSD1	na	D2A2526	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201099

Dimock Residential GW Site- 1201028 1201033	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	01/26/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	01/26/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	01/26/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	01/26/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	01/26/2012
LCS's analyzed at the required frequency?	YES	*	DK	01/26/2012
LCS RPD less than or equal to 20?	YES	*	DK	01/26/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	01/26/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	01/26/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	01/26/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	01/26/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	01/26/2012
ICB/CCB result less than the reporting limit?	YES	DK	01/26/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201099

Dimock Residential GW Site- 1201028 1201033	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 01/26/2012

* = Automated Response from Promium

Initial Calibration Date: 1/26/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

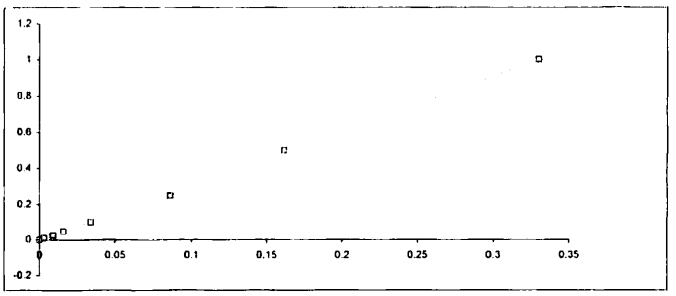
Batch ID: B201099
Analysis Date/Time: 1/26/20 13:21

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0.001
0.003	D2A2528	0.01	0.008
0.009	D2A2529	0.025	0.020
0.016	D2A2530	0.05	0.047
0.034	D2A2531	0.1	0.102
0.086	D2A2532	0.25	0.260
0.162	D2A2533	0.5	0.491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.031	1/26/20 11:21	100	1	0.093	0.093
ICB			-0.001	1/27/20 11:21	100	1	-0.004	-0.004
B201099-BS1	-	LCS	0.161	1/28/20 11:21	100	1	0.488	0.488
B201099-BSD1	-	LCS Dup	0.154	1/29/20 11:21	100	1	0.467	0.467
1201033-03	HW01	Sample	-0.003	1/30/20 11:21	100	1	-0.010	-0.010
B201099-MS1	1201033-03	Matrix Spike	0.154	1/31/20 11:21	100	1	0.467	0.467
1201033-04	HW02	Sample	-0.005	2/1/20 11:21	100	1	-0.016	-0.016
1201033-05	HW02Z	Sample	-0.004	2/2/20 11:21	100	1	-0.013	-0.013
1201033-06	HW04		-0.002	2/3/20 11:21	100	1	-0.007	-0.007
1201033-07	HW08A		-0.002	2/4/20 11:21	100	1	-0.007	-0.007
1201033-01	FB02		-0.006	2/5/20 11:21	100	1	-0.019	-0.019
1201033-02	FB03		-0.004	2/6/20 11:21	100	1	-0.013	-0.013
CCV			0.031	2/7/20 11:21	100	1	0.093	0.093
CCB			-0.001	2/8/20 11:21	100	1	-0.004	-0.004
0.05 mg/L (MDL)			0.008	2/9/20 11:21	100	1	0.023	0.023
0.05 mg/L (MDL)			0.01	2/10/20 11:21	100	1	0.029	0.029
CCV			0.03	2/11/20 11:21	100	1	0.090	0.090
CCB			0	2/12/20 11:21	100	1	-0.001	-0.001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

ANALYSIS SEQUENCE

S201043

Instrument: Hach DR 5000

Printed: 1/26/2012 1:29:25PM

Project Name	Lab Number	Analysis	STD ID
	S201043-ICV1	QC	D2A2531
	S201043-ICB1	QC	
	S201043-CCV1	QC	D2A2531
	S201043-CCB1	QC	
	S201043-CAL1	QC	D2A2528
	S201043-CAL2	QC	D2A2529
	S201043-CAL3	QC	D2A2530
	S201043-CAL4	QC	D2A2531
	S201043-CAL5	QC	D2A2532
	S201043-CAL7	QC	D2A2533
	S201043-CAL6	QC	D2A2534
Dimock Residential GW Site- 120102	1201033-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-03	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-04	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-05	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-06	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201033-07	Surfactants (MBAS)	
	B201099-BS1	QC	
	B201099-BSD1	QC	
	B201099-MS1	QC	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B201099
Matrix: Aqueous

Prepared by: DK
Prepared on: 01/26/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1811	Methylene Blue Reagent	01/17/2014
D2A1814	Wash Solution, MBAS	01/17/2014
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	[redacted]	[redacted]		
	1201033-02	<300		
[redacted]	[redacted]	[redacted]		
	1201033-04	<300		
[redacted]	[redacted]	[redacted]		
	1201033-06	<300		
[redacted]	[redacted]	[redacted]		
	B201099-BS1	na	D2A2526	
[redacted]	[redacted]	[redacted]	[redacted]	
	B201099-MS1	<300	D2A2527	1201033-03

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Spectrophotometer Checklist for BATCH B201089

Dimock Residential GW Site- 1201028 1201028	Analysis Surfactants (MBAS)	Matrix Aqueous

Method criteria			Analyst Initials	Date
Analysis performed within holding time?	YES	*	DK	01/25/2012
Samples for COD and sulfide analysis preserved accordingly? Narrative written if necessary?	NA		DK	01/25/2012

Calibration criteria		Analyst Initials	Date
Initial calibration includes a minimum of 5 standards and a blank?	YES	DK	01/25/2012
Correlation coefficient greater than or equal to 0.995?	YES	DK	01/25/2012

Blank spike QC			Analyst Initials	Date
LCS recovery within acceptance criteria?	YES	*	DK	01/25/2012
LCS's analyzed at the required frequency?	YES	*	DK	01/25/2012
LCS RPD less than or equal to 20?	YES	*	DK	01/25/2012

Matrix spike QC			Analyst Initials	Date
Matrix spikes performed at the required frequency?	YES	*	DK	01/25/2012
Matrix spike recovery within acceptance criteria?	YES	*	DK	01/25/2012
If no, is analyte concentration > 1.0 X the spike concentration?	NA		DK	01/25/2012

Continuing calibration		Analyst Initials	Date
ICV/CCV and ICB/CCB analyzed every 10 samples and at the end of the run?	YES	DK	01/25/2012
ICV/CCV recoveries within 10% of the true value?	YES	DK	01/25/2012
ICB/CCB result less than the reporting limit?	YES	DK	01/25/2012

Data review	Analyst Initials	Date

* = Automated Response from Promium

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 2 Laboratory

Spectrophotometer Checklist for BATCH B201089

Dimock Residential GW Site- 1201028 1201028	Analysis Surfactants (MBAS)	Matrix Aqueous

Was data peer reviewed? YES * JH 01/25/2012

* = Automated Response from Promium

Initial Calibration Date: 1/24/2012
Analyst: Dkay
Units: mg/L
Analyte: Anionic Surfactants

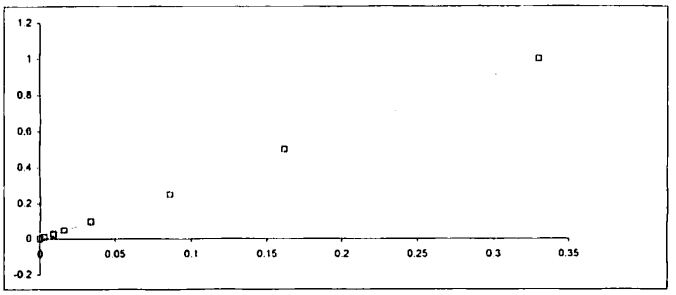
Batch ID: B201089
Analysis Date/Time: 1/25/20 13 21

Measured Response	Standards I.D.	Actual Concentration	Calculated Value (linear)
0		0	-0 001
0 003	D2A2528	0 01	0 008
0.009	D2A2529	0.025	0 026
0 016	D2A2530	0 05	0 047
0.034	D2A2531	0.1	0.102
0 086	D2A2532	0 25	0 260
0 162	D2A2533	0.5	0 491
0.33	D2A2534	1.0	1.002

LINEAR EQUATION

y=a+bx

a=	0.0004308
b=	0.3289682
r=	0.9998816



Calculation: mg/L = (Raw value from curve) * DF
Calculation: mg/kg = (Raw value from curve) * (Extract Vol./Sample Wt.) * DF

B	C	D	E	F	H	J	M	N
Sample ID	Client ID	SampType	Response (abs)	Analytical Time	Sample Vol (mls)	Dilution Factor	RawVal	Final Conc. mg/L
ICV			0.034	1/25/20 13.21	100	1	0.102	0.102
ICB			0.001	1/25/20 13:21	100	1	0.002	0 002
1201028-01	FB01	Sample	-0 002	1/25/20 13:21	100	1	-0 007	-0.007
1201028-02	HW19	Sample	0 005	1/25/20 13 21	100	1	0 014	0 014
1201028-03	HW19-P	Sample	-0.003	1/25/20 13.21	100	1	-0 010	-0 010
B201089-BS1	-	LCS	0.174	1/25/20 13:21	100	1	0.528	0.528
B201089-BSD1	-	LCS Dup	0 16	1/25/20 13:21	100	1	0.485	0 485
B201089-MS1	1201028-02	Matrix Spike	0 162	1/25/20 13 21	100	1	0 491	0 491
0 05 mg/L (MDL)			0 021	1/25/20 13 21	100	1	0 063	0 063
CCV			0 033	1/25/20 13 21	100	1	0.099	0.099
CCB			0 001	1/25/20 13 21	100	1	0 002	0.002

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ANALYSIS SEQUENCE
S201043

Instrument: Hach DR 5000

Printed: 1/25/2012 1:44:11PM

Project Name	Lab Number	Analysis	STD ID
	S201043-ICV1	QC	D2A2531
	S201043-ICB1	QC	
	S201043-CCV1	QC	D2A2531
	S201043-CCB1	QC	
	S201043-CAL1	QC	D2A2528
	S201043-CAL2	QC	D2A2529
	S201043-CAL3	QC	D2A2530
	S201043-CAL4	QC	D2A2531
	S201043-CAL5	QC	D2A2532
	S201043-CAL7	QC	D2A2533
	S201043-CAL6	QC	D2A2534
Dimock Residential GW Site- 120102	1201028-01	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201028-02	Surfactants (MBAS)	
Dimock Residential GW Site- 120102	1201028-03	Surfactants (MBAS)	
	B201089-BS1	QC	
	B201089-BSD1	QC	
	B201089-MS1	QC	

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Analysis: Surfactants (MBAS)
Preparation Method: MBAS Extraction
Batch ID: B201089
Matrix: Aqueous

Prepared by: DK
Prepared on: 01/25/2012

Standards and Reagents

Standard	Description	Exp Date
D2A1811	Methylene Blue Reagent	01/17/2014
D2A1814	Wash Solution, MBAS	01/17/2014
D2A1817	Phenolthalein Indicator solution	01/17/2014
D2A2526	MBAS AQC, ERA P180-776 Dil.	01/24/2014
D2A2527	MBAS Intermediate Std., 10.0 mg/L	01/24/2014
D2A2705	Chloroform	01/26/2014

Project Name	Sample ID	Chloride value	Spike ID	Source ID
[redacted]	[redacted]	[redacted]		
	1201028-02	<300		
[redacted]	[redacted]	[redacted]		
	B201089-BS1	na	D2A2526	
[redacted]	[redacted]	[redacted]	[redacted]	
	B201089-MS1	<279	D2A2527	1201028-02