United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: 6/6/2017

Subject: Analytical Testing Results - Project R17N02
SDG: 17123B

From: Peter Husby, Director
EPA Region 9 Laboratory
EMD-3-1

To: Eugene E. Bromley
NPDES Permits Section
WTR-2-3

Attached are the results from the analysis of samples from the **Southern California Oil Platforms Spring 2017** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Elizabeth Aubuchon, Water Enforcement
James Salmons, BSEE
Susan Zaleski, BOEM
Colby Tucker, Water Enforcement

Analyses included in this report:

Metals by ICP	Ammonia as N
Sulfide by Titration	Semivolatile Organic Compounds by GC/MS
Abalone Toxicity	

ED_006450_00002912-00001

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Eugene E. Bromley	**NPDES Permits Section**	**SDG:** 17123B
Project Number: R17N02	**75 Hawthorne Street**	**Reported:** 06/06/17 16:36
Project: Southern California Oil Platforms Spring 2017	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
Edith	1705007-01	Water	05/02/17 12:00	05/03/17 10:15
Gilda	1705007-02	Water	05/02/17 08:30	05/03/17 10:15
Gina	1705007-03	Water	05/02/17 09:45	05/03/17 10:15

Work Order 1705007

Semivolatile Organics Analysis: Samples 1705007-02 and 1705007-03 were re-extracted and analyzed past sample holding time because the blank spike in the original extraction batch failed to meet QC recovery limits.

TOXICITY: Requested analyses were for abalone development toxicity tests using *Haliotis rufescens* (red abalone) following Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/600/R-95/136 and USEPA Region 9 Laboratory SOP #1004, RED ABALONE (*Haliotis rufescens*) LARVAL DEVELOPMENT TOXICITY TEST. A concurrent reference toxicity test was conducted for quality control as specified in the method. Statistical analyses were conducted using the CETIS statistical database program, version 1.9.0.8 for the reference toxicity test and produced water toxicity tests.

The test concentrations were based on the oil platform NPDES general permit requirements using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The chronic WET permit limit that must be met is rejection of the null hypothesis (Ho). Platforms Edith, Gina, and Gilda results show a rejection of the null hypothesis and are reported as Pass.

All QA/QC criteria were met with the following exceptions. One replicate result was rejected in the Platform Edith test and one replicate was rejected in the reference toxicity test because they were outliers when tested with a Q statistical test. One replicate was not readable since the sample was spilled by the analyst. These did not interfere with statistical analyses since 5 replicates per concentration were run on reference toxicity tests and 10 replicates were run on oil platform samples.

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1705007-01									**Water - Sampled: 05/02/17 12:00**
Sample ID: Edith									**Total Metals by EPA 200 Series Methods**
Chromium		ND	U	100	ug/L	B17E113	05/17/17	05/18/17	200.7
Copper		ND	U	100	"	"	"	"	200.7
Zinc		ND	U	100	"	"	"	"	200.7
Sample ID: Edith									**Aquatic Toxicity Test by EPA Methods**
Test of Significant Toxicity		Pass			%	B17F019	05/03/17	05/03/17	TOX_SOP1004
Lab ID: 1705007-02									**Water - Sampled: 05/02/17 08:30**
Sample ID: Gilda									**Total Metals by EPA 200 Series Methods**
Chromium		ND	U	100	ug/L	B17E113	05/17/17	05/18/17	200.7
Copper		ND	U	100	"	"	"	"	200.7
Zinc		ND	U	100	"	"	"	"	200.7
Sample ID: Gilda									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(a)anthracene	RE1	ND	A3, J, U	50	"	B17E096	05/15/17	06/01/17	8270D
Chrysene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Benzo(b)fluoranthene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Benzo(k)fluoranthene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Benzo(a)pyrene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Dibenz(a,h)anthracene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Surrogate: Terphenyl-d14	*RE1*		72 %	*47-130%*		"	"	"	
Sample ID: Gilda									**Conventional Chemistry Parameters by APHA/EPA Methods**
Sulfide		230		0.99	mg/L	B17E060	05/08/17	05/08/17	SM4500 S2-
Sample ID: Gilda									**Aquatic Toxicity Test by EPA Methods**
Test of Significant Toxicity		Pass			%	B17F019	05/03/17	05/03/17	TOX_SOP1004
Lab ID: 1705007-03									**Water - Sampled: 05/02/17 09:45**
Sample ID: Gina									**Total Metals by EPA 200 Series Methods**
Chromium		ND	U	100	ug/L	B17E113	05/17/17	05/18/17	200.7
Copper		ND	U	100	"	"	"	"	200.7
Zinc		830		100	"	"	"	"	200.7
Sample ID: Gina									**Semivolatile Organic Compounds by EPA Method 8270D**
Benzo(a)anthracene	RE1	ND	A3, U, J	50	"	B17E096	05/15/17	06/01/17	8270D
Chrysene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Benzo(b)fluoranthene	RE1	ND	A3, J, U	50	"	"	"	"	8270D
Benzo(k)fluoranthene	RE1	ND	A3, U, J	50	"	"	"	"	8270D
Benzo(a)pyrene	RE1	ND	A3, U, J	50	"	"	"	"	8270D
Dibenz(a,h)anthracene	RE1	ND	A3, U, J	50	"	"	"	"	8270D
Surrogate: Terphenyl-d14	*RE1*		98 %	*47-130%*		"	"	"	
Sample ID: Gina									**Conventional Chemistry Parameters by APHA/EPA Methods**

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1705007-03									**Water - Sampled: 05/02/17 09:45**
Sample ID: Gina									**Conventional Chemistry Parameters by APHA/EPA Methods**
Ammonia as N	RE1	38		0.25	mg/L	B17E158	05/22/17	05/24/17	350.1
Sample ID: Gina									**Aquatic Toxicity Test by EPA Methods**
Test of Significant Toxicity		Pass			%	B17F019	05/03/17	05/03/17	TOX_SOP1004

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E060 - Sulfide Prep - Sulfide										**Prepared & Analyzed: 05/08/17**
										Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Blank (B17E060-BLK1)										
Sulfide	ND	U	1	mg/L						
LCS (B17E060-BS1)										
Sulfide	10.1			mg/L	9.98		102	80-120		
Batch B17E096 - 3520C CLLE - SVOCs										**Prepared: 05/15/17 Analyzed: 05/31/17**
										Semivolatile Organic Compounds by EPA Method 8270D - Quality Control
Blank (B17E096-BLK1)										
Benzo(a)anthracene	ND	U	1	ug/L						
Chrysene	ND	U	1	"						
Benzo(b)fluoranthene	ND	U	1	"						
Benzo(k)fluoranthene	ND	U	1	"						
Benzo(a)pyrene	ND	U	1	"						
Dibenz(a,h)anthracene	ND	U	1	"						
Surrogate: Terphenyl-d14	*50.5*			"	*50.0*		101	*47-130*		
LCS (B17E096-BS1)										
1,4-Dioxane	9.53		1	ug/L	10.0		95	66-126		
Phenol	41.1		5	"	50.0		82	48-110		
Bis(2-chloroethyl)ether	7.72		1	"	10.0		77	53-113		
2-Chlorophenol	37.9		5	"	50.0		76	64-110		
1,3-Dichlorobenzene	4.94		1	"	10.0		49	28-110		
1,4-Dichlorobenzene	5.03		1	"	10.0		50	29-110		
Benzyl alcohol	41.6		5	"	50.0		83	49-110		
1,2-Dichlorobenzene	5.45		1	"	10.0		54	32-110		
2-Methylphenol	40.5		5	"	50.0		81	47-110		
Bis(2-chloro-1-methylethyl) ether	8.38		1	"	10.0		84	51-111		
3&4-Methylphenol	44.7		5	"	50.0		89	68-110		
N-Nitrosodipropylamine	8.19		1	"	10.0		82	48-110		
Hexachloroethane	4.49		1	"	10.0		45	22-110		
Nitrobenzene	8.49		1	"	10.0		85	54-114		
Isophorone	8.47		1	"	10.0		85	53-113		
2-Nitrophenol	41.3		5	"	50.0		83	49-110		
2,4-Dimethylphenol	41.4		5	"	50.0		83	45-110		
Bis(2-chloroethoxy)methane	8.09		1	"	10.0		81	52-112		
2,4-Dichlorophenol	42.7		5	"	50.0		85	65-110		
1,2,4-Trichlorobenzene	5.58		1	"	10.0		56	33-110		
Naphthalene	7.12		1	"	10.0		71	52-110		
4-Chloroaniline	42.2		5	"	50.0		84	43-110		
Hexachlorobutadiene	4.66		1	"	10.0		47	22-110		
4-Chloro-3-methylphenol	44.2		5	"	50.0		88	53-113		
2-Methylnaphthalene	6.87		1	"	10.0		69	49-110		
Hexachlorocyclopentadiene	20.9		5	"	50.0		42	20-110		

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E096 - 3520C CLLE - SVOCs									**Prepared: 05/15/17 Analyzed: 05/31/17**	
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
LCS (B17E096-BS1)										
2,4,6-Trichlorophenol	39.5		5	"	50.0		79	63-110		
2,4,5-Trichlorophenol	39.3		5	"	50.0		79	67-110		
2-Chloronaphthalene	6.92		1	"	10.0		69	43-110		
2-Nitroaniline	48.7		5	"	50.0		97	56-116		
Dimethyl phthalate	8.75		1	"	10.0		88	61-121		
2,6-Dinitrotoluene	7.98		1	"	10.0		80	58-118		
Acenaphthylene	7.11		1	"	10.0		71	46-110		
3-Nitroaniline	46.4		5	"	50.0		93	47-110		
Acenaphthene	10.9		1	"	10.0		109	84-135		
2,4-Dinitrophenol	35.3		20	"	50.0		71	52-112		
4-Nitrophenol	54		5	"	50.0		108	65-125		
Dibenzofuran	7.21		1	"	10.0		72	60-110		
2,4-Dinitrotoluene	8.27		1	"	10.0		83	60-120		
Diethyl phthalate	8.39		1	"	10.0		84	61-121		
Fluorene	7.48		1	"	10.0		75	60-110		
4-Chlorophenyl phenyl ether	6.59		1	"	10.0		66	50-110		
4-Nitroaniline	40.2		5	"	50.0		80	39-110		
4,6-Dinitro-2-methylphenol	42		5	"	50.0		84	68-128		
Diphenyl amine	6.55		1	"	10.0		66	29-110		
4-Bromophenyl phenyl ether	6.75		1	"	10.0		68	51-111		
Hexachlorobenzene	6.83		1	"	10.0		68	52-112		
Pentachlorophenol	38.2		20	"	50.0		76	63-112		
Phenanthrene	7.79		1	"	10.0		78	63-110		
Anthracene	7.66		1	"	10.0		77	57-117		
Carbazole	8.3		1	"	10.0		83	20-132		
Di-n-butyl phthalate	8.48		1	"	10.0		85	68-128		
Fluoranthene	8.11		1	"	10.0		81	68-119		
Pyrene	8.22		1	"	10.0		82	65-120		
Butyl benzyl phthalate	8.78		1	"	10.0		88	62-122		
Benzo(a)anthracene	7.71		1	"	10.0		77	67-110		
3,3'-Dichlorobenzidine	37.6		1	"	50.0		75	20-110		
Chrysene	7.67		1	"	10.0		77	67-111		
Bis(2-ethylhexyl) phthalate	9.7		1	"	10.0		97	71-131		
Di-n-octyl phthalate	8.2		1	"	10.0		82	62-122		
Benzo(b)fluoranthene	7.46		1	"	10.0		75	60-110		
Benzo(k)fluoranthene	7.35		1	"	10.0		74	65-117		
Benzo(a)pyrene	6.42		1	"	10.0		64	56-110		
Indeno(1,2,3-cd)pyrene	6.94		1	"	10.0		69	62-110		
Dibenz(a,h)anthracene	7.14		1	"	10.0		71	59-119		
Benzo(g,h,i)perylene	7.4		1	"	10.0		74	64-110		

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E096 - 3520C CLLE - SVOCs									**Prepared: 05/15/17 Analyzed: 05/31/17**	
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
LCS (B17E096-BS1)										
Surrogate: 1,4-Dioxane-d8	*3.13*			"	*5.00*		63	*46-110*		
Surrogate: 2-Fluorophenol	*38.5*			"	*50.0*		77	*54-110*		
Surrogate: Phenol-d5	*42.5*			"	*50.0*		85	*54-110*		
Surrogate: 2-Chlorophenol-d4	*39.4*			"	*50.0*		79	*60-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*27.7*			"	*50.0*		55	*38-110*		
Surrogate: Nitrobenzene-d5	*37.5*			"	*50.0*		75	*26-134*		
Surrogate: 2-Fluorobiphenyl	*37.2*			"	*50.0*		74	*57-110*		
Surrogate: 2,4,6-Tribromophenol	*43.8*			"	*50.0*		88	*46-136*		
Surrogate: Terphenyl-d14	*48.4*			"	*50.0*		97	*47-130*		
Matrix Spike (B17E096-MS1)		**Source: 1705007-03RE1**								
1,4-Dioxane	477		50	ug/L	99.5	ND	480	70-130		
Phenol	446		250	"	497	ND	90	70-130		
Bis(2-chloroethyl)ether	92.5		50	"	99.5	ND	93	70-130		
2-Chlorophenol	411		250	"	497	ND	83	50-110		
1,3-Dichlorobenzene	58.2		50	"	99.5	ND	58	70-130		
1,4-Dichlorobenzene	59.7		50	"	99.5	ND	60	70-130		
Benzyl alcohol	327		250	"	497	ND	66	70-130		
1,2-Dichlorobenzene	63.2		50	"	99.5	ND	64	70-130		
2-Methylphenol	531		250	"	497	ND	107	70-130		
Bis(2-chloro-1-methylethyl) ether	104		50	"	99.5	ND	104	70-130		
3&4-Methylphenol	550		250	"	497	ND	110	52-112		
N-Nitrosodipropylamine	102		50	"	99.5	ND	102	70-130		
Hexachloroethane	55.7		50	"	99.5	ND	56	70-130		
Nitrobenzene	98.5		50	"	99.5	ND	99	70-130		
Isophorone	103		50	"	99.5	ND	104	70-130		
2-Nitrophenol	406		250	"	497	ND	82	70-130		
2,4-Dimethylphenol	487		250	"	497	ND	98	70-130		
Bis(2-chloroethoxy)methane	95.5		50	"	99.5	ND	96	70-130		
2,4-Dichlorophenol	467		250	"	497	ND	94	60-120		
1,2,4-Trichlorobenzene	64.2		50	"	99.5	ND	64	70-130		
Naphthalene	161		50	"	99.5	76.7	85	70-130		
4-Chloroaniline	425		250	"	497	ND	85	70-130		
Hexachlorobutadiene	53.7		50	"	99.5	ND	54	70-130		
4-Chloro-3-methylphenol	489		250	"	497	ND	98	70-130		
2-Methylnaphthalene	101		50	"	99.5	ND	102	70-130		
Hexachlorocyclopentadiene	171	CI, J	250	"	497	ND	34	70-130		
2,4,6-Trichlorophenol	385		250	"	497	ND	77	58-118		
2,4,5-Trichlorophenol	496		250	"	497	ND	100	64-124		
2-Chloronaphthalene	80.6		50	"	99.5	ND	81	70-130		
2-Nitroaniline	542		250	"	497	ND	109	70-130		

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Quality Control

Batch B17E096 - 3520C CLLE - SVOCs — **Prepared: 05/15/17 Analyzed: 06/01/17**

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Matrix Spike (B17E096-MS1)		**Source: 1705007-03RE1**								
Dimethyl phthalate	101		50	"	99.5	ND	102	70-130		
2,6-Dinitrotoluene	92		50	"	99.5	ND	92	70-130		
Acenaphthylene	80.6		50	"	99.5	ND	81	70-130		
3-Nitroaniline	464		250	"	497	ND	93	70-130		
Acenaphthene	118		50	"	99.5	ND	118	70-130		
2,4-Dinitrophenol	ND	U	990	"	497	ND		70-130		
4-Nitrophenol	552		250	"	497	ND	111	70-130		
Dibenzofuran	86.6		50	"	99.5	ND	87	70-130		
2,4-Dinitrotoluene	97.5		50	"	99.5	ND	98	70-130		
Diethyl phthalate	97.5		50	"	99.5	ND	98	70-130		
Fluorene	83.6		50	"	99.5	ND	84	70-130		
4-Chlorophenyl phenyl ether	76.6		50	"	99.5	ND	77	70-130		
4-Nitroaniline	379		250	"	497	ND	76	70-130		
4,6-Dinitro-2-methylphenol	428		250	"	497	ND	86	70-130		
Diphenyl amine	90.5		50	"	99.5	ND	91	70-130		
4-Bromophenyl phenyl ether	83.1		50	"	99.5	ND	83	70-130		
Hexachlorobenzene	81.6		50	"	99.5	ND	82	70-130		
Pentachlorophenol	423	C1, J	990	"	497	ND	85	68-128		
Phenanthrene	92.5		50	"	99.5	ND	93	65-125		
Anthracene	88.5		50	"	99.5	ND	89	70-130		
Carbazole	103		50	"	99.5	ND	104	70-130		
Di-n-butyl phthalate	104		50	"	99.5	ND	105	70-130		
Fluoranthene	91.5		50	"	99.5	ND	92	66-126		
Pyrene	102		50	"	99.5	ND	102	65-125		
Butyl benzyl phthalate	106		50	"	99.5	ND	107	70-130		
Benzo(a)anthracene	96		50	"	99.5	ND	96	60-120		
3,3'-Dichlorobenzidine	334		50	"	497	ND	67	70-130		
Chrysene	89		50	"	99.5	ND	89	60-120		
Bis(2-ethylhexyl) phthalate	104		50	"	99.5	ND	104	70-130		
Di-n-octyl phthalate	88.1		50	"	99.5	ND	88	70-130		
Benzo(b)fluoranthene	85.1		50	"	99.5	ND	86	59-119		
Benzo(k)fluoranthene	81.6		50	"	99.5	ND	82	59-119		
Benzo(a)pyrene	75.1		50	"	99.5	ND	75	46-110		
Indeno(1,2,3-cd)pyrene	77.1		50	"	99.5	ND	77	53-113		
Dibenz(a,h)anthracene	78.1		50	"	99.5	ND	78	60-120		
Benzo(g,h,i)perylene	85.6		50	"	99.5	ND	86	55-115		
Surrogate: 1,4-Dioxane-d8	*35.3*			"	*49.7*		71	*46-110*		
Surrogate: 2-Fluorophenol	*421*			"	*497*		85	*54-110*		
Surrogate: Phenol-d5	*456*			"	*497*		92	*54-110*		
Surrogate: 2-Chlorophenol-d4	*428*			"	*497*		86	*60-110*		

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Project Manager: Eugene E. Bromley	**NPDES Permits Section**	**SDG:** 17123B
Project Number: R17N02	**75 Hawthorne Street**	**Reported:** 06/06/17 16:36
Project: Southern California Oil Platforms Spring 2017	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E096 - 3520C CLLE - SVOCs								**Prepared: 05/15/17 Analyzed: 06/01/17**		
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
Matrix Spike (B17E096-MS1)		**Source: 1705007-03RE1**								
Surrogate: 1,2-Dichlorobenzene-d4	*302*			"	*497*		61	*38-110*		
Surrogate: Nitrobenzene-d5	*401*			"	*497*		81	*26-134*		
Surrogate: 2-Fluorobiphenyl	*385*			"	*497*		77	*57-110*		
Surrogate: 2,4,6-Tribromophenol	*458*			"	*497*		92	*46-136*		
Surrogate: Terphenyl-d14	*460*			"	*497*		92	*47-130*		
Matrix Spike Dup (B17E096-MSD1)		**Source: 1705007-03RE1**								
1,4-Dioxane	489		49	ug/L	98.6	ND	496	70-130	3	20
Phenol	464		250	"	493	ND	94	70-130	4	20
Bis(2-chloroethyl)ether	94.2		49	"	98.6	ND	96	70-130	2	20
2-Chlorophenol	423		250	"	493	ND	86	50-110	3	20
1,3-Dichlorobenzene	63.1		49	"	98.6	ND	64	70-130	8	20
1,4-Dichlorobenzene	65.6		49	"	98.6	ND	67	70-130	9	20
Benzyl alcohol	357		250	"	493	ND	72	70-130	9	20
1,2-Dichlorobenzene	67.6		49	"	98.6	ND	68	70-130	7	20
2-Methylphenol	548		250	"	493	ND	111	70-130	3	20
Bis(2-chloro-1-methylethyl) ether	105		49	"	98.6	ND	106	70-130	1	20
3&4-Methylphenol	568		250	"	493	ND	115	52-112	3	20
N-Nitrosodipropylamine	108		49	"	98.6	ND	110	70-130	6	20
Hexachloroethane	61.6		49	"	98.6	ND	62	70-130	10	20
Nitrobenzene	100		49	"	98.6	ND	102	70-130	2	20
Isophorone	104		49	"	98.6	ND	106	70-130	1	20
2-Nitrophenol	416		250	"	493	ND	84	70-130	2	20
2,4-Dimethylphenol	489		250	"	493	ND	99	70-130	0.4	20
Bis(2-chloroethoxy)methane	98.6		49	"	98.6	ND	100	70-130	3	20
2,4-Dichlorophenol	476		250	"	493	ND	96	60-120	2	20
1,2,4-Trichlorobenzene	68.5		49	"	98.6	ND	69	70-130	7	20
Naphthalene	166		49	"	98.6	76.7	90	70-130	3	20
4-Chloroaniline	435		250	"	493	ND	88	70-130	2	20
Hexachlorobutadiene	58.2		49	"	98.6	ND	59	70-130	8	20
4-Chloro-3-methylphenol	511		250	"	493	ND	104	70-130	4	20
2-Methylnaphthalene	107		49	"	98.6	ND	108	70-130	5	20
Hexachlorocyclopentadiene	162	C1, J	250	"	493	ND	33	70-130	5	20
2,4,6-Trichlorophenol	405		250	"	493	ND	82	58-118	5	20
2,4,5-Trichlorophenol	510		250	"	493	ND	103	64-124	3	20
2-Chloronaphthalene	82.3		49	"	98.6	ND	84	70-130	2	20
2-Nitroaniline	560		250	"	493	ND	114	70-130	3	20
Dimethyl phthalate	106		49	"	98.6	ND	108	70-130	4	20
2,6-Dinitrotoluene	94.2		49	"	98.6	ND	96	70-130	2	20
Acenaphthylene	81.4		49	"	98.6	ND	82	70-130	1	20
3-Nitroaniline	464		250	"	493	ND	94	70-130	0.1	20

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Project Number: R17N02	**75 Hawthorne Street**	**Reported:** 06/06/17 16:36
Project: Southern California Oil Platforms Spring 2017	**San Francisco CA, 94105**	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E096 - 3520C CLLE - SVOCs									**Prepared: 05/15/17 Analyzed: 06/01/17**	
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
Matrix Spike Dup (B17E096-MSD1)		**Source: 1705007-03RE1**								
Acenaphthene	126		49	"	98.6	ND	128	70-130	6	20
2,4-Dinitrophenol	ND	U	990	"	493	ND		70-130		20
4-Nitrophenol	612		250	"	493	ND	124	70-130	10	20
Dibenzofuran	91.2		49	"	98.6	ND	92	70-130	5	20
2,4-Dinitrotoluene	101		49	"	98.6	ND	102	70-130	4	20
Diethyl phthalate	103		49	"	98.6	ND	104	70-130	6	20
Fluorene	87.3		49	"	98.6	ND	88	70-130	4	20
4-Chlorophenyl phenyl ether	79.4		49	"	98.6	ND	80	70-130	4	20
4-Nitroaniline	397		250	"	493	ND	81	70-130	5	20
4,6-Dinitro-2-methylphenol	434		250	"	493	ND	88	70-130	2	20
Diphenyl amine	90.2		49	"	98.6	ND	92	70-130	0.3	20
4-Bromophenyl phenyl ether	81.9		49	"	98.6	ND	83	70-130	1	20
Hexachlorobenzene	81.9		49	"	98.6	ND	83	70-130	0.3	20
Pentachlorophenol	434	C1, J	990	"	493	ND	88	68-128	2	20
Phenanthrene	94.7		49	"	98.6	ND	96	65-125	2	20
Anthracene	91.2		49	"	98.6	ND	92	70-130	3	20
Carbazole	107		49	"	98.6	ND	108	70-130	3	20
Di-n-butyl phthalate	107		49	"	98.6	ND	108	70-130	2	20
Fluoranthene	96.2		49	"	98.6	ND	98	66-126	5	20
Pyrene	98.1		49	"	98.6	ND	99	65-125	4	20
Butyl benzyl phthalate	104		49	"	98.6	ND	105	70-130	3	20
Benzo(a)anthracene	92.7		49	"	98.6	ND	94	60-120	4	20
3,3'-Dichlorobenzidine	357		49	"	493	ND	72	70-130	7	20
Chrysene	91.2		49	"	98.6	ND	92	60-120	2	20
Bis(2-ethylhexyl) phthalate	102		49	"	98.6	ND	104	70-130	2	20
Di-n-octyl phthalate	84.3		49	"	98.6	ND	86	70-130	4	20
Benzo(b)fluoranthene	84.3		49	"	98.6	ND	86	59-119	0.9	20
Benzo(k)fluoranthene	82.8		49	"	98.6	ND	84	59-119	2	20
Benzo(a)pyrene	75.9		49	"	98.6	ND	77	46-110	1	20
Indeno(1,2,3-cd)pyrene	80.4		49	"	98.6	ND	81	53-113	4	20
Dibenz(a,h)anthracene	83.3		49	"	98.6	ND	84	60-120	6	20
Benzo(g,h,i)perylene	89.7		49	"	98.6	ND	91	55-115	5	20
Surrogate: 1,4-Dioxane-d8	*36.5*			"	*49.3*		74	*46-110*		
Surrogate: 2-Fluorophenol	*426*			"	*493*		86	*54-110*		
Surrogate: Phenol-d5	*472*			"	*493*		96	*54-110*		
Surrogate: 2-Chlorophenol-d4	*433*			"	*493*		88	*60-110*		
Surrogate: 1,2-Dichlorobenzene-d4	*311*			"	*493*		63	*38-110*		
Surrogate: Nitrobenzene-d5	*404*			"	*493*		82	*26-134*		
Surrogate: 2-Fluorobiphenyl	*390*			"	*493*		79	*57-110*		
Surrogate: 2,4,6-Tribromophenol	*467*			"	*493*		95	*46-136*		

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E096 - 3520C CLLE - SVOCs								**Prepared: 05/15/17 Analyzed: 06/01/17**		
								Semivolatile Organic Compounds by EPA Method 8270D - Quality Control		
Matrix Spike Dup (B17E096-MSD1)		**Source: 1705007-03RE1**								
Surrogate: Terphenyl-d14	*442*			"	*493*		90	*47-130*		
Batch B17E113 - 200 Series Digest - Metals by 200.7,Total								**Prepared: 05/17/17 Analyzed: 05/18/17**		
								Total Metals by EPA 200 Series Methods - Quality Control		
Blank (B17E113-BLK1)										
Chromium	ND	U	10	ug/L						
Copper	ND	U	10	"						
Zinc	ND	U	10	"						
LCS (B17E113-BS1)										
Aluminum	2,040		20	ug/L	2000		102	85-115		
Beryllium	199		0.5	"	200		99	85-115		
Boron	303		100	"	300		101	85-115		
Calcium	1,030		100	"	1000		103	85-115		
Chromium	389		10	"	400		97	85-115		
Copper	297		10	"	300		99	85-115		
Iron	3,010		100	"	3000		100	85-115		
Magnesium	1,990		500	"	2000		100	85-115		
Manganese	207		5	"	200		104	85-115		
Potassium	10,600		2,000	"	10000		106	85-115		
Sodium	3,120		500	"	3000		104	85-115		
Vanadium	297		4	"	300		99	85-115		
Zinc	200		10	"	200		100	85-115		
Matrix Spike (B17E113-MS2)		**Source: 1705007-02**								
Chromium	346		100	ug/L	400	ND	86	70-130		
Copper	262		100	"	300	ND	87	70-130		
Zinc	190		100	"	200	ND	95	70-130		
Matrix Spike Dup (B17E113-MSD2)		**Source: 1705007-02**								
Chromium	363		100	ug/L	400	ND	91	70-130	5	20
Copper	289		100	"	300	ND	96	70-130	10	20
Zinc	208		100	"	200	ND	104	70-130	9	20
Batch B17E141 - - General Inorganic - Nitrogen, Ammonia								**Prepared: 05/22/17 Analyzed: 05/23/17**		
								Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control		
Blank (B17E141-BLK1)										
Ammonia as N	ND	U	0.05	mg/L						
LCS (B17E141-BS1)										
Ammonia as N	4.74			mg/L	5.00		95	90-110		
Batch B17E158 - - General Inorganic - Nitrogen, Ammonia								**Prepared & Analyzed: 05/24/17**		
								Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control		
Blank (B17E158-BLK1)										
Ammonia as N	ND	U	0.05	mg/L						
LCS (B17E158-BS1)										

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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B17E158 - - General Inorganic - Nitrogen, Ammonia										**Prepared & Analyzed: 05/24/17**
								Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control		
LCS (B17E158-BS1)										
Ammonia as N	5.07			mg/L	5.00		101	90-110		
Matrix Spike (B17E158-MS1)		**Source: 1705007-03RE1**								
Ammonia as N	44.6	Q10	0.25	mg/L	5.00	38.5	122	90-110		
Matrix Spike Dup (B17E158-MSD1)		**Source: 1705007-03RE1**								
Ammonia as N	44	Q10	0.25	mg/L	5.00	38.5	110	90-110	1	10
Batch B17F019 - - General Biology - Toxicity, Abalone										**Prepared & Analyzed: 05/03/17**
								Aquatic Toxicity Test by EPA Methods - Quality Control		
Reference (B17F019-SRM1)										
EC 50	30.5			ppb	51.7		59	44.2-155.8		

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Qualifiers and Comments

Q10 The analyte concentration in the unfortified sample is significantly greater than the concentration spiked into the matrix spike and matrix spike duplicate. The reported spike recovery is not a meaningful measure of the dataset's analytical accuracy.

Pass Pass

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

A3 The sample was prepped/analyzed past the recommended holding time.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.