



**United States Environmental Protection Agency
Region 9 Laboratory**

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

Date: 11/27/2017

Subject: Analytical Testing Results - Project R18U01
SDG: 17298E

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

To: Lyndsey Tu
Underground Storage Tanks Program Office
LND-4-3

Attached are the results from the analysis of samples from the **Red Hill Tank Farm October 2017 Split Sampling** 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: Bob Pallarino, UST Section
Roxanne Kwan, Hawaii DOH

Analyses included in this report:

PAHs by GC/MS SIM

PAHs by GC/MS SIM

Extractable Petroleum Hydrocarbons by
GC/FID

Extractable Petroleum Hydrocarbons (w/silica
gel)



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

Project Manager: Lyndsey Tu	Underground Storage Tanks Program Office	SDG: 17298E
Project Number: R18U01	75 Hawthorne Street	Reported: 11/27/17 16:21
Project: Red Hill Tank Farm October 2017 Split Sampling	San Francisco CA, 94105	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
ERH412	1710096-01	Water	10/25/17 09:10	10/27/17 09:40



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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1710096-01						Water - Sampled: 10/25/17 09:10			
Sample ID: ERH412						Extractable Petroleum Hydrocarbons			
TPH - Diesel Range Organics		210	F13	150	ug/L	B17J147	10/27/17	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			81 %	47-130%		"	"	"	
Sample ID: ERH412						Extractable Petroleum Hydrocarbons with Silica Gel Cleanup			
TPH - Diesel Range Organics		ND	U	150	"	"	"	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			72 %	47-130%		"	"	"	
Sample ID: ERH412						Semivolatile Organic Compounds by EPA Method 8270D			
Naphthalene		170		50	ng/L	B17J145	10/27/17	11/16/17	8270D (SIM)
2-Methylnaphthalene		ND	U	50	"	"	"	"	8270D (SIM)
1-Methylnaphthalene		ND	U	50	"	"	"	"	8270D (SIM)
Acenaphthylene		ND	U	50	"	"	"	"	8270D (SIM)
Acenaphthene		ND	U	50	"	"	"	"	8270D (SIM)
Fluorene		31	C1, J	50	"	"	"	"	8270D (SIM)
Phenanthrene		ND	U	50	"	"	"	"	8270D (SIM)
Anthracene		ND	U	50	"	"	"	"	8270D (SIM)
Fluoranthene		ND	U	50	"	"	"	"	8270D (SIM)
Pyrene		ND	U	50	"	"	"	"	8270D (SIM)
Benzo(a)anthracene		ND	U	50	"	"	"	"	8270D (SIM)
Chrysene		ND	U	50	"	"	"	"	8270D (SIM)
Benzo(b)fluoranthene		ND	U	50	"	"	"	"	8270D (SIM)
Benzo(k)fluoranthene		ND	U	50	"	"	"	"	8270D (SIM)
Benzo(a)pyrene		ND	U	50	"	"	"	"	8270D (SIM)
Indeno(1,2,3-cd)pyrene		ND	U	50	"	"	"	"	8270D (SIM)
Dibenz(a,h)anthracene		ND	U	50	"	"	"	"	8270D (SIM)
Benzo(g,h,i)perylene		ND	U	50	"	"	"	"	8270D (SIM)
<i>Surrogate: 2-Fluorobiphenyl</i>			78 %	32-110%		"	"	"	
<i>Surrogate: Terphenyl-d14</i>			102 %	39-136%		"	"	"	



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B17J145 - 3520C CLLE - PAH-Low

Prepared: 10/27/17 Analyzed: 11/16/17

Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

Blank (B17J145-BLK1)

Naphthalene	ND	U		50	ng/L					
2-Methylnaphthalene	ND	U		50	"					
1-Methylnaphthalene	ND	U		50	"					
Acenaphthylene	ND	U		50	"					
Acenaphthene	ND	U		50	"					
Fluorene	ND	U		50	"					
Phenanthrene	ND	U		50	"					
Anthracene	ND	U		50	"					
Fluoranthene	ND	U		50	"					
Pyrene	ND	U		50	"					
Benzo(a)anthracene	ND	U		50	"					
Chrysene	ND	U		50	"					
Benzo(b)fluoranthene	ND	U		50	"					
Benzo(k)fluoranthene	ND	U		50	"					
Benzo(a)pyrene	ND	U		50	"					
Indeno(1,2,3-cd)pyrene	ND	U		50	"					
Dibenz(a,h)anthracene	ND	U		50	"					
Benzo(g,h,i)perylene	ND	U		50	"					

<i>Surrogate: 2-Fluorobiphenyl</i>	4250			"	5000		85	32-110		
<i>Surrogate: Terphenyl-d14</i>	5490			"	5000		110	39-136		

LCS (B17J145-BS1)

Naphthalene	846			50	ng/L	1000	85	20-110		
2-Methylnaphthalene	784			50	"	1000	78	20-110		
1-Methylnaphthalene	765			50	"	1000	77	20-110		
Acenaphthylene	793			50	"	1000	79	35-110		
Acenaphthene	830			50	"	1000	83	25-110		
Fluorene	852			50	"	1000	85	36-110		
Phenanthrene	871			50	"	1000	87	49-110		
Anthracene	821			50	"	1000	82	56-110		
Fluoranthene	864			50	"	1000	86	65-110		
Pyrene	903			50	"	1000	90	57-114		
Benzo(a)anthracene	909			50	"	1000	91	70-125		
Chrysene	906			50	"	1000	91	64-110		
Benzo(b)fluoranthene	977			50	"	1000	98	63-111		
Benzo(k)fluoranthene	1,010			50	"	1000	101	63-116		
Benzo(a)pyrene	826			50	"	1000	83	62-110		
Indeno(1,2,3-cd)pyrene	912			50	"	1000	91	60-116		
Dibenz(a,h)anthracene	934			50	"	1000	93	60-121		
Benzo(g,h,i)perylene	911			50	"	1000	91	59-110		



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B17J145 - 3520C CLLE - PAH-Low

Prepared: 10/27/17 Analyzed: 11/16/17
Semivolatile Organic Compounds by EPA Method 8270D - Quality Control

LCS (B17J145-BS1)

<i>Surrogate: 2-Fluorobiphenyl</i>	4010			"	5000		80	32-110		
<i>Surrogate: Terphenyl-d14</i>	5120			"	5000		102	39-136		

Batch B17J147 - 3520C CLLE - TPH - Extractable

Prepared: 10/27/17 Analyzed: 11/02/17
Extractable Petroleum Hydrocarbons - Quality Control

Blank (B17J147-BLK1)

TPH - Diesel Range Organics	160			150	ug/L					
TPH - Oil Range Organics	ND	U		600	"					

<i>Surrogate: Hexacosane</i>	131			"	150		87	47-130		
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LCS (B17J147-BS1)

TPH - Diesel Range Organics	1,290			150	ug/L	1500	86	59-109		
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<i>Surrogate: Hexacosane</i>	123			"	150		82	47-130		
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Batch B17J147 - 3520C CLLE - TPH-Extractable SGC

Prepared: 10/27/17 Analyzed: 11/02/17
Extractable Petroleum Hydrocarbons with Silica Gel Cleanup - Quality Control

Blank (B17J147-BLK1)

TPH - Diesel Range Organics	ND	U		150	ug/L					
TPH - Oil Range Organics	ND	U		600	"					

<i>Surrogate: Hexacosane</i>	115			"	150		77	47-130		
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LCS (B17J147-BS1)

TPH - Diesel Range Organics	969			150	ug/L	1500	65	59-109		
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<i>Surrogate: Hexacosane</i>	110			"	150		74	47-130		
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Qualifiers and Comments

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

F13 Fuel or Product Type: mixed or unknown

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

U Not Detected

NR Not Reported

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