

**VULCAN MATERIALS COMPANY - West Region**

Contractor: **RE Staite Engineering Inc.**

September 3, 2014

Project: **San Diego Shipyard Sediment Site - North Shipyard**

Plant: **Vulcan Materials / Chula Vista**

Material: **Washed Concrete Sand (WCS) as "Sand Cover Material"**

This is to certify that Vulcan Materials Company, West Region, Chula Vista, will supply Washed Concrete Sand (WCS) to the above listed project and that this product will conform to the gradation limits outlined for "Sand Cover Material" in section 352026 Part 2.02 - E. of the project specification as shown on this document.

Sieve Size	Section 35026 Part 2.02-E	Percent Passing
9.5 mm (3/8")	100	100
4.75 mm (No. 4)	95 - 100	97
2.36 mm (No. 8)	80 - 95	86
1.18 mm (No. 16)	40 - 70	66
600 um (No. 30)	----	42
300 um (No. 50)	----	17
150 um (No. 100)	----	7
75 um (No. 200)	0 - 5	2.6

Average Total Moisture 4.4%

Submitted by:



Jeff Pollard  
Technical Services Supervisor

If you should have any questions regarding this submittal please contact the San Diego Regional Laboratory at (858) 547-4981

\* Please Note: \*\* NOT VALID IF ALTERED \*\*

**VULCAN MATERIALS COMPANY - West Region**

Contractor: **RE Staite Engineering Inc.**

September 3, 2014

Project: **San Diego Shipyard Sediment Site - North Shipyard**

Plant: **Vulcan Materials / Chula Vista**

Material: **Gravel Cover Material**

This is to certify that Vulcan Materials Company, West Region, Chula Vista, will supply Gravel Cover Material to the above listed project and that this product will conform to the gradation limits outlined for "Gravel Cover Material" in section 352026 Part 2.03 C., of the project specification on page 352026-8, dated April 2014, at the Chula Vista production facility only.

Sieve Size	Section 352026 Part 2.03 C.	Percent Passing
100 mm (4")	100	100
19 mm (3/4")	50 - 75	71
4.75 mm (No. 4)	35 - 55	36
2.36 mm (No. 8)	----	28
2 mm (No. 10)	25 - 45	25
425 um (No. 40)	10 - 25	14
150 um (No. 100)	----	3
75 um (No. 200)	0 - 5	1.1

Average Total Moisture 2.0%

Submitted by:



Jeff Pollard  
Technical Services Supervisor

If you should have any questions regarding this submittal please contact the San Diego Regional Laboratory at (858) 547-4981

\* Please Note: \*\* NOT VALID IF ALTERED \*\*

EnviroMatrix



Analytical, Inc.

16 December 2014

Vulcan Materials Co. Foothill

Attn: Jeff Pollard

16009 Foothill Blvd.

Irwindale CA, CA 91706

**EMA Log #: 14K0645**

**Project Name: San Diego Shipyard Sediment Site - North Shipyard**

Enclosed are the results of analyses for samples received by the laboratory on 11/21/14 10:42. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

A handwritten signature in black ink, appearing to read 'Dan Verdon', is written over a light gray circular stamp.

**Dan Verdon**

**Laboratory Director**

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763  
**Analytical Chemistry Laboratory**

Client Name: Vulcan Materials Co. Foothill  
Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Chula Vista Ground Cover	14K0645-01	Soil	11/19/14 10:00	11/21/14 10:42
Chula Vista Sand Cover	14K0645-02	Soil	11/19/14 10:00	11/21/14 10:42

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Total Metals by EPA 6000/7000 Series Methods**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Silver	ND	0.10	0.51	mg/kg dry	1	4112417	11/24/14	11/26/14	EPA 6010	
<b>Arsenic</b>	<b>0.56</b>	0.44	1.02	"	"	"	"	"	"	J
Cadmium	ND	0.08	1.02	"	"	"	"	"	"	
<b>Chromium</b>	<b>4.19</b>	0.41	1.02	"	"	"	"	"	"	
<b>Copper</b>	<b>0.74</b>	0.09	1.02	"	"	"	"	"	"	J
Mercury	ND	0.02	0.05	"	"	4120409	12/04/14	12/04/14	EPA 7471	
<b>Nickel</b>	<b>1.55</b>	0.32	1.02	"	"	4112417	11/24/14	11/26/14	EPA 6010	
Lead	ND	0.80	1.02	"	"	"	"	"	"	
<b>Zinc</b>	<b>18.1</b>	0.04	1.02	"	"	"	"	"	"	
<b>Chula Vista Sand Cover (14K0645-02) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Silver	ND	0.10	0.51	mg/kg dry	1	4112417	11/24/14	11/26/14	EPA 6010	
<b>Arsenic</b>	<b>0.68</b>	0.44	1.03	"	"	"	"	"	"	J
Cadmium	ND	0.08	1.03	"	"	"	"	"	"	
<b>Chromium</b>	<b>4.02</b>	0.41	1.03	"	"	"	"	"	"	
<b>Copper</b>	<b>1.10</b>	0.09	1.03	"	"	"	"	"	"	
Mercury	ND	0.02	0.05	"	"	4120409	12/04/14	12/04/14	EPA 7471	
<b>Nickel</b>	<b>1.39</b>	0.32	1.03	"	"	4112417	11/24/14	11/26/14	EPA 6010	
<b>Lead</b>	<b>0.81</b>	0.81	1.03	"	"	"	"	"	"	J
<b>Zinc</b>	<b>14.9</b>	0.04	1.03	"	"	"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Organochlorine Pesticides by EPA Method 8081B**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil</b>										
<b>Sampled: 11/19/14 10:00 Received: 11/21/14 10:42</b>										
Aldrin	ND	0.52	2.03	ug/kg dry	1	4112444	11/24/14	11/26/14	EPA 8081	
alpha-BHC	ND	0.27	2.03	"	"	"	"	"	"	
beta-BHC	ND	0.44	2.03	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.36	2.03	"	"	"	"	"	"	
delta-BHC	ND	0.42	2.03	"	"	"	"	"	"	
alpha-Chlordane	ND	0.48	5.08	"	"	"	"	"	"	
gamma-Chlordane	ND	0.52	5.08	"	"	"	"	"	"	
Chlordane (Total)	ND	4.78	5.08	"	"	"	"	"	"	
4,4'-DDD	ND	0.50	2.03	"	"	"	"	"	"	
4,4'-DDE	ND	0.48	2.03	"	"	"	"	"	"	
4,4'-DDT	ND	0.33	2.03	"	"	"	"	"	"	
Dieldrin	ND	0.48	2.03	"	"	"	"	"	"	
Endosulfan I	ND	0.43	2.03	"	"	"	"	"	"	
Endosulfan II	ND	0.77	2.03	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.49	2.03	"	"	"	"	"	"	
Endrin	ND	0.50	2.03	"	"	"	"	"	"	
Endrin aldehyde	ND	0.31	2.03	"	"	"	"	"	"	
Endrin ketone	ND	0.81	2.03	"	"	"	"	"	"	
Heptachlor	ND	0.72	2.03	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.71	2.03	"	"	"	"	"	"	
Methoxychlor	ND	0.75	5.08	"	"	"	"	"	"	
Toxaphene	ND	8.95	25.4	"	"	"	"	"	"	

Surrogate: TCMX 54 % 26-146 " " " "

<b>Chula Vista Sand Cover (14K0645-02) Soil</b>										
<b>Sampled: 11/19/14 10:00 Received: 11/21/14 10:42</b>										
Aldrin	ND	0.53	2.06	ug/kg dry	1	4112444	11/24/14	11/26/14	EPA 8081	
alpha-BHC	ND	0.28	2.06	"	"	"	"	"	"	
beta-BHC	ND	0.44	2.06	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	0.36	2.06	"	"	"	"	"	"	
delta-BHC	ND	0.42	2.06	"	"	"	"	"	"	
alpha-Chlordane	ND	0.48	5.15	"	"	"	"	"	"	
gamma-Chlordane	ND	0.53	5.15	"	"	"	"	"	"	
Chlordane (Total)	ND	4.84	5.15	"	"	"	"	"	"	
4,4'-DDD	ND	0.50	2.06	"	"	"	"	"	"	
4,4'-DDE	ND	0.48	2.06	"	"	"	"	"	"	
4,4'-DDT	ND	0.33	2.06	"	"	"	"	"	"	
Dieldrin	ND	0.48	2.06	"	"	"	"	"	"	
Endosulfan I	ND	0.43	2.06	"	"	"	"	"	"	
Endosulfan II	ND	0.78	2.06	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.49	2.06	"	"	"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Organochlorine Pesticides by EPA Method 8081B**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Sand Cover (14K0645-02) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Endrin	ND	0.50	2.06	ug/kg dry	1	4112444	11/24/14	11/26/14	EPA 8081	
Endrin aldehyde	ND	0.31	2.06	"	"	"	"	"	"	
Endrin ketone	ND	0.82	2.06	"	"	"	"	"	"	
Heptachlor	ND	0.73	2.06	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.72	2.06	"	"	"	"	"	"	
Methoxychlor	ND	0.76	5.15	"	"	"	"	"	"	
Toxaphene	ND	9.06	25.7	"	"	"	"	"	"	
Surrogate: TCMX		68 %	26-146			"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polychlorinated Biphenyls by EPA Method 8082**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil</b> <b>Sampled: 11/19/14 10:00</b> <b>Received: 11/21/14 10:42</b>										
Aroclor 1016	ND	4.68	20.3	ug/kg dry	1	4112444	11/24/14	11/26/14	EPA 8082	
Aroclor 1221	ND	4.68	20.3	"	"	"	"	"	"	
Aroclor 1232	ND	4.68	20.3	"	"	"	"	"	"	
Aroclor 1242	ND	4.68	20.3	"	"	"	"	"	"	
Aroclor 1248	ND	4.68	20.3	"	"	"	"	"	"	
Aroclor 1254	ND	4.68	20.3	"	"	"	"	"	"	
Aroclor 1260	ND	4.68	20.3	"	"	"	"	"	"	
<i>Surrogate: TCMX</i>		54 %	26-146			"	"	"	"	
<b>Chula Vista Sand Cover (14K0645-02) Soil</b> <b>Sampled: 11/19/14 10:00</b> <b>Received: 11/21/14 10:42</b>										
Aroclor 1016	ND	4.74	20.6	ug/kg dry	1	4112444	11/24/14	11/26/14	EPA 8082	
Aroclor 1221	ND	4.74	20.6	"	"	"	"	"	"	
Aroclor 1232	ND	4.74	20.6	"	"	"	"	"	"	
Aroclor 1242	ND	4.74	20.6	"	"	"	"	"	"	
Aroclor 1248	ND	4.74	20.6	"	"	"	"	"	"	
Aroclor 1254	ND	4.74	20.6	"	"	"	"	"	"	
Aroclor 1260	ND	4.74	20.6	"	"	"	"	"	"	
<i>Surrogate: TCMX</i>		68 %	26-146			"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil Sampled: 11/19/14 10:00 Received: 11/21/14 10:42</b>										
Benzoic acid	ND	1.85	50.8	ug/kg dry	1	4112512	11/25/14	11/26/14	EPA 8270C	
Acenaphthene	ND	5.21	20.3	"	"	"	"	"	"	
Acenaphthylene	ND	5.46	20.3	"	"	"	"	"	"	
Anthracene	ND	2.87	20.3	"	"	"	"	"	"	
Benzidine	ND	153	153	"	"	"	"	"	"	
Benzo (a) anthracene	ND	3.14	20.3	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	3.14	20.3	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	3.74	20.3	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	4.71	40.7	"	"	"	"	"	"	
Benzo (a) pyrene	ND	3.12	20.3	"	"	"	"	"	"	
Benzyl alcohol	ND	1.46	76.3	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	7.38	20.3	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	8.09	25.4	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	8.96	25.4	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.82	45.8	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	3.77	20.3	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	4.18	40.7	"	"	"	"	"	"	
Carbazole	ND	5.02	61.0	"	"	"	"	"	"	
4-Chloroaniline	ND	4.49	102	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	8.48	20.3	"	"	"	"	"	"	
2-Chloronaphthalene	ND	6.21	20.3	"	"	"	"	"	"	
2-Chlorophenol	ND	6.59	20.3	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	4.98	20.3	"	"	"	"	"	"	
Chrysene	ND	2.92	20.3	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.08	40.7	"	"	"	"	"	"	
Dibenzofuran	ND	5.51	20.3	"	"	"	"	"	"	
<b>Di-n-butyl phthalate</b>	<b>4.97</b>	3.94	40.7	"	"	"	"	"	"	J
1,2-Dichlorobenzene	ND	9.22	20.3	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	8.65	20.3	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	8.69	20.3	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.35	153	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	5.41	20.3	"	"	"	"	"	"	
Diethyl phthalate	ND	1.64	20.3	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.44	81.4	"	"	"	"	"	"	
<b>Dimethyl phthalate</b>	<b>18.8</b>	3.42	20.3	"	"	"	"	"	"	J
4,6-Dinitro-2-methylphenol	ND	5.59	50.8	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	11.1	102	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	4.15	20.3	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	6.12	20.3	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	4.69	40.7	"	"	"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Fluoranthene	ND	3.49	20.3	ug/kg dry	1	4112512	11/25/14	11/26/14	EPA 8270C	
Fluorene	ND	4.58	20.3	"	"	"	"	"	"	
Hexachlorobenzene	ND	3.15	20.3	"	"	"	"	"	"	
Hexachlorobutadiene	ND	7.21	20.3	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	7.10	50.8	"	"	"	"	"	"	
Hexachloroethane	ND	9.03	20.3	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	4.40	30.5	"	"	"	"	"	"	
Isophorone	ND	7.69	20.3	"	"	"	"	"	"	
2-Methylnaphthalene	ND	7.75	20.3	"	"	"	"	"	"	
2-Methylphenol	ND	6.67	20.3	"	"	"	"	"	"	
4-Methylphenol (3-Methylphenol)	ND	6.35	40.7	"	"	"	"	"	"	
Naphthalene	ND	7.37	20.3	"	"	"	"	"	"	
2-Nitroaniline	ND	3.98	50.8	"	"	"	"	"	"	
3-Nitroaniline	ND	6.65	102	"	"	"	"	"	"	
4-Nitroaniline	ND	5.58	71.2	"	"	"	"	"	"	
Nitrobenzene	ND	8.18	20.3	"	"	"	"	"	"	
2-Nitrophenol	ND	7.69	20.3	"	"	"	"	"	"	
4-Nitrophenol	ND	2.90	71.2	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	8.16	20.3	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	8.16	35.6	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	8.03	30.5	"	"	"	"	"	"	
Pentachlorophenol	ND	6.12	40.7	"	"	"	"	"	"	
Phenanthrene	ND	1.98	20.3	"	"	"	"	"	"	
Phenol	ND	8.96	30.5	"	"	"	"	"	"	
Pyrene	ND	2.93	20.3	"	"	"	"	"	"	
Pyridine	ND	9.00	102	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	7.20	20.3	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	7.79	30.5	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.64	30.5	"	"	"	"	"	"	
<i>Surrogate: 2-Fluorophenol</i>		65 %	25-121			"	"	"	"	
<i>Surrogate: Phenol-d6</i>		58 %	24-113			"	"	"	"	
<i>Surrogate: Nitrobenzene-d5</i>		68 %	23-120			"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl</i>		74 %	30-115			"	"	"	"	
<i>Surrogate: 2,4,6-Tribromophenol</i>		58 %	19-122			"	"	"	"	
<i>Surrogate: Terphenyl-d14</i>		62 %	18-137			"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Sand Cover (14K0645-02) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Benzoic acid	ND	1.87	51.5	ug/kg dry	1	4112512	11/25/14	11/26/14	EPA 8270C	
Acenaphthene	ND	5.27	20.6	"	"	"	"	"	"	
Acenaphthylene	ND	5.53	20.6	"	"	"	"	"	"	
Anthracene	ND	2.90	20.6	"	"	"	"	"	"	
Benzidine	ND	154	154	"	"	"	"	"	"	
Benzo (a) anthracene	ND	3.18	20.6	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	3.18	20.6	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	3.79	20.6	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	4.77	41.2	"	"	"	"	"	"	
Benzo (a) pyrene	ND	3.16	20.6	"	"	"	"	"	"	
Benzyl alcohol	ND	1.48	77.2	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	7.47	20.6	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	8.20	25.7	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	9.07	25.7	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	5.89	46.3	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	3.82	20.6	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	4.23	41.2	"	"	"	"	"	"	
Carbazole	ND	5.09	61.8	"	"	"	"	"	"	
4-Chloroaniline	ND	4.55	103	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	8.59	20.6	"	"	"	"	"	"	
2-Chloronaphthalene	ND	6.29	20.6	"	"	"	"	"	"	
2-Chlorophenol	ND	6.67	20.6	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	5.04	20.6	"	"	"	"	"	"	
Chrysene	ND	2.95	20.6	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.15	41.2	"	"	"	"	"	"	
Dibenzofuran	ND	5.58	20.6	"	"	"	"	"	"	
<b>Di-n-butyl phthalate</b>	<b>14.9</b>	3.98	41.2	"	"	"	"	"	"	J
1,2-Dichlorobenzene	ND	9.34	20.6	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	8.76	20.6	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	8.80	20.6	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	5.42	154	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	5.48	20.6	"	"	"	"	"	"	
Diethyl phthalate	ND	1.66	20.6	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	2.47	82.4	"	"	"	"	"	"	
<b>Dimethyl phthalate</b>	<b>14.7</b>	3.46	20.6	"	"	"	"	"	"	J
4,6-Dinitro-2-methylphenol	ND	5.66	51.5	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	11.3	103	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	4.20	20.6	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	6.20	20.6	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	4.75	41.2	"	"	"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Sand Cover (14K0645-02) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
Fluoranthene	ND	3.53	20.6	ug/kg dry	1	4112512	11/25/14	11/26/14	EPA 8270C	
Fluorene	ND	4.63	20.6	"	"	"	"	"	"	
Hexachlorobenzene	ND	3.19	20.6	"	"	"	"	"	"	
Hexachlorobutadiene	ND	7.30	20.6	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	7.19	51.5	"	"	"	"	"	"	
Hexachloroethane	ND	9.14	20.6	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	4.46	30.9	"	"	"	"	"	"	
Isophorone	ND	7.78	20.6	"	"	"	"	"	"	
2-Methylnaphthalene	ND	7.85	20.6	"	"	"	"	"	"	
2-Methylphenol	ND	6.75	20.6	"	"	"	"	"	"	
4-Methylphenol (3-Methylphenol)	ND	6.42	41.2	"	"	"	"	"	"	
Naphthalene	ND	7.46	20.6	"	"	"	"	"	"	
2-Nitroaniline	ND	4.03	51.5	"	"	"	"	"	"	
3-Nitroaniline	ND	6.73	103	"	"	"	"	"	"	
4-Nitroaniline	ND	5.65	72.1	"	"	"	"	"	"	
Nitrobenzene	ND	8.28	20.6	"	"	"	"	"	"	
2-Nitrophenol	ND	7.78	20.6	"	"	"	"	"	"	
4-Nitrophenol	ND	2.93	72.1	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	8.26	20.6	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	8.26	36.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	8.13	30.9	"	"	"	"	"	"	
Pentachlorophenol	ND	6.20	41.2	"	"	"	"	"	"	
Phenanthrene	ND	2.01	20.6	"	"	"	"	"	"	
Phenol	ND	9.07	30.9	"	"	"	"	"	"	
Pyrene	ND	2.97	20.6	"	"	"	"	"	"	
Pyridine	ND	9.11	103	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	7.29	20.6	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	7.89	30.9	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.71	30.9	"	"	"	"	"	"	
<i>Surrogate: 2-Fluorophenol</i>		72 %	25-121			"	"	"	"	
<i>Surrogate: Phenol-d6</i>		67 %	24-113			"	"	"	"	
<i>Surrogate: Nitrobenzene-d5</i>		81 %	23-120			"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl</i>		85 %	30-115			"	"	"	"	
<i>Surrogate: 2,4,6-Tribromophenol</i>		64 %	19-122			"	"	"	"	
<i>Surrogate: Terphenyl-d14</i>		79 %	18-137			"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polynuclear Aromatic Compounds by EPA Method 8270C**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil</b>										
<b>Sampled: 11/19/14 10:00 Received: 11/21/14 10:42</b>										
Acenaphthene	ND	5.21	20.3	ug/kg dry	1	4112513	11/25/14	11/26/14	EPA 8270C	
Acenaphthylene	ND	5.46	20.3	"	"	"	"	"	"	
Anthracene	ND	2.87	20.3	"	"	"	"	"	"	
Benzo (a) anthracene	ND	3.14	20.3	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	3.14	20.3	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	3.74	20.3	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	4.71	40.7	"	"	"	"	"	"	
Benzo (a) pyrene	ND	3.12	20.3	"	"	"	"	"	"	
Chrysene	ND	2.92	20.3	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.08	40.7	"	"	"	"	"	"	
Fluoranthene	ND	3.49	20.3	"	"	"	"	"	"	
Fluorene	ND	4.58	20.3	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	4.40	30.5	"	"	"	"	"	"	
Naphthalene	ND	7.37	20.3	"	"	"	"	"	"	
Phenanthrene	ND	1.98	20.3	"	"	"	"	"	"	
Pyrene	ND	2.93	20.3	"	"	"	"	"	"	
<i>Surrogate: Nitrobenzene-d5</i>		68 %	23-120			"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl</i>		74 %	30-115			"	"	"	"	
<i>Surrogate: Terphenyl-dl4</i>		62 %	18-137			"	"	"	"	
<b>Chula Vista Sand Cover (14K0645-02) Soil</b>										
<b>Sampled: 11/19/14 10:00 Received: 11/21/14 10:42</b>										
Acenaphthene	ND	5.27	20.6	ug/kg dry	1	4112513	11/25/14	11/26/14	EPA 8270C	
Acenaphthylene	ND	5.53	20.6	"	"	"	"	"	"	
Anthracene	ND	2.90	20.6	"	"	"	"	"	"	
Benzo (a) anthracene	ND	3.18	20.6	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	3.18	20.6	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	3.79	20.6	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	4.77	41.2	"	"	"	"	"	"	
Benzo (a) pyrene	ND	3.16	20.6	"	"	"	"	"	"	
Chrysene	ND	2.95	20.6	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.15	41.2	"	"	"	"	"	"	
Fluoranthene	ND	3.53	20.6	"	"	"	"	"	"	
Fluorene	ND	4.63	20.6	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	4.46	30.9	"	"	"	"	"	"	
Naphthalene	ND	7.46	20.6	"	"	"	"	"	"	
Phenanthrene	ND	2.01	20.6	"	"	"	"	"	"	
Pyrene	ND	2.97	20.6	"	"	"	"	"	"	
<i>Surrogate: Nitrobenzene-d5</i>		81 %	23-120			"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl</i>		85 %	30-115			"	"	"	"	
<i>Surrogate: Terphenyl-dl4</i>		79 %	18-137			"	"	"	"	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Conventional Chemistry Parameters by Standard/EPA Methods**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Chula Vista Ground Cover (14K0645-01) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
% Solids	98.3	0.1	0.1	%	1	4120434	12/04/14	12/05/14	SM 2540 G	HT-07
<b>Chula Vista Sand Cover (14K0645-02) Soil    Sampled: 11/19/14 10:00    Received: 11/21/14 10:42</b>										
% Solids	97.1	0.1	0.1	%	1	4120434	12/04/14	12/05/14	SM 2540 G	HT-07

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Total Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112417**

**Blank (4112417-BLK1)**

Prepared & Analyzed: 11/24/14

Copper	ND	0.09	1.00	mg/kg wet							
Lead	ND	0.79	1.00	"							
Nickel	ND	0.31	1.00	"							
Zinc	ND	0.04	1.00	"							
Silver	ND	0.10	0.50	"							
Chromium	ND	0.40	1.00	"							
Cadmium	ND	0.08	1.00	"							
Arsenic	ND	0.43	1.00	"							

**LCS (4112417-BS1)**

Prepared & Analyzed: 11/24/14

Lead	122	0.79	1.00	mg/kg wet	100		122	75-125			
Nickel	117	0.31	1.00	"	100		117	75-125			
Copper	99.9	0.09	1.00	"	100		100	75-125			
Chromium	108	0.40	1.00	"	100		108	75-125			
Cadmium	120	0.08	1.00	"	100		120	75-125			
Zinc	99.2	0.04	1.00	"	100		99	75-125			
Silver	56.6	0.10	0.50	"	50.0		113	75-125			
Arsenic	122	0.43	1.00	"	100		122	75-125			

**LCS Dup (4112417-BSD1)**

Prepared & Analyzed: 11/24/14

Lead	114	0.79	1.00	mg/kg wet	100		114	75-125	7	20	
Zinc	120	0.04	1.00	"	100		120	75-125	19	20	
Copper	101	0.09	1.00	"	100		101	75-125	1	20	
Chromium	104	0.40	1.00	"	100		104	75-125	3	20	
Silver	56.0	0.10	0.50	"	50.0		112	75-125	1	20	
Nickel	112	0.31	1.00	"	100		112	75-125	4	20	
Cadmium	115	0.08	1.00	"	100		115	75-125	4	20	
Arsenic	111	0.43	1.00	"	100		111	75-125	9	20	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Total Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112417**

<b>Duplicate (4112417-DUP1)</b>		<b>Source: 14K0511-01</b>			<b>Prepared &amp; Analyzed: 11/24/14</b>						
Nickel	5.44	0.31	1.00	mg/kg wet		5.58			2	20	
Zinc	49.8	0.04	1.00	"		49.5			0.7	20	
Lead	20.6	0.79	1.00	"		19.1			8	20	
Copper	9.89	0.09	1.00	"		10.7			8	20	
Cadmium	ND	0.08	1.00	"		2.24				20	
Chromium	12.0	0.40	1.00	"		13.0			8	20	
Silver	ND	0.10	0.50	"		ND				20	
Arsenic	4.79	0.43	1.00	"		4.32			10	20	

<b>Matrix Spike (4112417-MS1)</b>		<b>Source: 14K0511-01</b>			<b>Prepared &amp; Analyzed: 11/24/14</b>						
Cadmium	77.6	0.08	1.00	mg/kg wet	86.2	2.24	87	75-125			
Nickel	84.9	0.31	1.00	"	86.2	5.58	92	75-125			
Zinc	136	0.04	1.00	"	86.2	49.5	101	75-125			
Chromium	94.1	0.40	1.00	"	86.2	13.0	94	75-125			
Lead	97.9	0.79	1.00	"	86.2	19.1	91	75-125			
Silver	43.8	0.10	0.50	"	43.1	ND	102	75-125			
Copper	98.7	0.09	1.00	"	86.2	10.7	102	75-125			
Arsenic	83.9	0.43	1.00	"	86.2	4.32	92	75-125			

<b>Matrix Spike Dup (4112417-MSD1)</b>		<b>Source: 14K0511-01</b>			<b>Prepared &amp; Analyzed: 11/24/14</b>						
Lead	107	0.79	1.00	mg/kg wet	98.0	19.1	89	75-125	9	20	
Chromium	103	0.40	1.00	"	98.0	13.0	92	75-125	9	20	
Silver	49.9	0.10	0.50	"	49.0	ND	102	75-125	13	20	
Copper	108	0.09	1.00	"	98.0	10.7	99	75-125	9	20	
Cadmium	86.6	0.08	1.00	"	98.0	2.24	86	75-125	11	20	
Zinc	133	0.04	1.00	"	98.0	49.5	85	75-125	3	20	
Nickel	94.2	0.31	1.00	"	98.0	5.58	90	75-125	10	20	
Arsenic	94.2	0.43	1.00	"	98.0	4.32	92	75-125	12	20	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Total Metals by EPA 6000/7000 Series Methods - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4120409</b>											
<b>Blank (4120409-BLK1)</b>					Prepared & Analyzed: 12/04/14						
Mercury	ND	0.02	0.05	mg/kg wet							
<b>LCS (4120409-BS1)</b>					Prepared & Analyzed: 12/04/14						
Mercury	0.16	0.02	0.05	mg/kg wet	0.167		98	75-125			
<b>LCS Dup (4120409-BSD1)</b>					Prepared & Analyzed: 12/04/14						
Mercury	0.16	0.02	0.05	mg/kg wet	0.167		97	75-125	1	20	
<b>Duplicate (4120409-DUP1)</b>					Source: 14L0095-02 Prepared & Analyzed: 12/04/14						
Mercury	0.10	0.02	0.05	mg/kg wet		0.04			92	20	QR-02
<b>Matrix Spike (4120409-MS1)</b>					Source: 14L0095-02 Prepared & Analyzed: 12/04/14						
Mercury	0.44	0.02	0.05	mg/kg wet	0.385	0.04	105	75-125			
<b>Matrix Spike Dup (4120409-MSD1)</b>					Source: 14L0095-02 Prepared & Analyzed: 12/04/14						
Mercury	0.45	0.02	0.05	mg/kg wet	0.400	0.04	102	75-125	2	20	

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Organochlorine Pesticides by EPA Method 8081B - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112444**

**Blank (4112444-BLK1)**

Prepared: 11/24/14 Analyzed: 11/25/14

Aldrin	ND	0.51	2.00	ug/kg wet							
alpha-BHC	ND	0.27	2.00	"							
beta-BHC	ND	0.43	2.00	"							
gamma-BHC (Lindane)	ND	0.35	2.00	"							
delta-BHC	ND	0.41	2.00	"							
alpha-Chlordane	ND	0.47	5.00	"							
gamma-Chlordane	ND	0.51	5.00	"							
Chlordane (Total)	ND	4.70	5.00	"							
4,4'-DDD	ND	0.49	2.00	"							
4,4'-DDE	ND	0.47	2.00	"							
4,4'-DDT	ND	0.32	2.00	"							
Dieldrin	ND	0.47	2.00	"							
Endosulfan I	ND	0.42	2.00	"							
Endosulfan II	ND	0.76	2.00	"							
Endosulfan sulfate	ND	0.48	2.00	"							
Endrin	ND	0.49	2.00	"							
Endrin aldehyde	ND	0.30	2.00	"							
Endrin ketone	ND	0.80	2.00	"							
Heptachlor	ND	0.71	2.00	"							
Heptachlor epoxide	ND	0.70	2.00	"							
Methoxychlor	ND	0.74	5.00	"							
Toxaphene	ND	8.80	25.0	"							

Surrogate: TCMX 16.0 " 16.7 96 26-146

**LCS (4112444-BS1)**

Prepared: 11/24/14 Analyzed: 11/25/14

Aldrin	16.5	0.51	2.00	ug/kg wet	16.7		99	42-122			
gamma-BHC (Lindane)	16.7	0.35	2.00	"	16.7		100	32-127			
4,4'-DDT	19.6	0.32	2.00	"	16.7		118	25-160			
Dieldrin	16.2	0.47	2.00	"	16.7		97	36-146			
Endrin	18.6	0.49	2.00	"	16.7		111	30-147			
Heptachlor	16.8	0.71	2.00	"	16.7		101	34-111			

Surrogate: TCMX 16.2 " 16.7 97 26-146

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Organochlorine Pesticides by EPA Method 8081B - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112444**

**LCS Dup (4112444-BSD1)**

Prepared: 11/24/14 Analyzed: 11/25/14

Aldrin	15.4	0.51	2.00	ug/kg wet	16.7		92	42-122	7	30	
gamma-BHC (Lindane)	15.5	0.35	2.00	"	16.7		93	32-127	8	30	
4,4'-DDT	18.5	0.32	2.00	"	16.7		111	25-160	6	30	
Dieldrin	15.1	0.47	2.00	"	16.7		91	36-146	7	30	
Endrin	17.3	0.49	2.00	"	16.7		104	30-147	7	30	
Heptachlor	16.9	0.71	2.00	"	16.7		101	34-111	0.6	30	
Surrogate: TCMX	15.2			"	16.7		91	26-146			

**Duplicate (4112444-DUP1)**

Source: 14K0645-02

Prepared: 11/24/14 Analyzed: 11/26/14

Aldrin	ND	0.53	2.06	ug/kg dry		ND				30	
alpha-BHC	ND	0.28	2.06	"		ND				30	
beta-BHC	ND	0.44	2.06	"		ND				30	
gamma-BHC (Lindane)	ND	0.36	2.06	"		ND				30	
delta-BHC	ND	0.42	2.06	"		ND				30	
alpha-Chlordane	ND	0.48	5.15	"		ND				30	
gamma-Chlordane	ND	0.53	5.15	"		ND				30	
Chlordane (Total)	ND	4.84	5.15	"		ND				30	
4,4'-DDD	ND	0.50	2.06	"		ND				30	
4,4'-DDE	ND	0.48	2.06	"		ND				30	
4,4'-DDT	ND	0.33	2.06	"		ND				30	
Dieldrin	ND	0.48	2.06	"		ND				30	
Endosulfan I	ND	0.43	2.06	"		ND				30	
Endosulfan II	ND	0.78	2.06	"		ND				30	
Endosulfan sulfate	ND	0.49	2.06	"		ND				30	
Endrin	ND	0.50	2.06	"		ND				30	
Endrin aldehyde	ND	0.31	2.06	"		ND				30	
Endrin ketone	ND	0.82	2.06	"		ND				30	
Heptachlor	ND	0.73	2.06	"		ND				30	
Heptachlor epoxide	ND	0.72	2.06	"		ND				30	
Methoxychlor	ND	0.76	5.15	"		ND				30	
Toxaphene	ND	9.06	25.7	"		ND				30	
Surrogate: TCMX	12.9			"	17.2		75	26-146			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Organochlorine Pesticides by EPA Method 8081B - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112444**

**Matrix Spike (4112444-MS1)** Source: 14K0645-02 Prepared: 11/24/14 Analyzed: 11/26/14

Aldrin	14.7	0.53	2.06	ug/kg dry	17.2	ND	86	42-122			
gamma-BHC (Lindane)	13.0	0.36	2.06	"	17.2	ND	76	32-127			
4,4'-DDT	17.0	0.33	2.06	"	17.2	ND	99	25-160			
Dieldrin	13.2	0.48	2.06	"	17.2	ND	77	36-146			
Endrin	17.4	0.50	2.06	"	17.2	ND	101	30-147			
Heptachlor	15.7	0.73	2.06	"	17.2	ND	91	34-111			
Surrogate: TCMX	13.3			"	17.2		77	26-146			

**Matrix Spike Dup (4112444-MSD1)** Source: 14K0645-02 Prepared: 11/24/14 Analyzed: 11/26/14

Aldrin	13.3	0.53	2.06	ug/kg dry	17.2	ND	78	42-122	10	30	
gamma-BHC (Lindane)	11.7	0.36	2.06	"	17.2	ND	68	32-127	11	30	
4,4'-DDT	15.6	0.33	2.06	"	17.2	ND	91	25-160	8	30	
Dieldrin	12.3	0.48	2.06	"	17.2	ND	72	36-146	7	30	
Endrin	16.3	0.50	2.06	"	17.2	ND	95	30-147	7	30	
Heptachlor	14.8	0.73	2.06	"	17.2	ND	86	34-111	6	30	
Surrogate: TCMX	12.5			"	17.2		73	26-146			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polychlorinated Biphenyls by EPA Method 8082 - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4112444</b>											
<b>Blank (4112444-BLK1)</b>						Prepared: 11/24/14 Analyzed: 11/25/14					
Aroclor 1016	ND	4.60	20.0	ug/kg wet							
Aroclor 1221	ND	4.60	20.0	"							
Aroclor 1232	ND	4.60	20.0	"							
Aroclor 1242	ND	4.60	20.0	"							
Aroclor 1248	ND	4.60	20.0	"							
Aroclor 1254	ND	4.60	20.0	"							
Aroclor 1260	ND	4.60	20.0	"							
Surrogate: TCMX	16.0			"	16.7		96	26-146			
<b>LCS (4112444-BS2)</b>						Prepared: 11/24/14 Analyzed: 11/26/14					
Aroclor 1260	174	4.60	20.0	ug/kg wet	167		104	8-127			
Surrogate: TCMX	15.4			"	16.7		92	26-146			
<b>LCS Dup (4112444-BSD2)</b>						Prepared: 11/24/14 Analyzed: 11/26/14					
Aroclor 1260	182	4.60	20.0	ug/kg wet	167		109	8-127	4	30	
Surrogate: TCMX	15.7			"	16.7		94	26-146			
<b>Duplicate (4112444-DUP1)</b>						Source: 14K0645-02 Prepared: 11/24/14 Analyzed: 11/26/14					
Aroclor 1016	ND	4.74	20.6	ug/kg dry		ND				30	
Aroclor 1221	ND	4.74	20.6	"		ND				30	
Aroclor 1232	ND	4.74	20.6	"		ND				30	
Aroclor 1242	ND	4.74	20.6	"		ND				30	
Aroclor 1248	ND	4.74	20.6	"		ND				30	
Aroclor 1254	ND	4.74	20.6	"		ND				30	
Aroclor 1260	ND	4.74	20.6	"		ND				30	
Surrogate: TCMX	12.9			"	17.2		75	26-146			
<b>Matrix Spike (4112444-MS2)</b>						Source: 14K0645-02 Prepared: 11/24/14 Analyzed: 11/26/14					
Aroclor 1260	146	4.74	20.6	ug/kg dry	172	ND	85	8-127			
Surrogate: TCMX	11.8			"	17.2		69	26-146			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polychlorinated Biphenyls by EPA Method 8082 - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112444**

**Matrix Spike Dup (4112444-MSD2)**                      **Source: 14K0645-02**                      Prepared: 11/24/14                      Analyzed: 11/26/14

Aroclor 1260	135	4.74	20.6	ug/kg dry	172	ND	79	8-127	8	30	
Surrogate: TCMX	10.6			"	17.2		62	26-146			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

EnviroMatrix Analytical, Inc.



Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112512**

**Blank (4112512-BLK1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Benzoic acid	ND	1.82	50.0	ug/kg wet							
Acenaphthene	ND	5.12	20.0	"							
Acenaphthylene	ND	5.37	20.0	"							
Anthracene	ND	2.82	20.0	"							
Benzidine	ND	150	150	"							
Benzo (a) anthracene	ND	3.09	20.0	"							
Benzo (b) fluoranthene	ND	3.09	20.0	"							
Benzo (k) fluoranthene	ND	3.68	20.0	"							
Benzo (g,h,i) perylene	ND	4.63	40.0	"							
Benzo (a) pyrene	ND	3.07	20.0	"							
Benzyl alcohol	ND	1.44	75.0	"							
Bis(2-chloroethoxy)methane	ND	7.26	20.0	"							
Bis(2-chloroethyl)ether	ND	7.96	25.0	"							
Bis(2-chloroisopropyl)ether	ND	8.81	25.0	"							
Bis(2-ethylhexyl)phthalate	ND	5.72	45.0	"							
4-Bromophenyl phenyl ether	ND	3.71	20.0	"							
Butyl benzyl phthalate	ND	4.11	40.0	"							
Carbazole	ND	4.94	60.0	"							
4-Chloroaniline	ND	4.42	100	"							
4-Chloro-3-methylphenol	ND	8.34	20.0	"							
2-Chloronaphthalene	ND	6.11	20.0	"							
2-Chlorophenol	ND	6.48	20.0	"							
4-Chlorophenyl phenyl ether	ND	4.90	20.0	"							
Chrysene	ND	2.87	20.0	"							
Dibenz (a,h) anthracene	ND	5.00	40.0	"							
Dibenzofuran	ND	5.42	20.0	"							
Di-n-butyl phthalate	ND	3.87	40.0	"							
1,2-Dichlorobenzene	ND	9.07	20.0	"							
1,3-Dichlorobenzene	ND	8.51	20.0	"							
1,4-Dichlorobenzene	ND	8.55	20.0	"							
3,3'-Dichlorobenzidine	ND	5.26	150	"							
2,4-Dichlorophenol	ND	5.32	20.0	"							
Diethyl phthalate	ND	1.61	20.0	"							
2,4-Dimethylphenol	ND	2.40	80.0	"							
Dimethyl phthalate	ND	3.36	20.0	"							
4,6-Dinitro-2-methylphenol	ND	5.50	50.0	"							
2,4-Dinitrophenol	ND	10.9	100	"							
2,4-Dinitrotoluene	ND	4.08	20.0	"							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112512**

**Blank (4112512-BLK1)**

Prepared: 11/25/14 Analyzed: 11/26/14

2,6-Dinitrotoluene	ND	6.02	20.0	ug/kg wet							
Di-n-octyl phthalate	ND	4.61	40.0	"							
Fluoranthene	ND	3.43	20.0	"							
Fluorene	ND	4.50	20.0	"							
Hexachlorobenzene	ND	3.10	20.0	"							
Hexachlorobutadiene	ND	7.09	20.0	"							
Hexachlorocyclopentadiene	ND	6.98	50.0	"							
Hexachloroethane	ND	8.88	20.0	"							
Indeno (1,2,3-cd) pyrene	ND	4.33	30.0	"							
Isophorone	ND	7.56	20.0	"							
2-Methylnaphthalene	ND	7.62	20.0	"							
2-Methylphenol	ND	6.56	20.0	"							
4-Methylphenol (3-Methylphenol)	ND	6.24	40.0	"							
Naphthalene	ND	7.25	20.0	"							
2-Nitroaniline	ND	3.91	50.0	"							
3-Nitroaniline	ND	6.54	100	"							
4-Nitroaniline	ND	5.49	70.0	"							
Nitrobenzene	ND	8.04	20.0	"							
2-Nitrophenol	ND	7.56	20.0	"							
4-Nitrophenol	ND	2.85	70.0	"							
N-Nitrosodimethylamine	ND	8.02	20.0	"							
N-Nitrosodiphenylamine	ND	8.02	35.0	"							
N-Nitrosodi-n-propylamine	ND	7.90	30.0	"							
Pentachlorophenol	ND	6.02	40.0	"							
Phenanthrene	ND	1.95	20.0	"							
Phenol	ND	8.81	30.0	"							
Pyrene	ND	2.88	20.0	"							
Pyridine	ND	8.85	100	"							
1,2,4-Trichlorobenzene	ND	7.08	20.0	"							
2,4,5-Trichlorophenol	ND	7.66	30.0	"							
2,4,6-Trichlorophenol	ND	5.55	30.0	"							
Surrogate: 2-Fluorophenol	354			"	568		62	25-121			
Surrogate: Phenol-d6	345			"	568		61	24-113			
Surrogate: Nitrobenzene-d5	419			"	568		74	23-120			
Surrogate: 2-Fluorobiphenyl	447			"	568		79	30-115			
Surrogate: 2,4,6-Tribromophenol	284			"	568		50	19-122			
Surrogate: Terphenyl-d14	420			"	568		74	18-137			

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112512**

**LCS (4112512-BS1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	347	5.12	20.0	ug/kg wet	568		61	50-135			
4-Chloro-3-methylphenol	316	8.34	20.0	"	568		56	34-142			
2-Chlorophenol	356	6.48	20.0	"	568		63	38-125			
Di-n-butyl phthalate	434	3.87	40.0	"	568		76	44-152			
1,4-Dichlorobenzene	321	8.55	20.0	"	568		57	48-125			
2,4-Dinitrotoluene	345	4.08	20.0	"	568		61	41-144			
4-Nitrophenol	399	2.85	70.0	"	568		70	10-155			
N-Nitrosodi-n-propylamine	383	7.90	30.0	"	568		67	28-156			
Pentachlorophenol	221	6.02	40.0	"	568		39	21-133			
Phenol	298	8.81	30.0	"	568		52	35-120			
Pyrene	304	2.88	20.0	"	568		53	40-152			
1,2,4-Trichlorobenzene	333	7.08	20.0	"	568		59	47-125			
<i>Surrogate: 2-Fluorophenol</i>	288			"	568		51	25-121			
<i>Surrogate: Phenol-d6</i>	300			"	568		53	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	360			"	568		63	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	409			"	568		72	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	291			"	568		51	19-122			
<i>Surrogate: Terphenyl-d14</i>	333			"	568		59	18-137			

**LCS Dup (4112512-BSD1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	386	5.12	20.0	ug/kg wet	568		68	50-135	11	30	
4-Chloro-3-methylphenol	343	8.34	20.0	"	568		60	34-142	8	30	
2-Chlorophenol	388	6.48	20.0	"	568		68	38-125	9	30	
Di-n-butyl phthalate	471	3.87	40.0	"	568		83	44-152	8	30	
1,4-Dichlorobenzene	359	8.55	20.0	"	568		63	48-125	11	30	
2,4-Dinitrotoluene	369	4.08	20.0	"	568		65	41-144	7	30	
4-Nitrophenol	414	2.85	70.0	"	568		73	10-155	4	30	
N-Nitrosodi-n-propylamine	436	7.90	30.0	"	568		77	28-156	13	30	
Pentachlorophenol	241	6.02	40.0	"	568		42	21-133	8	30	
Phenol	318	8.81	30.0	"	568		56	35-120	6	30	
Pyrene	362	2.88	20.0	"	568		64	40-152	18	30	
1,2,4-Trichlorobenzene	352	7.08	20.0	"	568		62	47-125	5	30	
<i>Surrogate: 2-Fluorophenol</i>	300			"	568		53	25-121			
<i>Surrogate: Phenol-d6</i>	318			"	568		56	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	410			"	568		72	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	432			"	568		76	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	314			"	568		55	19-122			
<i>Surrogate: Terphenyl-d14</i>	400			"	568		70	18-137			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 4112512</b>											
<b>Duplicate (4112512-DUP1)</b>	<b>Source: 14K0645-02</b>			<b>Prepared: 11/25/14 Analyzed: 11/26/14</b>							
Benzoic acid	ND	1.87	51.5	ug/kg dry		ND				30	
Acenaphthene	ND	5.27	20.6	"		ND				30	
Acenaphthylene	ND	5.53	20.6	"		ND				30	
Anthracene	ND	2.90	20.6	"		ND				30	
Benzidine	ND	154	154	"		ND				30	
Benzo (a) anthracene	ND	3.18	20.6	"		ND				30	
Benzo (b) fluoranthene	ND	3.18	20.6	"		ND				30	
Benzo (k) fluoranthene	ND	3.79	20.6	"		ND				30	
Benzo (g,h,i) perylene	ND	4.77	41.2	"		ND				30	
Benzo (a) pyrene	ND	3.16	20.6	"		ND				30	
Benzyl alcohol	ND	1.48	77.2	"		ND				30	
Bis(2-chloroethoxy)methane	ND	7.47	20.6	"		ND				30	
Bis(2-chloroethyl)ether	ND	8.20	25.7	"		ND				30	
Bis(2-chloroisopropyl)ether	ND	9.07	25.7	"		ND				30	
Bis(2-ethylhexyl)phthalate	ND	5.89	46.3	"		ND				30	
4-Bromophenyl phenyl ether	ND	3.82	20.6	"		ND				30	
Butyl benzyl phthalate	ND	4.23	41.2	"		ND				30	
Carbazole	ND	5.09	61.8	"		ND				30	
4-Chloroaniline	ND	4.55	103	"		ND				30	
4-Chloro-3-methylphenol	ND	8.59	20.6	"		ND				30	
2-Chloronaphthalene	ND	6.29	20.6	"		ND				30	
2-Chlorophenol	ND	6.67	20.6	"		ND				30	
4-Chlorophenyl phenyl ether	ND	5.04	20.6	"		ND				30	
Chrysene	ND	2.95	20.6	"		ND				30	
Dibenz (a,h) anthracene	ND	5.15	41.2	"		ND				30	
Dibenzofuran	ND	5.58	20.6	"		ND				30	
Di-n-butyl phthalate	14.8	3.98	41.2	"		14.9			0.9	30	J
1,2-Dichlorobenzene	ND	9.34	20.6	"		ND				30	
1,3-Dichlorobenzene	ND	8.76	20.6	"		ND				30	
1,4-Dichlorobenzene	ND	8.80	20.6	"		ND				30	
3,3'-Dichlorobenzidine	ND	5.42	154	"		ND				30	
2,4-Dichlorophenol	ND	5.48	20.6	"		ND				30	
Diethyl phthalate	1.79	1.66	20.6	"		ND				30	J
2,4-Dimethylphenol	ND	2.47	82.4	"		ND				30	
Dimethyl phthalate	17.3	3.46	20.6	"		14.7			16	30	J
4,6-Dinitro-2-methylphenol	ND	5.66	51.5	"		ND				30	
2,4-Dinitrophenol	ND	11.3	103	"		ND				30	
2,4-Dinitrotoluene	ND	4.20	20.6	"		ND				30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Semivolatile Organic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112512**

<b>Duplicate (4112512-DUP1)</b>	<b>Source: 14K0645-02</b>		<b>Prepared: 11/25/14 Analyzed: 11/26/14</b>				
2,6-Dinitrotoluene	ND	6.20	20.6	ug/kg dry	ND	30	
Di-n-octyl phthalate	ND	4.75	41.2	"	ND	30	
Fluoranthene	ND	3.53	20.6	"	ND	30	
Fluorene	ND	4.63	20.6	"	ND	30	
Hexachlorobenzene	ND	3.19	20.6	"	ND	30	
Hexachlorobutadiene	ND	7.30	20.6	"	ND	30	
Hexachlorocyclopentadiene	ND	7.19	51.5	"	ND	30	
Hexachloroethane	ND	9.14	20.6	"	ND	30	
Indeno (1,2,3-cd) pyrene	ND	4.46	30.9	"	ND	30	
Isophorone	ND	7.78	20.6	"	ND	30	
2-Methylnaphthalene	ND	7.85	20.6	"	ND	30	
2-Methylphenol	ND	6.75	20.6	"	ND	30	
4-Methylphenol (3-Methylphenol)	ND	6.42	41.2	"	ND	30	
Naphthalene	ND	7.46	20.6	"	ND	30	
2-Nitroaniline	ND	4.03	51.5	"	ND	30	
3-Nitroaniline	ND	6.73	103	"	ND	30	
4-Nitroaniline	ND	5.65	72.1	"	ND	30	
Nitrobenzene	ND	8.28	20.6	"	ND	30	
2-Nitrophenol	ND	7.78	20.6	"	ND	30	
4-Nitrophenol	ND	2.93	72.1	"	ND	30	
N-Nitrosodimethylamine	ND	8.26	20.6	"	ND	30	
N-Nitrosodiphenylamine	ND	8.26	36.0	"	ND	30	
N-Nitrosodi-n-propylamine	ND	8.13	30.9	"	ND	30	
Pentachlorophenol	ND	6.20	41.2	"	ND	30	
Phenanthrene	ND	2.01	20.6	"	ND	30	
Phenol	ND	9.07	30.9	"	ND	30	
Pyrene	ND	2.97	20.6	"	ND	30	
Pyridine	ND	9.11	103	"	ND	30	
1,2,4-Trichlorobenzene	ND	7.29	20.6	"	ND	30	
2,4,5-Trichlorophenol	ND	7.89	30.9	"	ND	30	
2,4,6-Trichlorophenol	ND	5.71	30.9	"	ND	30	
Surrogate: 2-Fluorophenol	382			"	585	65	25-121
Surrogate: Phenol-d6	401			"	585	69	24-113
Surrogate: Nitrobenzene-d5	467			"	585	80	23-120
Surrogate: 2-Fluorobiphenyl	514			"	585	88	30-115
Surrogate: 2,4,6-Tribromophenol	356			"	585	61	19-122
Surrogate: Terphenyl-d14	447			"	585	76	18-137

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

### Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 4112512

<b>Matrix Spike (4112512-MS1)</b>	<b>Source: 14K0645-02</b>			Prepared: 11/25/14		Analyzed: 11/26/14					
Acenaphthene	391	5.27	20.6	ug/kg dry	585	ND	67	46-140			
4-Chloro-3-methylphenol	365	8.59	20.6	"	585	ND	62	42-139			
2-Chlorophenol	400	6.67	20.6	"	585	ND	68	30-135			
Di-n-butyl phthalate	473	3.98	41.2	"	585	14.9	78	24-152			
1,4-Dichlorobenzene	371	8.80	20.6	"	585	ND	63	36-137			
2,4-Dinitrotoluene	396	4.20	20.6	"	585	ND	68	28-145			
4-Nitrophenol	477	2.93	72.1	"	585	ND	81	23-150			
N-Nitrosodi-n-propylamine	435	8.13	30.9	"	585	ND	74	31-161			
Pentachlorophenol	218	6.20	41.2	"	585	ND	37	3-159			
Phenol	342	9.07	30.9	"	585	ND	58	31-138			
Pyrene	361	2.97	20.6	"	585	ND	62	30-152			
1,2,4-Trichlorobenzene	365	7.29	20.6	"	585	ND	62	39-134			
<i>Surrogate: 2-Fluorophenol</i>	<i>350</i>			<i>"</i>	<i>585</i>		<i>60</i>	<i>25-121</i>			
<i>Surrogate: Phenol-d6</i>	<i>344</i>			<i>"</i>	<i>585</i>		<i>59</i>	<i>24-113</i>			
<i>Surrogate: Nitrobenzene-d5</i>	<i>415</i>			<i>"</i>	<i>585</i>		<i>71</i>	<i>23-120</i>			
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>458</i>			<i>"</i>	<i>585</i>		<i>78</i>	<i>30-115</i>			
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>352</i>			<i>"</i>	<i>585</i>		<i>60</i>	<i>19-122</i>			
<i>Surrogate: Terphenyl-d14</i>	<i>410</i>			<i>"</i>	<i>585</i>		<i>70</i>	<i>18-137</i>			

<b>Matrix Spike Dup (4112512-MSD1)</b>	<b>Source: 14K0645-02</b>			Prepared: 11/25/14		Analyzed: 11/26/14					
Acenaphthene	435	5.27	20.6	ug/kg dry	585	ND	74	46-140	11	30	
4-Chloro-3-methylphenol	404	8.59	20.6	"	585	ND	69	42-139	10	30	
2-Chlorophenol	460	6.67	20.6	"	585	ND	79	30-135	14	30	
Di-n-butyl phthalate	536	3.98	41.2	"	585	14.9	89	24-152	13	30	
1,4-Dichlorobenzene	406	8.80	20.6	"	585	ND	69	36-137	9	30	
2,4-Dinitrotoluene	438	4.20	20.6	"	585	ND	75	28-145	10	30	
4-Nitrophenol	444	2.93	72.1	"	585	ND	76	23-150	7	30	
N-Nitrosodi-n-propylamine	505	8.13	30.9	"	585	ND	86	31-161	15	30	
Pentachlorophenol	244	6.20	41.2	"	585	ND	42	3-159	11	30	
Phenol	384	9.07	30.9	"	585	ND	66	31-138	12	30	
Pyrene	457	2.97	20.6	"	585	ND	78	30-152	23	30	
1,2,4-Trichlorobenzene	420	7.29	20.6	"	585	ND	72	39-134	14	30	
<i>Surrogate: 2-Fluorophenol</i>	<i>390</i>			<i>"</i>	<i>585</i>		<i>67</i>	<i>25-121</i>			
<i>Surrogate: Phenol-d6</i>	<i>373</i>			<i>"</i>	<i>585</i>		<i>64</i>	<i>24-113</i>			
<i>Surrogate: Nitrobenzene-d5</i>	<i>470</i>			<i>"</i>	<i>585</i>		<i>80</i>	<i>23-120</i>			
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>487</i>			<i>"</i>	<i>585</i>		<i>83</i>	<i>30-115</i>			
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>380</i>			<i>"</i>	<i>585</i>		<i>65</i>	<i>19-122</i>			
<i>Surrogate: Terphenyl-d14</i>	<i>498</i>			<i>"</i>	<i>585</i>		<i>85</i>	<i>18-137</i>			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112513**

**Blank (4112513-BLK1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	ND	5.12	20.0	ug/kg wet							
Acenaphthylene	ND	5.37	20.0	"							
Anthracene	ND	2.82	20.0	"							
Benzo (a) anthracene	ND	3.09	20.0	"							
Benzo (b) fluoranthene	ND	3.09	20.0	"							
Benzo (k) fluoranthene	ND	3.68	20.0	"							
Benzo (g,h,i) perylene	ND	4.63	40.0	"							
Benzo (a) pyrene	ND	3.07	20.0	"							
Chrysene	ND	2.87	20.0	"							
Dibenz (a,h) anthracene	ND	5.00	40.0	"							
Fluoranthene	ND	3.43	20.0	"							
Fluorene	ND	4.50	20.0	"							
Indeno (1,2,3-cd) pyrene	ND	4.33	30.0	"							
Naphthalene	ND	7.25	20.0	"							
Phenanthrene	ND	1.95	20.0	"							
Pyrene	ND	2.88	20.0	"							
<i>Surrogate: Nitrobenzene-d5</i>	497			"	568		87	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	536			"	568		94	30-115			
<i>Surrogate: Terphenyl-dl4</i>	522			"	568		92	18-137			

**LCS (4112513-BS1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	372	5.12	20.0	ug/kg wet	568		66	47-145			
Acenaphthylene	529	5.37	20.0	"	568		93	33-145			
Anthracene	466	2.82	20.0	"	568		82	27-133			
Benzo (a) anthracene	503	3.09	20.0	"	568		89	33-143			
Benzo (b) fluoranthene	404	3.09	20.0	"	568		71	24-159			
Benzo (k) fluoranthene	449	3.68	20.0	"	568		79	11-162			
Benzo (g,h,i) perylene	463	4.63	40.0	"	568		81	0-219			
Benzo (a) pyrene	458	3.07	20.0	"	568		81	17-163			
Chrysene	492	2.87	20.0	"	568		87	17-168			
Dibenz (a,h) anthracene	559	5.00	40.0	"	568		98	0-227			
Fluoranthene	420	3.43	20.0	"	568		74	26-137			
Fluorene	406	4.50	20.0	"	568		71	59-121			
Indeno (1,2,3-cd) pyrene	525	4.33	30.0	"	568		92	0-171			
Naphthalene	376	7.25	20.0	"	568		66	21-133			
Phenanthrene	478	1.95	20.0	"	568		84	54-120			
Pyrene	404	2.88	20.0	"	568		71	52-115			
<i>Surrogate: Nitrobenzene-d5</i>	346			"	568		61	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	526			"	568		93	30-115			
<i>Surrogate: Terphenyl-dl4</i>	531			"	568		94	18-137			

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Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112513**

**LCS Dup (4112513-BSD1)**

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	411	5.12	20.0	ug/kg wet	568		72	47-145	10	30	
Acenaphthylene	492	5.37	20.0	"	568		87	33-145	7	30	
Anthracene	535	2.82	20.0	"	568		94	27-133	14	30	
Benzo (a) anthracene	469	3.09	20.0	"	568		83	33-143	7	30	
Benzo (b) fluoranthene	441	3.09	20.0	"	568		78	24-159	9	30	
Benzo (k) fluoranthene	481	3.68	20.0	"	568		85	11-162	7	30	
Benzo (g,h,i) perylene	574	4.63	40.0	"	568		101	0-219	21	30	
Benzo (a) pyrene	419	3.07	20.0	"	568		74	17-163	9	30	
Chrysene	395	2.87	20.0	"	568		69	17-168	22	30	
Dibenz (a,h) anthracene	570	5.00	40.0	"	568		100	0-227	2	30	
Fluoranthene	467	3.43	20.0	"	568		82	26-137	11	30	
Fluorene	338	4.50	20.0	"	568		59	59-121	18	30	
Indeno (1,2,3-cd) pyrene	612	4.33	30.0	"	568		108	0-171	15	30	
Naphthalene	395	7.25	20.0	"	568		69	21-133	5	30	
Phenanthrene	435	1.95	20.0	"	568		77	54-120	9	30	
Pyrene	337	2.88	20.0	"	568		59	52-115	18	30	
Surrogate: Nitrobenzene-d5	484			"	568		85	23-120			
Surrogate: 2-Fluorobiphenyl	428			"	568		75	30-115			
Surrogate: Terphenyl-d14	386			"	568		68	18-137			

**Duplicate (4112513-DUP1)**

Source: 14K0645-02

Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	ND	5.27	20.6	ug/kg dry		ND				30	
Acenaphthylene	ND	5.53	20.6	"		ND				30	
Anthracene	ND	2.90	20.6	"		ND				30	
Benzo (a) anthracene	ND	3.18	20.6	"		ND				30	
Benzo (b) fluoranthene	ND	3.18	20.6	"		ND				30	
Benzo (k) fluoranthene	ND	3.79	20.6	"		ND				30	
Benzo (g,h,i) perylene	ND	4.77	41.2	"		ND				30	
Benzo (a) pyrene	ND	3.16	20.6	"		ND				30	
Chrysene	ND	2.95	20.6	"		ND				30	
Dibenz (a,h) anthracene	ND	5.15	41.2	"		ND				30	
Fluoranthene	ND	3.53	20.6	"		ND				30	
Fluorene	ND	4.63	20.6	"		ND				30	
Indeno (1,2,3-cd) pyrene	ND	4.46	30.9	"		ND				30	
Naphthalene	ND	7.46	20.6	"		ND				30	
Phenanthrene	ND	2.01	20.6	"		ND				30	
Pyrene	ND	2.97	20.6	"		ND				30	
Surrogate: Nitrobenzene-d5	486			"	585		83	23-120			
Surrogate: 2-Fluorobiphenyl	498			"	585		85	30-115			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112513**

**Duplicate (4112513-DUP1)** Source: 14K0645-02 Prepared: 11/25/14 Analyzed: 11/26/14

Surrogate: Terphenyl-dl4 450 ug/kg dry 585 77 18-137

**Matrix Spike (4112513-MS1)** Source: 14K0645-02 Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	416	5.27	20.6	ug/kg dry	585	ND	71	47-145			
Acenaphthylene	483	5.53	20.6	"	585	ND	83	33-145			
Anthracene	492	2.90	20.6	"	585	ND	84	27-133			
Benzo (a) anthracene	490	3.18	20.6	"	585	ND	84	33-143			
Benzo (b) fluoranthene	427	3.18	20.6	"	585	ND	73	24-159			
Benzo (k) fluoranthene	448	3.79	20.6	"	585	ND	77	11-162			
Benzo (g,h,i) perylene	450	4.77	41.2	"	585	ND	77	0-219			
Benzo (a) pyrene	484	3.16	20.6	"	585	ND	83	17-163			
Chrysene	483	2.95	20.6	"	585	ND	83	17-168			
Dibenz (a,h) anthracene	459	5.15	41.2	"	585	ND	79	0-227			
Fluoranthene	503	3.53	20.6	"	585	ND	86	26-137			
Fluorene	422	4.63	20.6	"	585	ND	72	59-121			
Indeno (1,2,3-cd) pyrene	453	4.46	30.9	"	585	ND	78	0-171			
Naphthalene	410	7.46	20.6	"	585	ND	70	21-133			
Phenanthrene	476	2.01	20.6	"	585	ND	81	54-120			
Pyrene	370	2.97	20.6	"	585	ND	63	52-152			
Surrogate: Nitrobenzene-d5	486			"	585		83	23-120			
Surrogate: 2-Fluorobiphenyl	566			"	585		97	30-115			
Surrogate: Terphenyl-dl4	458			"	585		78	18-137			

**Matrix Spike Dup (4112513-MSD1)** Source: 14K0645-02 Prepared: 11/25/14 Analyzed: 11/26/14

Acenaphthene	381	5.27	20.6	ug/kg dry	585	ND	65	47-145	9	30	
Acenaphthylene	446	5.53	20.6	"	585	ND	76	33-145	8	30	
Anthracene	436	2.90	20.6	"	585	ND	75	27-133	12	30	
Benzo (a) anthracene	430	3.18	20.6	"	585	ND	73	33-143	13	30	
Benzo (b) fluoranthene	405	3.18	20.6	"	585	ND	69	24-159	5	30	
Benzo (k) fluoranthene	425	3.79	20.6	"	585	ND	73	11-162	5	30	
Benzo (g,h,i) perylene	421	4.77	41.2	"	585	ND	72	0-219	7	30	
Benzo (a) pyrene	436	3.16	20.6	"	585	ND	74	17-163	10	30	
Chrysene	450	2.95	20.6	"	585	ND	77	17-168	7	30	
Dibenz (a,h) anthracene	430	5.15	41.2	"	585	ND	74	0-227	7	30	
Fluoranthene	480	3.53	20.6	"	585	ND	82	26-137	5	30	
Fluorene	384	4.63	20.6	"	585	ND	66	59-121	9	30	
Indeno (1,2,3-cd) pyrene	440	4.46	30.9	"	585	ND	75	0-171	3	30	
Naphthalene	362	7.46	20.6	"	585	ND	62	21-133	12	30	
Phenanthrene	436	2.01	20.6	"	585	ND	75	54-120	9	30	
Pyrene	362	2.97	20.6	"	585	ND	62	52-152	2	30	
Surrogate: Nitrobenzene-d5	470			"	585		80	23-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: Vulcan Materials Co. Foothill  
 Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Polynuclear Aromatic Compounds by EPA Method 8270C - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4112513**

**Matrix Spike Dup (4112513-MSD1)**                      **Source: 14K0645-02**                      Prepared: 11/25/14                      Analyzed: 11/26/14

Surrogate: 2-Fluorobiphenyl	510			ug/kg dry	585		87	30-115			
Surrogate: Terphenyl-dl4	457			"	585		78	18-137			

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EnviroMatrix Analytical, Inc.





Client Name: Vulcan Materials Co. Foothill  
Project Name: San Diego Shipyard Sediment Site - North Shipyard

EMA Log #: 14K0645

**Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 4120434**

**Duplicate (4120434-DUP1)**

**Source: 14K0645-01**

Prepared: 12/04/14 Analyzed: 12/05/14

% Solids	98.2	0.1	0.1	%		98.3			0.1	20	
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*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

EnviroMatrix Analytical, Inc.



### Notes and Definitions

- QR-02 The RPD result exceeded the QC limits due to non-homogeneity of sample.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- HT-07 This sample was analyzed outside of the method recommended holding time due to the analysis request being made after the holding time had expired.
- ND Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
- NR Not Reported
- dry Sample results reported on a dry weight basis (if indicated in units column)
- RPD Relative Percent Difference
- MDL Method detection limit (indicated per client's request)

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



**CHAIN-OF-CUSTODY RECORD**

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

**EMA LOG #:** 14K8675

**Client:** Vulcan Materials Co.

**Attn:** Jeff Pollard

**Samplers(s):** VMC

**Address:** 16009 Foothill Blvd.  
Irwindale CA 91706

**Phone:** 626 926 5789 **Fax:**

**Email:** pollardj@vmcmail.com

**Billing Address:** Same as above

**Requested Analysis**

Project ID:		PO #:			
ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	Chula Vista Ground cover	11/19	10am	Soil	
2	Chula Vista Sand cover	11/19	10am	Soil	
3					
4					
5					
6					
7					
8					
9					
10					

<input type="checkbox"/> Oil & Grease <input type="checkbox"/> 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/> 1664	<input type="checkbox"/> 8015 (TPH) <input type="checkbox"/> Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Ext	<input type="checkbox"/> 624/8260 (VOC) Full BTXE MTBE Oxy Nap	<input type="checkbox"/> 625 / 8270 (SVOC) <input type="checkbox"/> PAH only	<input type="checkbox"/> 608 / 8081 (Organochlorine Pesticides)	<input type="checkbox"/> 608 / 8082 (Polychlorinated Biphenyls)	<input type="checkbox"/> 8141 (Organophosphorus Pesticides)	<input type="checkbox"/> TBT (Organotin Compounds)	<input type="checkbox"/> pH <input type="checkbox"/> EC <input type="checkbox"/> TSS <input type="checkbox"/> TDS	<input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> TKN <input type="checkbox"/> NH3	<input type="checkbox"/> CAC Title 22/CAM17 Metals <input type="checkbox"/> TTLC <input type="checkbox"/> STLC	<input type="checkbox"/> TCLP (RCRA) <input type="checkbox"/> Metals <input type="checkbox"/> Organics	<input type="checkbox"/> Cd <input type="checkbox"/> Cr <input type="checkbox"/> Cu <input type="checkbox"/> Pb <input type="checkbox"/> Ni <input type="checkbox"/> Ag <input type="checkbox"/> Zn <input type="checkbox"/> Dissolved	<input type="checkbox"/> Coliform, <input type="checkbox"/> Total (MTF) <input type="checkbox"/> Fecal (MTF)	<input type="checkbox"/> Coliform, T+E, Coli <input type="checkbox"/> P/A <input type="checkbox"/> Enumeration	<input type="checkbox"/> Enterococcus, <input type="checkbox"/> MTF <input type="checkbox"/> Enterolert	<input type="checkbox"/> Heterotrophic Plate Count (HPC)	<input type="checkbox"/> BOD <input type="checkbox"/> COD <input type="checkbox"/> Cyanide	<input checked="" type="checkbox"/> See Attached
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**Matrix Codes:** A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water  
 WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

**Shipped By:**  Courier  UPS  FedEx  USPS  Client Drop Off  Other

**Turn-Around-Time:**  Same Day  1 day  2 day  3 day  4 day  5 day  STD (7 day)

**Reporting Requirements:**  Fax  PDF  Excel  Geotracker/EDF  Hard Copy  EDT

**Sample Disposal:**  By Laboratory  Return to Client: P/U or Delivery  Archive

**Sample Integrity**

Correct Containers:  Yes No N/A      Containers Properly Preserved:  Yes No N/A

Custody Seals Intact: Yes No  N/A      Temp @ Receipt: 27° N/A

COC/Labels Agreed:  Yes No N/A      Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: <i>[Signature]</i>	11/21/14 10:42am	Signature: <i>[Signature]</i>
Print: Thomas Padilla		Print: <i>[Signature]</i>
Company: VULCAN		Company: EMA
Signature:		Signature:
Print:	Print:	
Company:	Company:	
Signature:	Signature:	
Print:	Print:	
Company:	Company:	

**Project/Sample Comments:**

27° C No Ice

<sup>1</sup>Additional costs may apply. Please note there is a \$35 minimum charge for all clients.  
<sup>2</sup>EMA reserves the right to return any samples that do not match our waste profile.  
 NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.