Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport	Date: 1/15/18 Time: ~~1034~~ 1134 ①
Station ID: MCN1-03	Latitude: 33°36.9785' Longitude: 117°55.109'
Type of Core: Vibracore	Water Depth (ft): ~~21.5~~ 20' Tide (ft): ~~3.9~~ 2.2
Mudline Elevation (ft MLLW): -17.~~69~~	Target Core Length (ft): ~~6.4~~ 6.1
Project Depth+Overdepth (ft MLLW): -22+2 = -24	Penetration Length (ft): 7.0 Core Recovery (ft): 6.1

Depth In (ft.) Core Sections (Actual)	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Gray soft wet SILT w/ trace shell fragments
0.6		medium stiff moist
1	MCN1-03-T	
2		
3		
4	4.1 MCN1-03-Z 4.6	
5	MCN1-03-B	5.4 SILT w/ trace sand and substantial shell fragments and shale
6		~~Clay~~ dense (shells & shale)
6.1		
7		
8		refusal @ 7.0'
9		① needed to move and reset on location to allow barge and tug access to adjacent area

3 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/15/18 Time 1155
Station ID	MCN1-03	Latitude	33°36.975' Longitude 117°55.109'
Type of Core	Vibracore	Water Depth (ft)	19.7 Tide (ft) 1.8
Mudline Elevation (ft MLLW)	-17.9	Target Core Length (ft)	4.1
Project Depth+Overdepth (ft MLLW)	-22	Penetration Length (ft)	6.1 Core Recovery (ft) 5.3

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN1-03-T	Gray soft wet SILT w/ trace shell fragments
2		0.6 – medium stiff moist
3		
4	4.1	stiff
5	Discard	
	5.3	
6		
7		
8		
9		

___ No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: MCN1-04
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -16.1
Project Depth+Overdepth (ft MLLW): -22+2=-24

Date: 1/15/18 Time: 1234
Latitude: 33°36.934'' Longitude: 117° 55.06'
Water Depth (ft): 17.0 Tide (ft): 0.9
Target Core Length (ft): 7.9
Penetration Length (ft): 8.9 Core Recovery (ft): 7.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray soft wet SILT w/ moderate shell hash to 0.4'. 0.6 — moist
2	MCN1-04-1	2.0 — medium stiff
3		
4		
5		stiff 5.6 — dense
6	5.9 MCN1-04-2 6.4 Discard	dense damp 5.6 — silty f-m SAND 6.2 — f-m SAND w/ trace shell fragments
7	7.0	
8		
9		Refusal @ 8.9. Will collect bottom interval from Attempt 2

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/15/18 Time 1300
Station ID	MCN1-04	Latitude	33°36.934' Longitude 117°55.061'
Type of Core	Vibracore	Water Depth (ft)	16.5 Tide (ft) 0.4
Mudline Elevation (ft MLLW)	-16.1	Target Core Length (ft)	7.9
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Penetration Length (ft)	9.4 Core Recovery (ft) 7.6

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1	MCN1-04-T	gray soft moist SILT
1		medium stiff
5.4		5.4 stiff
5.9	MCN1-04-B	
6.4		6.4 dense damp f-m SAND w/ pocket of SILT @ 6.6 w/ moderate shells from 7.2 to 7.6
7.6		
9		Refusal @ 9.4. Bottom interval slightly less than 2'

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/15/18 Time 1345
Station ID	MCN2-01	Latitude	33°36.919' Longitude 117°55.003'
Type of Core	Vibracore	Water Depth (ft)	17.7 Tide (ft) -0.3
Mudline Elevation (ft MLLW)	-18.0	Target Core Length (ft)	6.0
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Penetration Length (ft)	5.3 Core Recovery (ft) 5.0

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1			Gray soft wet SILT w/ trace shells to 4.4
1–2		MCN2-01-T	medium stiff moist
2–3			↓
3–4			stiff ↓
4–5	4.0	MCN2-01-Z	4.4 dense (shells + shale)
	4.5	Discard	4.4 sandy SILT w/ substantial shells and shale
5	5.0		
6			
7			Refusal @ 5.3
8			
9			

3 No. Photos Taken Recorded By: C. Osuch Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/15/18 Time 1406
Station ID	MCN2-01	Latitude	33°36.919' Longitude 117°55.003'
Type of Core	Vibracore	Water Depth (ft)	17.5 Tide (ft) -0.5
Mudline Elevation (ft MLLW)	-18.0	Target Core Length (ft)	6.0
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Penetration Length (ft)	5.2 Core Recovery (ft) 5.0

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN2-01-T	Gray soft wet SILT
		1.0 medium stiff moist
2		
3		
4	MCN2-01-B	4.4 dense (shells & shells)
5 5.0		4.4 sandy SILT w/ substantial shells & shells
6		refusal due to shells
7		bottom interval less than 2' due to refusal on both attempts
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID MCN2-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -16.6
Project Depth+Overdepth (ft MLLW) -22+2=-24

Date 1/15/18 Time 1506
Latitude 33°36.884' Longitude 117°54.939'
Water Depth (ft) 16.0 Tide (ft) -0.6
Target Core Length (ft) 7.4
Penetration Length (ft) 7.3 Core Recovery (ft) 5.5

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN2-02-T	Gray soft wet SILT
		0.6 medium stiff moist
2		
3		stiff
4		
5		silty f-m SAND w shell fragments and large coss
5.4 5.5	MCN2-02-B	medium dense
6		
7		
8		refusal @ 7.3'.
9		

3 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport	Date: 1/15/18 Time: 1530
Station ID: MCN2-02	Latitude: 33°36.884' Longitude: 117°54.939'
Type of Core: Vibracore	Water Depth (ft): 16.1 Tide (ft): -0.5
Mudline Elevation (ft MLLW): -16.6	Target Core Length (ft): 7.4
Project Depth+Overdepth (ft MLLW): -22	Penetration Length (ft): 6.9 Core Recovery (ft): 5.4

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Gray soft wet SILT
0.4		medium stiff moist
1		
2	MCN2-02-T	w/ organics (plant material)
3		stiff
4		
4.6		medium dense / silty f-c SAND w/ shell fragments and pebbles
5		
5.4		
6		
7		
8		refusal @ 6.9'
9		~~after~~ No bottom interval due to refusal on both attempts.

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date 1/15/18	Time 1612
Station ID	MCN2-03	Latitude 33°36.861'	Longitude 117°54.860'
Type of Core	Vibracore	Water Depth (ft) 16.8	Tide (ft) -0.2
Mudline Elevation (ft MLLW)	-17.0	Target Core Length (ft) 7.0	
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Penetration Length (ft) 8.0	Core Recovery (ft) 6.4

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1		MCN2-03-T	Gray soft wet SILT
	0.8		0.8 — medium stiff, moist
3–4			stiff
5	5.0	MCN2-03-Z (5.0–5.5)	very dense damp f-SAND w/ trace shell fragments
6	5.5	MCN2-03-B	
	6.4		
9			refusal @ 8.0'

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/15/18
Station ID	MCN2-03	Time	1636
Type of Core	Vibracore	Latitude	33°36.861'
Mudline Elevation (ft MLLW)	-17.0	Longitude	117°54.860'
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Water Depth (ft)	17.1
		Tide (ft)	0.1
		Target Core Length (ft)	7.0
		Penetration Length (ft)	8.2
		Core Recovery (ft)	6.3

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray soft wet SILT
		0.6 medium stiff moist
2	MCN2-03-T	
3		stiff
4		
5	5.0	4.8 very dense damp f-SAND
6	Discard	w/ occas. shells 6-6.3'
	6.3	
7		
8		
9		refusal @ 8.2'

__ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18 Time 0800
Station ID	MCN2-04	Latitude	33°36.816' Longitude 117°54.791'
Type of Core	Vibracore	Water Depth (ft)	23.4 Tide (ft) 5.8
Mudline Elevation (ft MLLW)	-17.6	Target Core Length (ft)	6.4
Project Depth+Overdepth (ft MLLW)	-22+2=-24	Penetration Length (ft)	7.9 Core Recovery (ft) 6.4

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN2-04-T	Gray soft wet SILT
		0.8 – medium stiff moist
2		
3		stiff
4		w/ f-sand loose @ 4.2
4.4	MCN2-04-Z	
4.9		
5	MCN2-04-B	
		5.6 dense f-SAND
6		
6.4		
7		
8		
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18
Station ID	MCN2-04	Time	0823
Type of Core	Vibracore	Latitude	33°36.816'
Mudline Elevation (ft MLLW)	-17.6	Longitude	117°54.791'
Project Depth+Overdepth (ft MLLW)	-22	Water Depth (ft)	23.5
		Tide (ft)	5.9
		Target Core Length (ft)	4.4
		Penetration Length (ft)	6.9
		Core Recovery (ft)	6.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Brown soft wet SILT
0.6		Gray medium moist stiff
1	MCN2-04-T	
2		stiff
3		
4		w/ f sand lense @ 4.2
4.4		
5	Discard	
5.6		dense damp f-SAND
6		
6.0		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNB FLOOD CHANNELS	Date 1/9/18 Time 13:15
Station ID MCN3-01	Latitude 33° 36.788' Longitude 117° 54.711'
Type of Core VIBRACORE	Water Depth (ft) ~20.3' Tide (ft) +2.7'
Mudline Elevation (ft MLLW) -17.6'	Target Core Length (ft) 4.4' + 0.5' = 4.9'
Project Depth+Overdepth (ft MLLW) ~22.0	Penetration Length (ft) 6.9' Core Recovery (ft) 6.4'

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		OLIVE GRAY; SILT; SOFT; MED. STIFF; WET; MOIST; NO ODOR; NO SHEEN
2	MCN3-01-1-011918	
3		AT 3.0', 0.1' OF SAND; SILT; STIFF; RAMP
4	MCN3-01-2-011918	
5		AT 4.8', 0.2' OF FINE SAND; SILT
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: MARTIN

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LMR FEDERAL CHANNELS	Date 1/19/18 Time 13:40
Station ID MCN3-01	Latitude 33° 36.789' Longitude 117° 54.711'
Type of Core VIBRACORE	Water Depth (ft) -20.1' Tide (ft) ~~+3.4~~ +2.1'
Mudline Elevation (ft MLLW) -18.0	Target Core Length (ft) 4.0'
Project Depth+Overdepth (ft MLLW) -22.0	Penetration Length (ft) 5.5' Core Recovery (ft) 5.1

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		MCN3-01-019.8	OLIVE GRAY
2			SILT
3			SOFT → MED. STIFF
4			WET → MOIST
5			NO ODOR
6			NO SHEEN
7			AT 2.8', 0.1' CC SAND SILT
8			ST. FF
9			DAMP
			AT 4.4', 0.2' CC SAND SILT W/ SAND

0 No. Photos Taken

Recorded By: MART.

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNB RIVERMAL CHANNELS	Date 1/19/18 Time 12:00
Station ID MCN3-02	Latitude 33° 36.730' Longitude 117° 54.610'
Type of Core Vibracore	Water Depth (ft) -22.2' Tide (ft) 4.2'
Mudline Elevation (ft MLLW) -18.0'	Target Core Length (ft) 4.0' + 0.5'2 = 4.5'
Project Depth+Overdepth (ft MLLW) -22.0	Penetration Length (ft) 6.0' Core Recovery (ft) 5.6'

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		OLIVE GREY
2	MCN3-02-011918	SILT SOFT MED. STIFF WET MOIST DAMP NO ODOR NO SHEEN
3		
4	MCN3-02-Z-011918	4.4
4.5		SILT W/ TR FINE SAND
5		FINE SAND MED. DENSE
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: MARTIN

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNB FLOOD CHANNOS
Station ID MCN3-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -18.4'
Project Depth+Overdepth (ft MLLW) -22.0'

Date 1/9/18 Time 12:20
Latitude 33° 36.730' Longitude 117° 54 010'
Water Depth (ft) -22.1' Tide (ft) +3.8'
Target Core Length (ft) 3.0'
Penetration Length (ft) 5.0' Core Recovery (ft) 4.9'

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN3-02 01/9/18	OLIVE GRAY; SILT; SOFT → MOD STIFF; WET → MOIST; NO ODOR; NO SHEEN
2		DAMP
3		STIFF
4		
5		
6		
7		
8		
9		

0 No. Photos Taken

Recorded By: MART.

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNG FEDERAL CHANNEL
Station ID MON3-03
Type of Core Vibracore
Mudline Elevation (ft MLLW) -18.1'
Project Depth+Overdepth (ft MLLW) -22.0

Date 1/19/18 Time 10:55
Latitude 33° 36.683' Longitude 117° 54.487
Water Depth (ft) -23.3' Tide (ft) +5.2'
Target Core Length (ft) 3.9' + 0.5' Z = 4.4'
Penetration Length (ft) 5.9' Core Recovery (ft) 5.9

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1		OLIVE GRAY; SILT; SOFT MED STIFF; WET MOIST; NO ODOR; NO SHEEN
1–3	MON3-03-011918	0.1' BAND OF ORGANIC MATERIAL @ 2.0'
3		DAMP
4	MON3-03-Z-011918	
5.5		SILT WITH SAND; STIFF
5.9		(end of core)
6–10		

3 No. Photos Taken   Recorded By: MARTIN   Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNB FEDERAL CHANNELS
Station ID MCN3-03
Type of Core Vibracore
Mudline Elevation (ft MLLW) -18.0'
Project Depth+Overdepth (ft MLLW) -22.0

Date 1/19/18 Time 11:15
Latitude 33° 36.682' Longitude 117° 54.480'
Water Depth (ft) -23.0' Tide (ft) +5.0'
Target Core Length (ft) 4.0'
Penetration Length (ft) 5.5' Core Recovery (ft) 3.8'

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN3-03 011918	OLIVE GRAY
2		SILT
3		SOFT ↓ MED. STIFF ↓ STIFF
4		WET ± MOIST ↓ DAMP
5		NO ODOR
6		NO SHEEN
7		
8		
9		

0 No. Photos Taken

Recorded By: MART.N

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: LNB FEDERAL CHANNELS	Date: 1/19/18 Time: 09:25
Station ID: MCN3-04	Latitude: 33°36.598′ Longitude: 117°54.392′
Type of Core: VIBRACORE	Water Depth (ft): -23.4′ Tide (ft): +5.4′
Mudline Elevation (ft MLLW): -18.0	Target Core Length (ft): 4.0′ + 0.5′ Z = 4.5′
Project Depth+Overdepth (ft MLLW): -22.0′	Penetration Length (ft): 5.1 Core Recovery (ft): 4.1′

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–4	MCN3-04-011918 (0–4 ft)	OLIVE GREY; SILT (0–3) → FINE TO MEDIUM SAND (3–4); SOFT → MED. STIFF → VERY DENSE (3–4); WET → MOIST → DAMP (3–4); NO ODOR; NO SHEEN
4–6		Z-layer not kept. Use Attempt #2 for Z-layer.
7–8		refusal @ 5.1′ penetration
9		

2 No. Photos Taken   Recorded By: MARTIN   Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNB FEDERAL CHANNEL	Date 1/19/18 Time 10:05
Station ID MCN3-04	Latitude 33° 36.598' Longitude 117° 54.392
Type of Core VIBRACORE	Water Depth (ft) ~23.4' Tide (ft) + 5.5'
Mudline Elevation (ft MLLW) -17.9'	Target Core Length (ft) 4.1' + 0.5' = 4.6'
Project Depth+Overdepth (ft MLLW) ~ -22.0'	Penetration Length (ft) 5.6' Core Recovery (ft) 5.1

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		OLIVE GRAY; SILT; SOFT → MODERATE; WET → MOIST; NO ODOR; NO SHEEN
2	MCN3-04-011918	FINE TO MEDIUM SAND → SILTY SAND; VERY DENSE → DENSE; DAMP → DAMP
3		
4	MCN3-04-Z-011918	
5		
6		
7		refusal @ 5.16' penetration
8		
9		

3 No. Photos Taken

Recorded By: MARTIN

Attempt No. 2 of 2

Sediment Core Collection Form

1/9/18

ANCHOR QEA

Project	LNB FLORAL CHANNEL	Date ~~08:20~~	Time 08:20
Station ID	MCN4-01	Latitude 33° 36.436'	Longitude 117° 54.120'
Type of Core	VIBRACORE	Water Depth (ft) -21.9'	Tide (ft) +5.0'
Mudline Elevation (ft MLLW)	-16.9'	Target Core Length (ft)	5.1' + 0.5'Z = 5.6'
Project Depth+Overdepth (ft MLLW)	-22.0	Penetration Length (ft) 7.1'	Core Recovery (ft) 5.6

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		OLIVE GRAY SILT MED STIFF MOIST NO ODOR NO SHEEN
2	MCN4-01-011918	SILTY SAND w/ SHELL FRAGMENTS MED DENSE DAMP
3		SILT MED STIFF
4		
5	MCN4-01-Z-011918	SILTY SAND MED DENSE
6		
7		
8		
9		

2 No. Photos Taken Recorded By: MARTIN Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project LNR Flexman Channel	Date 1/19/18 Time 08:40
Station ID MCN4-01	Latitude 33° 36.435' Longitude 117° 54.119'
Type of Core VIBRACORE	Water Depth (ft) -22.9' Tide (ft) +5.2'
Mudline Elevation (ft MLLW) -17.7	Target Core Length (ft) 4.3'
Project Depth+Overdepth (ft MLLW) -22.0	Penetration Length (ft) ~~5.6'~~ 6.6' Core Recovery (ft) 5.6'

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN4-01-011918	OLIVE GRAY
2		SILT w/ TR SHELL FRAGMENTS → SILT
3		@ 1.6', 3" 0.1' layer SAND w/ ORGANICS, SHELL FRAGMENTS
4		SILT
5		SHELL FRAGMENTS SILTY SAND @ 4.9'
6		MOIST → DAMP
7		MOD STIFF → MODERATE MOD STIFF
8		MOD DENSE
9		NO ODOR, NO SHEEN

0 No. Photos Taken Recorded By: MART Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Bay
Station ID MCN4-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -17.9
Project Depth+Overdepth (ft MLLW) -22.8

Date 1/18/18 Time 1435
Latitude 33°36.390' Longitude -117°54.663'
Water Depth (ft) 18.2 Tide (ft) 0.3
Target Core Length (ft) 4.0
Penetration Length (ft) 6.1 Core Recovery (ft) 5.6

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		gray soft wet SILT
0.8		med-stiff moist
2	MCN4-02	SAND lens @ 2.4
3		
4	MCN4-02-2	
5	Discard	stiff
		end @ 5.6
6		
7		
8		
9		

3 No. Photos Taken Recorded By: C. Daphin Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport	Date 1/18/18 Time 1415
Station ID MCN4-07	Latitude 33° 36.390' Longitude -117° 54.063'
Type of Core Vibracore	Water Depth (ft) 18.0 Tide (ft) 0.1
Mudline Elevation (ft MLLW) -17.9	Target Core Length (ft) 4.1
Project Depth+Overdepth (ft MLLW) -22.0	Penetration Length (ft) 5.6 Core Recovery (ft) 5.3

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN4-07	gray soft ↓ wet ↓ SILT med-stiff moist pocket of organics @ 0.8
2		
3		stiff
4	Discard	
5		Sandy SILT
6		end @ 5.3
7		
8		
9		

— No. Photos Taken Recorded By: C. Dolphin Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport	Date 9/18/18 Time 1340
Station ID MCN4-03	Latitude 33-36.351' Longitude -117-54.001
Type of Core Vibracore	Water Depth (ft) ~~20.6~~ 19.5 Tide (ft) 1.4
Mudline Elevation (ft MLLW) ~~-19.2~~ -18.1	Target Core Length (ft) ~~3.3~~ 4.4
Project Depth+Overdepth (ft MLLW) -22.5	Penetration Length (ft) Core Recovery (ft) 4.9

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN4-03	gray soft wet SILT 0.4 med-stiff moist
2		w/ trace shells
3		stiff
4	MCN4-03-2	
5	Discard	end @ 4.9
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport		Date: 1/18/15	Time: 1400
Station ID: MCN4-03		Latitude: 33° 36.351	Longitude: -117° 54.001
Type of Core: Ultracore		Water Depth (ft): 19.1	Tide (ft): 1.0
Mudline Elevation (ft MLLW): -18.1		Target Core Length (ft): 3.9	
Project Depth+Overdepth (ft MLLW): -22.0		Penetration Length (ft): 6.0	Core Recovery (ft): 4.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–0.4	MCN4-03	gray, soft, wet, SILT
0.4–4.2	MCN4-03 (Discard ~3.8–4.3)	gray, med-stiff, moist, SILT
4.2		end @ 4.2
5		
6		
7		
8		
9		

- No. Photos Taken

Recorded By: A. Delphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/10/18
		Time	1240
Station ID	MCN4-04	Latitude	33° 36.314'
		Longitude	-117° 53.941'
Type of Core	Vibracore	Water Depth (ft)	20.8
		Tide (ft)	2.8
Mudline Elevation (ft MLLW)	-18.0	Target Core Length (ft)	9.5
Project Depth+Overdepth (ft MLLW)	-22.8	Penetration Length (ft)	7.0
		Core Recovery (ft)	5.8

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–0.8	MCN4-04	gray, soft, wet, SILT w/ trace sand
0.8		med. stiff, damp
3.6		sand pocket @ 3.6
4.0–4.5	MCN4-04-2	
5	Discard	med dense, silty fine SAND
5.8		end @ 5.8

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	4/8/15 Time 1300
Station ID	MCN4-04	Latitude	33° 36.314' Longitude -117° 53 941'
Type of Core	Vibracore	Water Depth (ft)	20.3 Tide (ft) 2.3
Mudline Elevation (ft MLLW)	-18.0	Target Core Length (ft)	4.0
Project Depth+Overdepth (ft MLLW)	-22.0	Penetration Length (ft)	5.0 Core Recovery (ft) 4.5

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN4-04	Gray soft wet SILT
2		0.4 — — — —
3		med. stiff moist
4	Discard	end @ 4.5
5		
6		
7		
8		
9		

1 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/18/18 Time 1115
Station ID	MCN5-01	Latitude	33°36.198' Longitude 117°53.711'
Type of Core	Vibracore	Water Depth (ft)	83.0 Tide (ft) 4.5
Mudline Elevation (ft MLLW)	-78.5	Target Core Length (ft)	4.0
Project Depth+Overdepth (ft MLLW)	-22.5	Penetration Length (ft)	5.5 Core Recovery (ft) 5.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN5-01	gray; soft; wet; sandy SILT
2		0.4 med-stiff; moist; SILT
3	MCN5-01-2	sand lens @ 1.8
4		4.2 med dense; silty fine SAND
5		end @ 5.2
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/18/18 Time 1135
Station ID	MCNS-01	Latitude	33° 36.198' Longitude -117° 53.711'
Type of Core	Vibracore	Water Depth (ft)	22.8 Tide (ft) 4.3
Mudline Elevation (ft MLLW)	-18.5	Target Core Length (ft)	3.5
Project Depth+Overdepth (ft MLLW)	-22.0	Penetration Length (ft)	5.5 Core Recovery (ft) 4.4

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1			gray soft wet SILT
2		MCNS-01	0.0 med-stiff moist
3			
4	3.5		med-dense slight silty sand
5			end @ 4.4
6			
7			
8			
9			

__ No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport		Date: 1/18/18	Time: 1000
Station ID: MCN5-02		Latitude: 33° 36.158'	Longitude: -117° 53.551'
Type of Core: Vibracore		Water Depth (ft): 23.7	Tide (ft): 5.6
Mudline Elevation (ft MLLW): -18.1		Target Core Length (ft): 4.4	
Project Depth+Overdepth (ft MLLW): -22.5		Penetration Length (ft): 5.9	Core Recovery (ft): 5.6

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1			gray, med-stiff, moist, SILT w/ trace fine sand
1			1.0 SILT
2		MCN5-02	
3			
4	3.9 – 4.4	MCN5-02-2	
5	5.1	Discard ~~MCN5-02-2~~	sandy SILT
	5.6		end @ 5.6
6			
7			
8			
9			

3 No. Photos Taken   Recorded By: C. Dolphin   Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newtown	Date	4/18/15
Station ID	MCN5-07	Time	1020
Type of Core	Vibra core	Latitude	33°
Mudline Elevation (ft MLLW)	-18.1	Longitude	-117° 53.551'
Project Depth+Overdepth (ft MLLW)	-22	Water Depth (ft)	23.5
		Tide (ft)	5.4
		Target Core Length (ft)	4, 3.9
		Penetration Length (ft)	5.9
		Core Recovery (ft)	5.8

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN5607	gray soft moist SILT
2		0.8 med stiff
3		
4		~~end @ 3.9~~
5	DU card	sandy SILT
6		end @ 5.8
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Bay	Date	1/18/16
Station ID	~~NCN5-03~~ MCN5-03	Time	0900
Type of Core	Vibracore	Latitude	33° 36.134'
Mudline Elevation (ft MLLW)	-18.3	Longitude	-117° 53.430'
Project Depth+Overdepth (ft MLLW)	~~-22.5~~	Water Depth (ft)	24.0
		Tide (ft)	5.7'
		Target Core Length (ft)	4.2
		Penetration Length (ft)	5.7
		Core Recovery (ft)	5.4

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN5-03	gray, med-stiff, moist, SILT
2		
3		
4	37 MCN5-03.2	
	42	
5	Discard	end @ 5.4
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID MCN5-03
Type of Core Vibracore
Mudline Elevation (ft MLLW) -18.3
Project Depth+Overdepth (ft MLLW) ~~-23~~ -20

Date 1/18/18 Time 0915
Latitude 33° 36.134' Longitude -117° 53.470'
Water Depth (ft) 24.0 Tide (ft) 5.7
Target Core Length (ft) 3.7
Penetration Length (ft) 5.0 Core Recovery (ft) 4.2

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		gray, med-stiff, moist, SILT
2	MCN5-03	
3		
4	Discard	4.0 Slightly clayey SILT
5		end @ 4.2
6		
7		
8		
9		

1 No. Photos Taken

Recorded By: C Dolphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Bay	Date 1/18/18 Time 0810
Station ID MCN5-04	Latitude 33° 36.103' Longitude -117° 53.354'
Type of Core Vibracore	Water Depth (ft) 24.2 Tide (ft) 5.4
Mudline Elevation (ft MLLW) -18.8	Target Core Length (ft) 3.7
Project Depth+Overdepth (ft MLLW) -22.5	Penetration Length (ft) 5.7 Core Recovery (ft) ~~4.8~~ 4.8

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	MCN5-04	Gray, med stiff, moist, SILT
2		
3	3.2	2.8 slightly clayey SILT
	3.7 MCN5-04-2	3.0 SILT
4	Discard	
5		end @ 4.8
6		
7		
8		
9		

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Bay	Date	1/18/18
		Time	0530
Station ID	MCN5-04	Latitude	33°36.103'
		Longitude	-117°53.359'
Type of Core	Vibracore	Water Depth (ft)	24.4
		Tide (ft)	5.6
Mudline Elevation (ft MLLW)	-18.8	Target Core Length (ft)	3.2
Project Depth+Overdepth (ft MLLW)	-22	Penetration Length (ft)	5.0
		Core Recovery (ft)	3.8

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–0.8	MCN5-04	Gray, soft, wet, SILT
0.8–2.2		Gray, med stiff, moist, SILT
2.2–2.4		Slightly Clayey SILT
2.4–3.8		SILT
3.8		End @ 3.8
4		
5		
6		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18
Station ID	BIN-01	Time	0905
Type of Core	Vibracore	Latitude	33°36.610'
Mudline Elevation (ft MLLW)	-11.8	Longitude	117°54.480'
Project Depth+Overdepth (ft MLLW)	-17+5=-22	Water Depth (ft)	17.5
		Tide (ft)	5.7
		Target Core Length (ft)	10.2
		Penetration Length (ft)	9.4
		Core Recovery (ft)	6.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Gray soft wet SILT
1	BIN-01-T	1.2 medium stiff moist
2		
3		
4		stiff
5		very dense damp f-SAND w/ trace shell fragments
5.2	BIN-01-Z	
5.7	Discard	
6		
6.6		
7		
8		
9		

Refusal @ 9.4'

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BIN-01
Type of Core Vibracore
Mudline Elevation (ft MLLW) -11.8
Project Depth+Overdepth (ft MLLW) -17+5=-22

Date 1/16/18 Time 1014
Latitude 33°36.610' Longitude 117°54.480'
Water Depth (ft) 16.5 Tide (ft) 4.7
Target Core Length (ft) 10.2
Penetration Length (ft) 9.5 Core Recovery (ft) 8.1

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray soft wet SILT
		medium stiff moist
2	BIN-01-T	
		w/ f-sand lense @ 2.6
3		
4		stiff slightly clayey SILT
5		5.0 very dense damp f-SAND
5.2		
6	BIN-01-B	w/ trace shell fragments 6.0 to 8.1
7		f-m SAND
8		
8.1		
9		Refusal @ 9.5'

5 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18 Time 1106
Station ID	BIN-02	Latitude	33°36.555' Longitude 117°54.418'
Type of Core	Vibracore	Water Depth (ft)	15.8 Tide (ft) 3.7
Mudline Elevation (ft MLLW)	-12.1	Target Core Length (ft)	9.9
Project Depth+Overdepth (ft MLLW)	-17+5=-22	Penetration Length (ft)	~~6.8~~ 7.0 Core Recovery (ft) 6.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIN-02-T	Gray 0.4 soft wet SILT
2		medium stiff moist
3		slightly clayey
4		very dense damp f-SAND
4.9 5	BIN-02-Z	
5.4		
6	BIN-02-B	
6.5		w/ substantial shell @ 6.5
7		refusal @ ~~6.8~~ 7.0'
8		
9		

3 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: BIN-02
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -12.1
Project Depth+Overdepth (ft MLLW): -17

Date: 1/16/18 Time: 1145
Latitude: 33°36.555' Longitude: 117°54.418'
Water Depth (ft): 14.8 Tide (ft): 2.7
Target Core Length (ft): 4.7
Penetration Length (ft): ~~5.4~~ 6.4 Core Recovery (ft): 5.2

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray soft medium stiff — wet moist — SILT
2	BIN-02-T	
2.6		slightly clayey SILT
3		
4		very dense — damp — f-SAND
4.9		
5	Discard	
5.2		
6		
7		Refusal @ ~~5~~ 6.4'
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: BIN-03
Type of Core: vibracore
Mudline Elevation (ft MLLW): -11.9
Project Depth+Overdepth (ft MLLW): -17+5=-22

Date: 1/16/18 Time: 1304
Latitude: 33°36.522' Longitude: 117°54.352'
Water Depth (ft): 12.8 Tide (ft): 0.9
Target Core Length (ft): 10.1
Penetration Length (ft): 7.8 Core Recovery (ft): 6.8

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Gray soft wet SILT
0.4		medium ~~stiff~~ moist
1	BIN-03-T	
2		~~~~ stiff; slightly clayey SILT
3		
4		sandy SILT w/ trace shells
5 / 5.1	BIN-03-Z (5.1–5.6)	very dense damp f-SAND
6	BIN-03-B	
6.8		
7		
8		Refusal @ 7.8'
9		

4 No. Photos Taken   Recorded By: C. Osuch   Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BIN-03
Type of Core vibracore
Mudline Elevation (ft MLLW) -11.9
Project Depth+Overdepth (ft MLLW) -17+5=-22

Date 1/16/18 Time 1350
Latitude 33°36.522' Longitude 117°54.352'
Water Depth (ft) 11.9 Tide (ft) 0.0
Target Core Length (ft) 5.1
Penetration Length (ft) 6.5 Core Recovery (ft) 5.1

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIN-03-T	Gray soft wet SILT
2		medium stiff moist
3		stiff
4		4.2 very dense damp sandy SILT f-SAND w/ trace shells
5		5.1
6		
7		
8		Refusal @ 6.5
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BIN-04
Type of Core Vibracore
Mudline Elevation (ft MLLW) -11.4
Project Depth+Overdepth (ft MLLW) -17+5=-22

Date 1/16/18 Time 1434
Latitude 33°36.501' Longitude 117°54.544'
Water Depth (ft) 11.0 Tide (ft) -0.4
Target Core Length (ft) 10.6
Penetration Length (ft) 9.8 Core Recovery (ft) 8.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIN-04-T	Gray soft wet SILT
2		0.8 medium stiff moist
3		stiff slightly clayey SILT
4		
5		
5.6	BIN-04-Z	
6		
6.1		
7	BIN-04-B	medium dense f-SAND w/ occas. shells
8		
8.5		
9		

Refusal @ 9.8

4 No. Photos Taken Recorded By: C. Gauch Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18 Time 1505
Station ID	BIN-04	Latitude	33°36.501' Longitude 117°54.544'
Type of Core	Vibracore	Water Depth (ft)	10.8 Tide (ft) -0.6
Mudline Elevation (ft MLLW)	-11.4	Target Core Length (ft)	5.6
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	7.6 Core Recovery (ft) 7.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray soft wet SILT
		0.4 – medium stiff moist
2	BIN-04-T	1.8 – stiff clayey SILT
3		stiff
4		
5		
5.6		
6	Discard	
7		w/ trace sand from 6.8 – 7.2
7.2		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18 Time 1600
Station ID	BIN-05	Latitude	33°36.520' Longitude 117°54.442'
Type of Core	Vibracore	Water Depth (ft)	11.2 Tide (ft) -0.6
Mudline Elevation (ft MLLW)	-11.8	Target Core Length (ft)	10.2
Project Depth+Overdepth (ft MLLW)	-17+5=-22	Penetration Length (ft)	9.2 Core Recovery (ft) 7.3

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIN-05-T	Gray soft wet SILT
2		0.4 medium stiff moist
3		stiff
4		slightly clayey SILT
5	5.2 BIN-05-Z 5.7	
6	BIN-05-B	
7	7.3	7.1 dense damp f-SAND
8		
9		refusal @ 9.2'.

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/16/18 Time 1620
Station ID	BIN-05	Latitude	33°36.520' Longitude 117°54.442'
Type of Core	Vibracore	Water Depth (ft)	11.4 Tide (ft) -0.4
Mudline Elevation (ft MLLW)	-11.8	Target Core Length (ft)	5.2
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	7.6 Core Recovery (ft) 6.7

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIN-05-T	Gray medium stiff wet SILT
2		stiff
3		
4		slightly clayey SILT
5	5.2	
6	Discard	w/f-sand @ 6.4
6.7		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport

Station ID BIN-06

Type of Core Vibracore

Mudline Elevation (ft MLLW) -11.9

Project Depth+Overdepth (ft MLLW) -17(+5) = 22

Date 1/17/18 Time 0808

Latitude 33° 36.563' Longitude -117° 54.512

Water Depth (ft) 17.6 Tide (ft) 5.7

Target Core Length (ft) 10.1

Penetration Length (ft) 9.1 Core Recovery (ft) 8.1

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1		Gray; soft, wet, SILT; ale: med-stiff, moist (to 8.1)
3–4	BIN-06-T-011718	
5–5.5	BIN-06-2	
6.5	BIN-06-B	
7		Dense, fine SAND
8.1		end @ 8.1
9.1		refusal @ 9.1

4 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BJN-01e
Type of Core Vibra core
Mudline Elevation (ft MLLW) -11.9
Project Depth+Overdepth (ft MLLW) -17

Date 1/17/13 Time 0830
Latitude 33° 36.563' Longitude -117° 54.512'
Water Depth (ft) 17.0 Tide (ft) 5.7
Target Core Length (ft) 5.1
Penetration Length (ft) ~~9.7~~ 6.9 Core Recovery (ft) ~~6.9~~ 3.1

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		
2		
3		Low recovery, sample discarded
4		
5		
6		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of ~~3~~

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/17/18
Station ID	BIN-06	Time	0850
Type of Core	Vibracore	Latitude	33° 36.563'
		Longitude	-117° 54.512'
Mudline Elevation (ft MLLW)	-11.9	Water Depth (ft)	17.7
		Tide (ft)	5.8
Project Depth+Overdepth (ft MLLW)	-17	Target Core Length (ft)	5.1
		Penetration Length (ft)	6.6
		Core Recovery (ft)	6.3

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–0.8	BIN-06-T (0–5.2)	Gray soft wet SILT
0.8–6.3		Gray med. stiff moist SILT
6.3		end @ 6.3

– No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 3 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels | Date 1/10/18 | Time 1203

Station ID BIME-01 | Latitude 33°36.461' | Longitude 117°54.409'

Type of Core Vibracore | Water Depth (ft) 12.2 | Tide (ft) 0.9

Mudline Elevation (ft MLLW) -11.3 | Target Core Length (ft) 7.7

Project Depth+Overdepth (ft MLLW) -17+2=-19 | Penetration Length (ft) 9.2 | Core Recovery (ft) 8.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-01-T	gray very soft wet SILT w/ trace f-sand
0.5		soft moist
2		w/ base of f-sand @ 2.0
2.5		medium stiff
3	3.0	slightly clayey SILT w/ trace f-sand
4	BIME-01-M	4.3 silty CLAY
5		
5.7	BIME-01-Z	
6	6.2 BIME-01-B	w/ trace f-sand 6.2 to 9.
7		w/ trace wood fragments @ 6.5
7.7	Discard	gray dense damp f-SAND
8		Refusal @ 9.2
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels | Date 1/10/18 | Time 1240

Station ID BIME-01 | Latitude 33°36.461' | Longitude 117°54.409'

Type of Core vibracore | Water Depth (ft) 12.3 | Tide (ft) 1.0

Mudline Elevation (ft MLLW) -11.3 | Target Core Length (ft) 5.7

Project Depth+Overdepth (ft MLLW) -17 | Penetration Length (ft) 7.2 | Core Recovery (ft) 6.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIME-01-T	Gray very soft wet SILT w/ trace f-sand
0.9		soft moist
2.3		medium stiff
3.0		slightly clayey SILT w/ trace f-sand
5.7	BIME-M	silty CLAY
6.5	DISCARD	w/ trace f sand from 5.6 to 6.5

w/ f-sand lense @ 1.8

7

8

9

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newtolk Federal Channels
Station ID: BIME-01
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -11.3
Project Depth+Overdepth (ft MLLW): -17

Date: 1/10/18 Time: 1301
Latitude: ~~47°54.33'~~ 36.4" Longitude: 117°54.409'
Water Depth (ft): 12.4 Tide (ft): 1.1
Target Core Length (ft): 5.7
Penetration Length (ft): 7.2 Core Recovery (ft): 6.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIME-01-T	Gray very soft ~~moist~~ wet SILT w/ trace f-sand
0.8		soft moist
2.3		medium stiff
3.0		slightly clayey SILT w/ trace f-sand
4.2	BIME-01-M	silty CLAY
5.7	Discard	w/ trace f-sand from 5.2 to 6.2
6.2		w/ trace shells

____ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels
Station ID BIME-01
Type of Core Vibracore
Mudline Elevation (ft MLLW) -11.3
Project Depth+Overdepth (ft MLLW) -17

Date 1/10/18 Time 1331
Latitude 33°36.461' Longitude 117°54.409'
Water Depth (ft) 12.6 Tide (ft) 1.3
Target Core Length (ft) 5.7
Penetration Length (ft) 7.2 Core Recovery (ft) 6.9

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIME-01-TOP	Gray very soft wet SICT w/ trace f sand
0.9		soft moist
2.4		medium stiff
3.0	BIME-01-M	w/ f-m sand lenses @ 2.5
4.5		slightly clayey SICT w/ trace f sand
		silty CLAY
5.7	Discard	w/ trace f-m sand from 5.7 to 6.9
6.9		w/ trace shell

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport Federal Channels
Station ID: BIME-02
Type of Core: vibracore
Mudline Elevation (ft MLLW): -12.0
Project Depth+Overdepth (ft MLLW): -17+2=-19

Date: 1/10/18 Time: 1433
Latitude: 33°36.479' Longitude: 117°54.331'
Water Depth (ft): 13.9 Tide (ft): 1.9
Target Core Length (ft): 7.0
Penetration Length (ft): 7.7 Core Recovery (ft): 7.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-02-T	Gray very soft wet SILT w/ f-sand
		0.9 soft moist
2		
3		2.9 medium stiff SILT w/ trace f-sand
4	BIME-02-M	
5	BIME-02-Z	slightly clayey SILT w/ f-sand loose @ 5.1 w/ trace fine SAND from 5.1-6
6	BIME-02-B	gr loose damp f-SAND
7	7.0	
8		
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 5

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channel Date 1/10/18 Time 1510

Station ID BIME-02 Latitude 33°36.479' Longitude 117°54.331'

Type of Core vibracore Water Depth (ft) ~~13.2~~ 14.3 Tide (ft) ~~2.2~~ 2.3

Mudline Elevation (ft MLLW) -12.0 Target Core Length (ft) 5.0

Project Depth+Overdepth (ft MLLW) -17 Penetration Length (ft) 6.5 Core Recovery (ft) 5.5

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1		BIME-02-T	Gray very soft wet SILT w/ f-sand; 0.6 — soft moist
2			w/ f-sand lense @ 2'
3	3.0	BIME-02-M	2.9 — medium stiff
4			slightly clayey SILT w/ trace f-sand
5	5.0		medium dense; 5.2 silty F-SAND ~~SILT~~
	5.5	Discard	
6			
7			
8			
9			

— No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 5

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport Federal Channels
Station ID: B17E-02
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -12.0
Project Depth+Overdepth (ft MLLW): -17

Date: 1/10/18 Time: 1525
Latitude: 33°36.479' Longitude: 117°54.331'
Water Depth (ft): 14.4 Tide (ft): 2.4
Target Core Length (ft): 5.0
Penetration Length (ft): 6.5 Core Recovery (ft): 3.1

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		
2		Low recovery, sample discarded
3		
4		
5		
6		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 5

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels
Station ID BIME-02
Type of Core vibracore
Mudline Elevation (ft MLLW) -12.0
Project Depth+Overdepth (ft MLLW) -17

Date 1/18/18 Time 1540
Latitude 33°36.479' Longitude 117°54.331'
Water Depth (ft) ~~13.4~~ 14.6 Tide (ft) ~~1.4~~ 2.6
Target Core Length (ft) 5.0
Penetration Length (ft) 6.5 Core Recovery (ft) 5.9

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-02-T	Gray very soft wet SILT w/ f-sand
		0.6 soft moist
2		w/ f-sand lense @ 2.3
3 3.0	BIME-02-M	3.3 medium stiff
4		slightly clayey SILT w/ trace f-sand
5 5.0	Discard	medium dense
		silty f-SAND
6 5.9		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 4 of 5

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels
Station ID BIME-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -12.0
Project Depth+Overdepth (ft MLLW) -17

Date 1/10/18 Time 1555
Latitude 33°36.479' Longitude 117°54.331'
Water Depth (ft) 14.7 Tide (ft) 2.7
Target Core Length (ft) 5.0
Penetration Length (ft) 6.5 Core Recovery (ft) 6.0

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-02-T	Gray very soft wet SILT w/ f-sand
		0.6 soft moist
2		w/ f-sand
		base @ 2.6
3	3.0	
	BIME-02-M	
4		4.2 medium stiff slightly clayey SILT w/ trace f-sand
5	5.0	medium dense silty f SAND
	Discard	
6	6.0	
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 5 of 5

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport	Date 1/11/18 Time 0801
Station ID BIME-03	Latitude 33° 36.409' Longitude 117° 54.434'
Type of Core vibracore	Water Depth (ft) 15.4 Tide (ft) 3.9
Mudline Elevation (ft MLLW) -11.5	Target Core Length (ft) 7.5
Project Depth+Overdepth (ft MLLW) -17+2=-19	Penetration Length (ft) 9.0 Core Recovery (ft) 7.7

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		BIME-03-T	Gray very soft wet SILT
	0.9		soft moist
2			w/ f-sand lens @ 1.7' and 2.4'
3	3.0		
4		BIME-03-M	
	4.1		medium stiff clayey SILT
5			w/ trace f-sand 5.1 - 6.1'
	5.5		
6		BIME-03-Z	
		BIME-03-B	Gray medium dense damp f-m SAND w/ trace shells
7			gray w/ red and white m-SAND
	7.5		
	7.7	Discard	
8			
9			

4 No. Photos Taken Recorded By: C. Osuch Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BIME-03
Type of Core V. Vibracore
Mudline Elevation (ft MLLW) -11.5
Project Depth+Overdepth (ft MLLW) -17

Date 1/11/18 Time 0829
Latitude 33°36.409' Longitude 117°54.434'
Water Depth (ft) 14.9 Tide (ft) 3.4
Target Core Length (ft) 5.5
Penetration Length (ft) 7.0 Core Recovery (ft) 6.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-03-T	Gray very soft wet SILT
		0.8 – soft – moist –
2		w/ f sand lens @ 2.1 & 2.6
3	3.0	
	BIME-03-M	
4		f. medium stiff — clayey SILT
5		w/ trace f-sand 5.1 to 6.6
5.5		
6	Discard	
6.6		6.5
7		medium dense f-m SAND
8		
9		

__ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID BIME-03
Type of Core vibracore
Mudline Elevation (ft MLLW) -11.5
Project Depth+Overdepth (ft MLLW) -17

Date 1/1/18 Time 0855
Latitude 33°36.407' Longitude 117°54.434'
Water Depth (ft) 14.5 Tide (ft) 3.0
Target Core Length (ft) 5.5
Penetration Length (ft) 7.0 Core Recovery (ft) 6.3

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-03-T	Gray very soft wet SILT
		0.8 soft moist
2		w/ f-sand lenses @ 2 and 2.5'
3		
4	BIME-03-M	
		4.4 medium stiff clayey SILT
5		
		w/ trace f-sand 5.4 to 6.1
6	Discard	
6.3		6.1 medium dense f-m SAND
7		
8		
9		

~ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18 Time 0908
Station ID	BIME-03	Latitude	33°36.409' Longitude 117°54.434'
Type of Core	Vibracore	Water Depth (ft)	14.2 Tide (ft) 2.7
Mudline Elevation (ft MLLW)	-11.5	Target Core Length (ft)	5.5
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	7.0 Core Recovery (ft) 6.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-03-T	Gray very soft wet SILT soft moist
2		w/ sand lense @ 1.8 and 2.3'
3	BIME-03-M	
4		4.6 medium stiff clayey SILT
5		w/ trace f-sand @ 5.4 to 6.5
6	Discard	6.5
6.6		medium dense f-SAND
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18 Time 0953
Station ID	BIME-04	Latitude	33°36.453' Longitude 117°54.375'
Type of Core	Vibracore	Water Depth (ft)	13.5 Tide (ft) 2.0
Mudline Elevation (ft MLLW)	-11.5	Target Core Length (ft)	7.5
Project Depth+Overdepth (ft MLLW)	-17 +2 = -19	Penetration Length (ft)	7.7 Core Recovery (ft) 7.5

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-04-T	Gray very soft wet SILT w/ trace f sand 0.4 soft moist
2		1.6 slightly clayey SILT w/ f-sand lens @ 2.4
3 3.0		2.9 medium stiff
4	BIME-04-M	3.9 clayey SILT
5 5.5		w/ trace f-sand from 5.6
6 6.0	BIME-04-Z	
7 7.5	BIME-04-B	6.6 Gray dense damp Gray w/ white 6.8 f-SAND f-M SAND
8		Refusal
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: BIME-04
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -11.5
Project Depth+Overdepth (ft MLLW): -17

Date: 1/11/18 Time: 1043
Latitude: 33°36.453' Longitude: 117°54.375'
Water Depth (ft): 12.7 Tide (ft): 1.2
Target Core Length (ft): 5.5
Penetration Length (ft): 7.0 Core Recovery (ft): 6.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIME-04-T	Gray very soft wet SILT w/ trace f-sand
0.7		stiff moist
1.6		slightly clayey SILT
3.0		
3.4	BIME	medium stiff clayey SILT w/ f-sand
4.1		loose from 4.1 to 4.2
4.2		w/ trace f-sand 4.2 to 6.5
5.5	Discard	
6.5		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport	Date: 1/11/18 Time: 1050
Station ID: BIME-04	Latitude: 33°36.453' Longitude: 117°54.375'
Type of Core: Vibracore	Water Depth (ft): 12.6 Tide (ft): 1.1
Mudline Elevation (ft MLLW): -11.5	Target Core Length (ft): 5.5
Project Depth+Overdepth (ft MLLW): -17	Penetration Length (ft): 7.0 Core Recovery (ft): 6.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-04-T	gray very soft wet SILT w/ trace f-sand & trace silt
		soft — moist
2		slightly clayey silt; w/ f-sand lense @ 2.1'
3	3.0	
4	BIME-04-M	3.7 medium stiff clayey SILT
5		
5.5	Discard	
6		w/ trace f-sand 5.7 to 6.2
6.5		medium dense 6.2 f-SAND
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18 Time 1110
Station ID	BIME-04	Latitude	33°36.453' Longitude 117°54.375'
Type of Core	Vibracore	Water Depth (ft)	12.4 Tide (ft) 0.9
Mudline Elevation (ft MLLW)	-11.5	Target Core Length (ft)	5.5
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	7.0 Core Recovery (ft) 6.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIME-04-T	Gray very soft wet SILT w/ trace f-sand
		0.8 soft moist
		1.4 slightly clayey SILT
2		w/ sand lenses @ 2.3
3	3.0	
	BIME-04-M	3.8 medium stiff clayey SILT
4		
5	5.5	w/ trace f-sand from 5.6 to 6.4
	Discard	
6		6.4 medium dense f SAND
	6.6	
7		
8		
9		

___ No. Photos Taken Recorded By: C. Osuch Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport Federal Channels | Date: 1/8/18 | Time: 0805

Station ID: BIMW-01 | Latitude: 33°36.457' | Longitude: 117°54.541'

Type of Core: Vibracore | Water Depth (ft): 13.7 | Tide (ft): 1.9

Mudline Elevation (ft MLLW): -11.8 | Target Core Length (ft): 7.2

Project Depth+Overdepth (ft MLLW): -17 +2 additional ft = -19 | Penetration Length (ft): 8.7 | Core Recovery (ft): 7.6

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–3	3.0	BIMW-01-T	Grey, very soft, wet (moist), SILT; 2.3 soft
3–5.2	5.2	BIMW-01-M	3.4 medium stiff; SILT w/ clay
5.2–5.7	5.7	BIMW-01-Z	~~dense~~ ~~vf SAND~~
5.8–7.2	7.2	BIMW-01-B	5.8 dark gray, dense, damp, vf-SANDS, trace H_2S
7.2–7.6	7.6	Discard	
8			
9			

4 No. Photos Taken | Recorded By: C. Osuch | Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newark Federal Channels Date 1/8/15 Time 0956

Station ID B1MW-01 Latitude 33°36.457' Longitude 117°54.541'

Type of Core Vibracore Water Depth (ft) 13.8 Tide (ft) 2.0

Mudline Elevation (ft MLLW) -11.8 Target Core Length (ft) 5.2

Project Depth+Overdepth (ft MLLW) -17 Penetration Length (ft) 6.2 Core Recovery (ft) 5.5

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		B1MW-01-T	Grey very soft wet SILT 0.4 – soft
2			1.6 – medium stiff moist ~~clayey silt~~ clayey SILT to silty CLAY
3	3.0	B1MW-01-M	3.0 – CLAY w/ silt
4			
5	5.2 / 5.5	Discard	5.3 dark grey dense damp vf-SAND trace H2S
6			
7			
8			
9			

7 No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels | Date 1/8/18 | Time 1025

Station ID BIMW-01 | Latitude 33°36.457' | Longitude 117°54.541'

Type of Core Vibracore | Water Depth (ft) 13.9 | Tide (ft) 2.1

Mudline Elevation (ft MLLW) -11.8 | Target Core Length (ft) 5.2

Project Depth+Overdepth (ft MLLW) -17 | Penetration Length (ft) 6.2 | Core Recovery (ft) 5.2

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIMW-01-T	Grey 0.4 very soft wet SILT
1		soft 1.0 Moist clayey SILT
2		1.6 medium stiff 1.9 silty CLAY
3	3.0 BIMW-01-M	3.0 stiff 3.0 CLAY w/ ~~silt~~ silt
4		
5	5.2	w/ trace vf sand @ bottom
6		
7		
8		
9		

___ No. Photos Taken | Recorded By: C. Osuch | Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/8/18
Station ID	BIMW-01	Time	1045
Type of Core	Vibracore	Latitude	33°36.457'
Mudline Elevation (ft MLLW)	-11.8	Longitude	117°54.541'
Project Depth+Overdepth (ft MLLW)	-17	Water Depth (ft)	14.0
		Tide (ft)	2.2
		Target Core Length (ft)	5.2
		Penetration Length (ft)	6.2
		Core Recovery (ft)	5.7

Depth In (ft.) Core Sections / Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1	BIMW-01-T	Grey; very soft; wet; SILT; 0.5 soft
1–2		moist; clayey SILT
2–3		1.8 medium stiff; silty CLAY; 2.6 stiff
3.0		CLAY w/ silt
3–5	BIMW-01-M	
5.2	Discard	
5.7		w/ trace vf. sand @ bottom
6–9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 4 of 4

D

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels BIMW-02 or

Station ID BIMW-02

Type of Core Vibracore

Mudline Elevation (ft MLLW) -11.7

Project Depth+Overdepth (ft MLLW) -17+2 additional ft = -19

Date 1/8/18 Time 1127

Latitude 33°36.471' Longitude -117°54.455'

Water Depth (ft) 14.2 Tide (ft) 2.5

Target Core Length (ft) 7.3

Penetration Length (ft) Core Recovery (ft)

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		No Attempt. Vibracore not powering up
2		
3		
4		
5		
6		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of ___

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport Federal Channels	Date: 1/9/18 Time: ~~1418~~ 12
Station ID: BIMW-02	Latitude: 33°36.473' Longitude: -117°54.458'
Type of Core: vibracore	Water Depth (ft): 13.4 Tide (ft): 1.8
Mudline Elevation (ft MLLW): -11.6	Target Core Length (ft): 7.4
Project Depth+Overdepth (ft MLLW): -17+2=-19	Penetration Length (ft): 7.8 Core Recovery (ft): 7.4

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-02-T	Grey very soft wet SILT w/ trace f-sand
		0.6 soft moist
		1.1 medium stiff clayey SILT
2		2.2 silty CLAY
3	BIMW-02-M	2.7 CLAY w/ silt
4		
5		w/ pocket of f-sand @ 5.1 to 5.3'
5.4	BIMW-02-Z	w/ trace fine sand to 7.1'
5.9		5.3
6	BIMW-02-B	
7		7.1 dk grey dense damp f-SAND
7.4		
8		
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channel	Date	1/4/18 Time 1250
Station ID	BIMW-02	Latitude	33°36.473' Longitude -117°54.458'
Type of Core	Vibracore	Water Depth (ft)	13.6 Tide (ft) 2.10
Mudline Elevation (ft MLLW)	-11.6	Target Core Length (ft)	5.4
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	7.0 Core Recovery (ft) 5.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-02-1	Grey very soft wet SILT w/ trace f-sand
		0.7 – soft – moist
2		1.7 – medium stiff – clayey SILT
3	3.0	3.2 – CLAY w/ silt
	BIMW-02-M	
4		w/ lense of f-sand @ 4.1'
5	5.0	w/ trace f-sand from 4.1 to 5.0'
	SW	
6		
7		
8		
9		

— No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport Federal Channels | Date: 1/9/18 | Time: 1318

Station ID: BIMW-02 | Latitude: 33°36.473' | Longitude: -117°54.458'

Type of Core: vibracore | Water Depth (ft): 13.9 | Tide (ft): 2.3

Mudline Elevation (ft MLLW): -11.6 | Target Core Length (ft): 5.4

Project Depth+Overdepth (ft MLLW): -17 | Penetration Length (ft): 6.4 | Core Recovery (ft): 6.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0		Grey very soft wet SILT w/ trace f-sand
0.8		w/ ~~f-sand~~ soft moist
1	BIMW-02-T	
1.8		medium stiff Clayey SILT
2		
3	3.0	
3.6	BIMW-02-M	CLAY w/ silt
4		
5		w/ f-sand loose @ 5.0-5.2
5.4		w/ trace f-sand 5.2 to 6.2'
6	Discard	
7		
8		
9		

___ No. Photos Taken | Recorded By: C. Osuch | Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/9/18 Time 1340
Station ID	BIMW-02	Latitude	33°36.473' Longitude -117°54.458'
Type of Core	vibracore	Water Depth (ft)	14.0 Tide (ft) 2.4
Mudline Elevation (ft MLLW)	-11.6	Target Core Length (ft)	5.4
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	6.4 Core Recovery (ft) 5.3

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-02-T	Grey very soft wet SILT w/ trace f-sand
0.5		soft moist
1.1		medium stiff
		clayey SILT
2		
3		
3.4		CLAY w/ silt w/ sand lense @ 4-4.1' w/ trace f-sand from 4.1-5.3
4	BIMW-02-M	
5		
5.3		
6		
7		
8		
9		

— No. Photos Taken Recorded By: C. Osuch Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels | Date 1/10/18 | Time 0739

Station ID BIMW-03 | Latitude 33°36.447' | Longitude 117°54.567'

Type of Core Vibracore | Water Depth (ft) 15.4 | Tide (ft) 3.5

Mudline Elevation (ft MLLW) -11.9 | Target Core Length (ft) 7.1

Project Depth+Overdepth (ft MLLW) -17+2=-19 | Penetration Length (ft) 8.1 | Core Recovery (ft) 7.1

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIMW-03-T	Gray very soft wet SILT
1		0.6 to 1.2 soft moist
2		soft moist
3	3.0 BIMW-03-M	medium stiff SILT w/ clay
4		clayey SILT to silty CLAY w/ pocket of f-sand @ 5.9 w/ trace f-sand below 5.9
5	5.1 BIMW-03-Z	
6	5.6 BIMW-03-B	
7	7.1	dark gray dense damp f-SAND
8		
9		

4 No. Photos Taken | Recorded By: C. Osuch | Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newtown Federal Channel
Station ID: BIMW-03
Type of Core: vibracore
Mudline Elevation (ft MLLW): -11.9
Project Depth+Overdepth (ft MLLW): -17

Date: 1/10/18 Time: 0815
Latitude: 33°36.447' Longitude: 117°54.567'
Water Depth (ft): 14.9 Tide (ft): 3.0
Target Core Length (ft): 5.1
Penetration Length (ft): 6.1 Core Recovery (ft): 5.9

Depth In (ft.) Core Sections	Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		BIMW-03-T	Gray very soft wet SILT
2			1.3 – soft – moist
3	3.0	BIMW-03-M	2.3 medium stiff; SILT w/ clay
4			
5	5.1	Discard	clayey SILT w/ f-sand lense @ 5.7
6	5.9		
7			
8			
9			

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/10/18
Station ID	BIMW-03	Time	0838
Type of Core	Vibracore	Latitude	33°36.447'
Mudline Elevation (ft MLLW)	-11.9	Longitude	117°54.567'
Project Depth+Overdepth (ft MLLW)	-17	Water Depth (ft)	14.5
		Tide (ft)	2.6
		Target Core Length (ft)	5.1
		Penetration Length (ft)	6.1
		Core Recovery (ft)	5.9

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-03-T	gray very soft wet SILT soft moist
2		
3	3.0	2.6 medium stiff SILT w/ clay
4	BIMW-03-M	4.1 clayey SILT
5	5.1	
6	Discard 5.9	w/ f-sand lense @ 5.5 w/ trace f-sand below 5.5
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/10/18
Time	0854		
Station ID	BIMW-03	Latitude	33°36.447'
Longitude	117°54.567'		
Type of Core	Vibracore	Water Depth (ft)	14.3
Tide (ft)	2.4		
Mudline Elevation (ft MLLW)	-11.9	Target Core Length (ft)	5.1
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	6.1
Core Recovery (ft)	4.9		

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-03-T	gray very soft wet SILT
		0.9 – soft – moist
2		
3	3.0	2.9 – medium stiff – SILT w/ clay
	BIMW-03-M	
4		4.1 dk gry SILT w/ f-sand lenses @ 4.4 and 4.6 w/ trace f-sand from 4.6–4.9
5	4.9	
6		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Federal Channels | Date 1/10/18 | Time 0937

Station ID BIMW-04 | Latitude 33°36.433' | Longitude 117°54.471'

Type of Core Vibracore | Water Depth (ft) 13.9 | Tide (ft) 1.8

Mudline Elevation (ft MLLW) -12.1 | Target Core Length (ft) 6.9

Project Depth+Overdepth (ft MLLW) -17+2=-19 | Penetration Length (ft) 8.4 | Core Recovery (ft) 6.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-04-T	Gray very soft wet SILT w/ trace f-sand
1.3		soft moist
2		
2.7		medium stiff
3	3.0	
4	BIMW-04-M	~~clayey~~ SILT w/ trace f-sand
4.9		
5	BIMW-04-Z	sandy SILT ~~w/ trace f-sand~~
	Discard	
6		multi-colored (tan, white, olive, gray) dense damp f-m SAND (poorly sorted)
6.5		w/ occasional shell fragments
7		
8		Refusal
9		

____ No. Photos Taken | Recorded By: C. Osuch | Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channel	Date	1/10/18 Time 1002
Station ID	BIMW-04	Latitude	33°36.433' Longitude 117°54.471'
Type of Core	vibracore	Water Depth (ft)	13.6 Tide (ft) 1.5
Mudline Elevation (ft MLLW)	-12.1	Target Core Length (ft)	6.9
Project Depth+Overdepth (ft MLLW)	-17+2=-19	Penetration Length (ft)	8.1 Core Recovery (ft) 6.9

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-04-T	Gray very soft wet SILT w trace f-sand
2		soft moist
3		red stiff
4	BIMW-04-M	clayey SILT w/ trace f-sand
4.9 5	BIMW-04-B	5.5
6		Gray w/ red & white dense damp f-m SAND (poorly sorted) w/ occasional shell fragments
6.9 7		
8		
9		

__ No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/10/18
Station ID	BIMW-04	Time	1030
Type of Core	Vibracore	Latitude	33°36.433'
Mudline Elevation (ft MLLW)	-12.1	Longitude	117°54.471'
Project Depth+Overdepth (ft MLLW)	-17	Water Depth (ft)	13.3
		Tide (ft)	1.2
		Target Core Length (ft)	4.9
		Penetration Length (ft)	6.5
		Core Recovery (ft)	5.7

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIMW-04-T	Gray very soft wet SILT w/ trace f-sand
2		soft moist
3	3.0	med. dense stiff
4	BIMW-04-M	clayey SILT w/ trace f-sand
5	4.9	
	Discard	
	5.6	5.6 Gray w/ red + white dense damp f-m SAND (poorly sorted)
	5.7	
6		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Osuch

Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport Federal Channels	Date	1/10/18
Station ID	BIMW-04	Time	1054
Type of Core	Vibracore	Latitude	33°36.433'
Mudline Elevation (ft MLLW)	-12.1	Longitude	117°54.471'
Project Depth+Overdepth (ft MLLW)	-17	Water Depth (ft)	13.2
		Tide (ft)	1.1
		Target Core Length (ft)	4.9
		Penetration Length (ft)	6.4
		Core Recovery (ft)	5.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIMW-04-T	Gray very soft wet SILT w/ trace f-sand
0.9		soft moist
2.9		medium stiff
3.0		w/ sand lense at 3.3'
3.9	BIMW-04-M	clayey SILT w/ trace f-sand
4.9	Discard	w/ wood debris @ 4.5'
5.5		w/ dark gray f-SAND @ bottom

___ No. Photos Taken

Recorded By: C. Couch

Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport	Date: 1/11/18 Time: 1223
Station ID: BIS-01	Latitude: 33°36.398' Longitude: 117°54.568
Type of Core: Vibracore	Water Depth (ft): 12.2 Tide (ft): 0.4
Mudline Elevation (ft MLLW): -11.8	Target Core Length (ft): 5.7
Project Depth+Overdepth (ft MLLW): -17+0.5 = -17.5	Penetration Length (ft): 6.7 Core Recovery (ft): 6.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIS-01	Gray very soft wet SILT w/ occasional shells (clams)
2		0.7 soft moist slightly clayey SILT
3		3.1 medium stiff clayey SILT
4		w/ trace f-sand from 4.0-4.7
5	5.2 BIS-01-Z	4.7 dense damp f-SAND
6	5.7 Discard 6.0	
7		
8		Refusal
9		

3 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18 Time 1250
Station ID	B1S-01	Latitude	33°36.398' Longitude 117°54.568'
Type of Core	Vibracore	Water Depth (ft)	12.2 Tide (ft) 0.4
Mudline Elevation (ft MLLW)	-11.8	Target Core Length (ft)	5.2
Project Depth+Overdepth (ft MLLW)	-17	Penetration Length (ft)	6.2 Core Recovery (ft) 5.8

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	B1S-01	Gray very soft wet SILT w/ occasional biota (clams)
0.8		soft — moist — slightly clayey SILT
2		
2.9		medium stiff — clayey SILT
3		
4		w/ trace f-sand from 4.4 to 5.0
5.0		dense — damp — f-SAND
5	Discard	
5.8		
6		
7		Refusal
8		
9		

___ No. Photos Taken Recorded By: C. Osuch Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18
		Time	1329
Station ID	BIS-02	Latitude	33°36.385'
		Longitude	117°54.481'
Type of Core	vibracore	Water Depth (ft)	12.4
		Tide (ft)	0.5
Mudline Elevation (ft MLLW)	-11.9	Target Core Length (ft)	5.6
Project Depth+Overdepth (ft MLLW)	-17+0.5= -17.5	Penetration Length (ft)	7.1
		Core Recovery (ft)	6.9

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0–1		Gray very soft wet SILT w/ trace sand (clams)
		soft moist
1	BIS-02	
2		
2.5		medium stiff; clayey SILT
3		
3.5		medium stiff; clayey SILT
4		silty CLAY
5.1	BIS-02-Z	w/ trace f-sand from 5.3 to 6.9
5.6		
6	Discard	
6.9		
7		
8		
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: BIS-02
Type of Core: Vibracore
Mudline Elevation (ft MLLW): -11.9
Project Depth+Overdepth (ft MLLW): -17

Date: 1/11/18 Time: 1352
Latitude: 33°36.385' Longitude: 117°54.481'
Water Depth (ft): 12.6 Tide (ft): 0.7
Target Core Length (ft): 5.1
Penetration Length (ft): 6.6 Core Recovery (ft): 5.1

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIS-02	brwn very soft wet SILT 0.7 soft moist
2		
3		2.7 med IV stiff clayey SILT
4		silty CLAY
5	5.1	
6		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/11/18 Time 1451
Station ID	BIS-03	Latitude	33°36.376' Longitude 117°54.602'
Type of Core	vibracore	Water Depth (ft)	12.8 Tide (ft) 1.2
Mudline Elevation (ft MLLW)	-11.6	Target Core Length (ft)	5.9
Project Depth+Overdepth (ft MLLW)	-17 + 0.5 = -17.5	Penetration Length (ft)	7.4 Core Recovery (ft) 6.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
	BIS-03	Gray very soft wet SILT w/ trace f sand
0.9		soft moist
1.7		medium stiff
		clayey SILT w/ f sand lense @ 2.4
		silty CLAY
5.4	BIS-03-Z	
5.9	Discard	
6.6		

3 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport	Date: 1/11/18 Time: 1510
Station ID: BIS-03	Latitude: 33°36.376' Longitude: 117°54.602'
Type of Core: Vibracore	Water Depth (ft): 13.1 Tide (ft): 1.5
Mudline Elevation (ft MLLW): -11.6	Target Core Length (ft): 5 & 4
Project Depth+Overdepth (ft MLLW): -17	Penetration Length (ft): 6.9 Core Recovery (ft): 6.1

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIS-03	Gray very soft wet SILT w/ trace f-sand trace biota @ surface
		0.6 – soft – – – moist
2		2.7 medium stiff – – – clayey SILT w/ f-sand lense @ 2.9
3		w/ trace f-sand 2.9 – 4.0
4		silty CLAY
5	5.4 Discard	
6	6.1	
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport

Station ID BIS-04

Type of Core Vibracore

Mudline Elevation (ft MLLW) −11.8

Project Depth+Overdepth (ft MLLW) −17 + 0.5 = −17.5

Date 1/11/18 Time 1552

Latitude 33°36.357' Longitude 117°54.532'

Water Depth (ft) 13.8 Tide (ft) 2.0

Target Core Length (ft) 5.7

Penetration Length (ft) 7.2 Core Recovery (ft) 6.8

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
0	BIS-04	Gray very soft wet SILT
1		1.4 — soft moist
2		2.4 — medium stiff clayey SILT
3		
4		4.2 medium dense 4.4 medium stiff; 4.2 4.4 f-SAND clayey SILT to silty CLAY w/ trace f-sand from 5.2–6.8
5	5.2 BIS-04-Z 5.7	
6	Discard	
6.8		
7		
8		
9		

4 No. Photos Taken

Recorded By: C. Osuch

Attempt No. 1 of 2

Sediment Core Collection Form

ANCHOR QEA

Project: Lower Newport
Station ID: BIS-04
Type of Core: vibracore
Mudline Elevation (ft MLLW): −11.8
Project Depth+Overdepth (ft MLLW): −17

Date: 1/11/18 Time: 1620
Latitude: 33°36.357' Longitude: 117°54.532'
Water Depth (ft): 14.1 Tide (ft): 2.3
Target Core Length (ft): 5.2
Penetration Length (ft): 6.7 Core Recovery (ft): 5.4

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	BIS-04	Gray very soft wet SILT
1.2		soft moist
2		
2.6		medium stiff clayey SILT
3		
3.5 / 3.7		medium dense medium stiff +-SAND clayey SILT
4		
5		w/ trace f-sand 5.1 to 5.4
5.1		silty CLAY
5.4	DISCard	
6		
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Osuch

Attempt No. 2 of 2

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport	Date 1/17/18 Time 1540
Station ID EC-01	Latitude 33° 35. 737' Longitude -117° 52. 786'
Type of Core Vibracore	Water Depth (ft) 17.4 Tide (ft) -0.6
Mudline Elevation (ft MLLW) -18.0	Target Core Length (ft) 4.5
Project Depth+Overdepth (ft MLLW) ~~-22.5~~ -22.0	Penetration Length (ft) 3.0 Core Recovery (ft) 2.7

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-01 (chemistry)	dark gray → gray; med dense; moist; Slightly Silty fine SAND w/ occasional organics & Slight H_2S
2		1.6 dense; damp; fine SAND; moderate shells @ 2.0
3		End @ 2.7
4		
5		Refusal @ 3.0
6		
7		
8		
9		

1 No. Photos Taken Recorded By: C. Dolphin Attempt No. 1 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-01
Type of Core Vibracore
Mudline Elevation (ft MLLW) −18.0
Project Depth+Overdepth (ft MLLW) −22.5

Date 4/17/18 Time 1105
Latitude 33°35.737' Longitude −117°52.782'
Water Depth (ft) ~~18~~ 17.4 Tide (ft) −0.6
Target Core Length (ft) 4.5
Penetration Length (ft) 3.7 Core Recovery (ft) 3.3

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	0.8	dark gray → gray; med dense → dense; moist → damp; 0.3 slighty silty sand layer w/ organics; 0.8 fine sand w/ trace shell; slight H2S
2	EC-01	
3		end @ 3.3
4		~~end~~
5		
6		Refusal at 3.7
7		
8		
9		

1 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-01
Type of Core Vibracore
Mudline Elevation (ft MLLW) -18.0
Project Depth+Overdepth (ft MLLW) -22

Date 1/17/18 Time 1620
Latitude 33° 35. 737' Longitude -117° 52. 786'
Water Depth (ft) 17.4 Tide (ft) -0.6
Target Core Length (ft) 4.5
Penetration Length (ft) 4.3 Core Recovery (ft) 3.3

Depth In (ft.) Actual Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	0.9	dark gray 0.4 Loose wet ↓ slightly silty fine SAND w/organics Slight Hy S
2	EC-01	gray dense Moist fine SAND w/ trace shells
3		end @ 3.3
4		
5		Refusal @ 4.3
6		
7		
8		
9		

— No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 3 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -10.1
Project Depth+Overdepth (ft MLLW) -22.5

Date 1/17/18 Time 1430
Latitude 33° 35.638' Longitude -117° 52.752
Water Depth (ft) 10.0 Tide (ft) -0.1
Target Core Length (ft) 12.4
Penetration Length (ft) 1.0 Core Recovery (ft) 0.0

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		
2		
3		
4		Hit refusal, no recovery, sample washed out
5		
6		
7		
8		
9		

— No. Photos Taken Recorded By: C. Dolphin Attempt No. 1 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-02
Type of Core Vibracore
Mudline Elevation (ft MLLW) -10.1
Project Depth+Overdepth (ft MLLW) -22

Date 1/17/12 Time 1440
Latitude 33° 35.638' Longitude -117° 52.752'
Water Depth (ft) 9.9 Tide (ft) -0.2
Target Core Length (ft) 11.9
Penetration Length (ft) 2.0 Core Recovery (ft) 1.8

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-02 0.5	Brown ↓ gray; Very dense; damp; fine to med SAND; Slight H2S
2		end @ 1.8
3		
4		
5		
6		Hit refusal, low recovery @ 2.0
7		
8		
9		

1 No. Photos Taken Recorded By: C. Dolphin Attempt No. 2 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/17/12 Time 1450
Station ID	EC-02	Latitude	33° 35. 638' Longitude -117° 52. 752'
Type of Core	Ubrace ne	Water Depth (ft)	9.8 Tide (ft) -0.3
Mudline Elevation (ft MLLW)	-10.1	Target Core Length (ft)	12.4
Project Depth+Overdepth (ft MLLW)	-22.5	Penetration Length (ft)	2.0 Core Recovery (ft) 1.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-02 0.6	Brown gray very dense damp fine Sand w/trace shell Slight H2S 0.6
2		end @ 1.6
3		
4		Hit refusal
5		
6		
7		
8		
9		

___ No. Photos Taken Recorded By: C. Dolphin Attempt No. 3 of 4

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/7/12 Time 1510
Station ID	EC-02	Latitude	33°35.638' Longitude -117° 52.752'
Type of Core	Vibracore	Water Depth (ft)	10.6 Tide (ft) -0.5
Mudline Elevation (ft MLLW)	-10.1	Target Core Length (ft)	12.4
Project Depth+Overdepth (ft MLLW)	-22	Penetration Length (ft)	25 Core Recovery (ft) 2.2

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-02	Brown very dense clamp fine sand w/ trace shells
2		gray
3		
4		Ht refusal @ 2.5
5		
6		
7		
8		
9		

1 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 4 of 4

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-03
Type of Core Vibracore
Mudline Elevation (ft MLLW) ~~-14.4~~ -14.9
Project Depth+Overdepth (ft MLLW) ~~-22.5~~

Date 1/17/13 Time 1240
Latitude 33° 35.535' Longitude -117° 52.715'
Water Depth (ft) ~~16.5~~ 17.0 Tide (ft) 2.1
Target Core Length (ft) 7.6
Penetration Length (ft) 3.5 Core Recovery (ft) 2.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-03-T	Brown surface, gray — very dense — damp — fine SAND
2		2.0 slight H_2S
3		end @ 2.5
4		
5		
6		Hit refusal @ 3.5
7		Core tube bent
8		
9		

1 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-03
Type of Core Vibracore
Mudline Elevation (ft MLLW) -14.9
Project Depth+Overdepth (ft MLLW) -22

Date 1/17/18 Time 1315
Latitude 33° 35.5' 57.35" Longitude -117° 52.715'
Water Depth (ft) 15.9 Tide (ft) 1.0
Target Core Length (ft) 7.0
Penetration Length (ft) 2.5 Core Recovery (ft) 1.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-03	gray very dense damp fine SAND slight H_2S
2		end @ 1.6
3		
4		
5		
6		Hit refusal, rivets in catcher bent, bottom of core barred cracked @ 2.5
7		
8		
9		

___ No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of 3

Sediment Core Collection Form

ANCHOR QEA

Project	Lower Newport	Date	1/17/13 Time 1350
Station ID	EC-03	Latitude	33°35.535' Longitude -117° 52.715'
Type of Core	Vibracore	Water Depth (ft)	75.5 Tide (ft) 0.6
Mudline Elevation (ft MLLW)	-14.9	Target Core Length (ft)	7.6
Project Depth+Overdepth (ft MLLW)	-22.5	Penetration Length (ft)	2.5 Core Recovery (ft) 1.6

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-03 (Chemistry)	~~gray~~ brown surface, gray; very dense; damp; fine SAND; slight H2S
2		end @ 1.6
3		
4		
5		
6		hit refusal @ 2.5
7		No 2-layer collected due to refusal at all attempts, sediment type consistent through all attempts
8		
9		

— No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 3 of 3

1

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport Bay
Station ID EC-04
Type of Core Vibracore
Mudline Elevation (ft MLLW) -16.7e
Project Depth+Overdepth (ft MLLW) -22 +0.5 = -22.5

Date 1/17/18 Time 1050
Latitude 33° 35. 43[illegible] Longitude -117° 52. 6[illegible]
Water Depth (ft) ~~21.0~~ 21.4 Tide (ft) ~~5.6~~ 4.8
Target Core Length (ft) ~~5.0 8.5~~ (includes 2-layer)
Penetration Length (ft) NR Core Recovery (ft) Ca.1

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1		Gray Dense to very dense Damp fine SAND w/ trace shells 1.0
2	EC-04-0[illegible]	
3	2.9	light brown
	3.2	gray
4		
5		
	5.4	
	EC-04-2	
	5.9	
6		end @ Ca.1
7		hit refusal @
8		Bent core tube, increasing swell Penetration not recorded, swell and rough conditions, liner contact
9		

3 No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 1 of 3

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-04
Type of Core Vibracore
Mudline Elevation (ft MLLW) -16.6
Project Depth+Overdepth (ft MLLW) -22

Date 1/12/10 Time 1125
Latitude 33° 35.430' Longitude -117° 52.087'
Water Depth (ft) 20.4 Tide (ft) 3.9
Target Core Length (ft) 5.4
Penetration Length (ft) 3.0 Core Recovery (ft) 1.5

Depth In (ft.) Actual / Core Sections	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-04	Brown gray, very dense, Damp, fine SAND
2		end @ 1.5
3		
4		
5		
6		
7		hit refusal @ 3.0 Low recovery
8		
9		

__ No. Photos Taken

Recorded By: C. Dolphin

Attempt No. 2 of ~~23~~

Sediment Core Collection Form

ANCHOR QEA

Project Lower Newport
Station ID EC-04
Type of Core Vibracore
Mudline Elevation (ft MLLW) -16.6
Project Depth+Overdepth (ft MLLW) -22

Date 4/17/18 Time 1145
Latitude 33° 35.432' Longitude -117° 52.697'
Water Depth (ft) 19.9 Tide (ft) 3.3
Target Core Length (ft) 5.7
Penetration Length (ft) 3.0 Core Recovery (ft) 1.6

Depth In (ft.) Core Sections Actual	Sample Interval	Classification and Remarks (Color, Consistency, Moisture, Grain Size, Sheen, Odor)
1	EC-04 @1.6'	Brown ↓ gray ↓ Very dense ↓ damp ↓ fine SAND ↓ end @ 1.6
2		
3		
4		
5		Hit refusal @ 3.0
6		
7		
8		
9		

1 No. Photos Taken

Recorded By: O. Dolphin

Attempt No. 3 of 3

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: RGP 54 Beach **Project No:**

Sampling Crew: A. Gebe, C. Dolphin
Sample Date: 3/2/18 Sampling Method: grab
Sampling Vessel: n/a
Subcontractor(s): —
Weather: sunny
Dredge Area: —

Station ID: A-01 Water Depth: — Latitude: 33° 36.358'
Time: 1012 Tide Level: 6.1 Longitude: -117° 55.610'
Bioassay / Chemistry Depth MLLW: +12 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-02 Water Depth: — Latitude: 33° 36.358'
Time: 1110 Tide Level: 6.1 Longitude: -117° 55.622'
Bioassay / Chemistry Depth MLLW: +12 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-04 Water Depth: _____ Latitude: _____
Time: 1014 Tide Level: 6.1 Longitude: _____
Bioassay / Chemistry Depth MLLW: _____ Datum: NAD 83 / WGS 84
Grab Number: _____ Grab Recovery: _____ cm Sample Interval: _____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 photos
gravel	gray	slight	Petroleum	slight	trace shell fragments
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-03 Water Depth: _____ Latitude: _____
Time: 1013 Tide Level: 6.1 Longitude: _____
Bioassay / Chemistry Depth MLLW: _____ Datum: NAD 83 / WGS 84
Grab Number: _____ Grab Recovery: _____ cm Sample Interval: _____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 photos
gravel	gray	slight	Petroleum	slight	trace shell fragments
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: _____ Water Depth: _____ Latitude: _____
Time: _____ Tide Level: _____ Longitude: _____
Bioassay / Chemistry Depth MLLW: _____ Datum: NAD 83 / WGS 84
Grab Number: _____ Grab Recovery: _____ cm Sample Interval: _____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

6 # Photos Taken

Recorded by: C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: RG 54 Beach **Project No:**

Sampling Crew: A. Gale / C. Dolphin
Sample Date: 2/2/18 Sampling Method: grabs
Sampling Vessel: n/a
Subcontractor(s): — Weather: sunny
Dredge Area: —

Station ID: B-01 Water Depth: ____ Latitude: 33° 36.228'
Time: 1100 Tide Level: 5.8 Longitude: -117° 54.934'
Bioassay / Chemistry Depth MLLW: +12 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 Photo
gravel	gray	slight	Petroleum	slight	Trace shell fragments
sand C (M) F	black	moderate	other:	moderate	
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-02 Water Depth: — Latitude: 33° 36.224'
Time: 1100 Tide Level: 5.8 Longitude: -117° 54.935'
Bioassay / Chemistry Depth MLLW: +6 Datum: NAD 83 / WGS 84
Grab Number: ____ Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 Photo
gravel	gray	slight	Petroleum	slight	
sand C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-03 Water Depth: — Latitude: ____ 40 yd
Time: 1102 Tide Level: 5.7 Longitude: ____ from 16
Bioassay / Chemistry Depth MLLW: 0 Datum: NAD 83 / WGS 84
Grab Number: ____ Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 Photos
gravel	gray	slight	Petroleum	slight	
sand C (M F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-04 Water Depth: 5 ft Latitude: ____
Time: ____ Tide Level: 5.7 Longitude: ____
Bioassay / Chemistry Depth MLLW: -0 Datum: NAD 83 / WGS 84
Grab Number: ____ Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 Photos
gravel	gray	slight	Petroleum	slight	
sand C (M F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: ____ Water Depth: ____ Latitude: ____
Time: ____ Tide Level: ____ Longitude: ____
Bioassay / Chemistry Depth MLLW: ____ Datum: NAD 83 / WGS 84
Grab Number: ____ Grab Recovery: ____ cm Sample Interval: ____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

5 # Photos Taken

Recorded by: C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: RGP 54 Beach **Project No:**

Sampling Crew: A. Gale C. Dolphin
Sample Date: 2/2/18 Sampling Method: grab
Sampling Vessel: n/a
Subcontractor(s): — Weather: sunny
Dredge Area: —

Station ID: C-01	Water Depth: —	Latitude: 33° 36.054'			
Time: 1130	Tide Level: 5.3	Longitude: 117° 54.160'			
Bioassay / Chemistry	Depth MLLW: +12	Datum: NAD 83 / WGS 84			
Grab Number: 1	Grab Recovery: 15 cm	Sample Interval: 0-15 cm			
Sediment Type:	**Sediment Color:**	**Sediment Odor:**		**Sheen:**	**Comments:**
cobble	D.O.	(none)	H2S	(none)	1 photo
gravel	gray	slight	Petroleum	slight	
(sand) C (M) F	black	moderate	other:	moderate	
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-02	Water Depth: —	Latitude: 33° 36.049'			
Time: 1135	Tide Level: 5.3	Longitude: 117° 54.164'			
Bioassay / Chemistry	Depth MLLW: +10	Datum: NAD 83 / WGS 84			
Grab Number: 1	Grab Recovery: 15 cm	Sample Interval: 0-15 cm			
Sediment Type:	**Sediment Color:**	**Sediment Odor:**		**Sheen:**	**Comments:**
cobble	D.O.	(none)	(H2S)	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand (C) M F	black	moderate	other:	moderate	Shell fragments
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-03	Water Depth: 5 ft	Latitude: 33°			
Time: 1140	Tide Level: 5.2	Longitude: 117°			
Bioassay / Chemistry	Depth MLLW: 0	Datum: NAD 83 / WGS 84			
Grab Number: 1	Grab Recovery: 15 cm	Sample Interval: 0-15 cm			
Sediment Type:	**Sediment Color:**	**Sediment Odor:**		**Sheen:**	**Comments:**
cobble	D.O.	~~none~~	H2S	(none)	2 photos
gravel	gray	slight	Petroleum	slight	
sand (C) M F	black	moderate	other:	moderate	moderate shell
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-04	Water Depth: 11 ft	Latitude: 33°			
Time: 1145	Tide Level: 5.2	Longitude: 117°			
Bioassay / Chemistry	Depth MLLW: ~~+2~~ -6	Datum: NAD 83 / WGS 84			
Grab Number: 1	Grab Recovery: 15 cm	Sample Interval: 0-15 cm			
Sediment Type:	**Sediment Color:**	**Sediment Odor:**		**Sheen:**	**Comments:**
cobble	D.O.	(none)	H2S	(none)	2 photos
gravel	gray	slight	Petroleum	slight	
sand C (M F)	black	moderate	other:	moderate	
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: _____	Water Depth: _____	Latitude: _____			
Time: _____	Tide Level: _____	Longitude: _____			
Bioassay / Chemistry	Depth MLLW: _____	Datum: NAD 83 / WGS 84			
Grab Number: _____	Grab Recovery: _____ cm	Sample Interval: _____ cm			
Sediment Type:	**Sediment Color:**	**Sediment Odor:**		**Sheen:**	**Comments:**
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

Recorded by: C. Dolphin

6 # Photos Taken

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: RGP 54 Beach **Project No:**

Sampling Crew: A. Gale, C. Dolphin
Sample Date: 2/27/18 Sampling Method: grab
Sampling Vessel: n/a
Subcontractor(s): — Weather: sunny
Dredge Area: —

Station ID: D-01 Water Depth: — Latitude: 33° 35.839'
Time: 1210 Tide Level: 4.5 Longitude: 117° 53.516'
Bioassay / Chemistry Depth MLLW: +12 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-02 Water Depth: — Latitude: 33° 35.831'
Time: 1214 Tide Level: 4.5 Longitude: -117° 53.519'
Bioassay / Chemistry Depth MLLW: ~~+12~~ +6 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-03 Water Depth: 4.5 ft Latitude: —
Time: 1214 Tide Level: 4.5 Longitude:
Bioassay / Chemistry Depth MLLW: 0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 photos
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-04 Water Depth: 10 ft Latitude:
Time: 1220 Tide Level: 4.3 Longitude:
Bioassay / Chemistry Depth MLLW: -6 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 15 cm Sample Interval: 10-15 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	2 photos
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: Water Depth: Latitude:
Time: Tide Level: Longitude:
Bioassay / Chemistry Depth MLLW: Datum: NAD 83 / WGS 84
Grab Number: Grab Recovery: cm Sample Interval: cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

6 # Photos Taken

Recorded by: C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Dolphin C. Osuch
Sample Date: 3/7/18 Sampling Method: ponar grab
Sampling Vessel: AR boat
Subcontractor(s): Weather: overcast
Dredge Area:

Station ID: A-08 Water Depth: 32.6 Latitude: 33°36.179'
Time: 1006 Tide Level: 2.7 Longitude: 117°55.703'
Bioassay / Chemistry Depth MLLW: -29.9 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	(brown surface)	overwhelming			

Station ID: A-08 Water Depth: 32.6 Latitude: 33°36.179'
Time: 1009 Tide Level: 2.7 Longitude: 117°55.703'
Bioassay / Chemistry Depth MLLW: -29.9 Datum: NAD 83 / WGS 84
Grab Number: 4 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	(brown surface)	overwhelming			

Station ID: A-07 Water Depth: 26.9 Latitude: 33°36.201'
Time: 1017 Tide Level: 2.7 Longitude: 117°55.686'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	(brown surface)	overwhelming			

Station ID: A-07 Water Depth: 26.9 Latitude: 33°36.201'
Time: 1022 Tide Level: 2.7 Longitude: 117°55.686'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	1 pebble
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-07 Water Depth: 26.9 Latitude: 33°36.201'
Time: 1026 Tide Level: 2.7 Longitude: 117°55.686'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

___ # Photos Taken

Recorded by: Chris Osuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Dolphin, C. Osuch

Sample Date: 3/7/18 Sampling Method: ponar grab

Sampling Vessel: AQ boat

Subcontractor(s):

Weather: overcast

Dredge Area:

Station ID: A-07 Water Depth: 26.9 Latitude: 33°36.201'

Time: 1031 Tide Level: 2.9 Longitude: 117°55.686'

Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84

Grab Number: 3 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	**none**	H2S	**none**	
gravel	**gray**	slight	Petroleum	slight	
sand C M **F**	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-06 Water Depth: 20.9 Latitude: 33°36.232'

Time: 1035 Tide Level: 3.0 Longitude: 117°55.676'

Bioassay / Chemistry Depth MLLW: -17.9 Datum: NAD 83 / WGS 84

Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	**none**	H2S	**none**	1 photo
gravel	**gray**	slight	Petroleum	slight	
sand C M **F**	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-06 Water Depth: 20.9 Latitude: 33°36.232'

Time: 1039 Tide Level: 3.0 Longitude: 117°55.676'

Bioassay / Chemistry Depth MLLW: -17.9 Datum: NAD 83 / WGS 84

Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	**none**	H2S	**none**	
gravel	**gray**	slight	Petroleum	slight	
sand C M **F**	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-06 Water Depth: 20.9 Latitude: 33°36.232'

Time: 1042 Tide Level: 3.0 Longitude: 117°55.676'

Bioassay / Chemistry Depth MLLW: -17.9 Datum: NAD 83 / WGS 84

Grab Number: 3 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	**none**	H2S	**none**	
gravel	**gray**	slight	Petroleum	slight	
sand C M **F**	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: A-05 Water Depth: 15.1 Latitude: 33°36.250'

Time: 1050 Tide Level: 3.2 Longitude: 117°55.680

Bioassay / Chemistry Depth MLLW: -11.9 Datum: NAD 83 / WGS 84

Grab Number: 1 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	**none**	H2S	**none**	occasional shell hash
gravel	gray	slight	Petroleum	slight	1 photo
sand C **M F**	black	moderate	other:	moderate	
silt clay	**brown**	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

2 **# Photos Taken**

Recorded by: Chris Osuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Dolphin, C. Ojuch
Sample Date: 3/7/18 Sampling Method: pump / grab
Sampling Vessel: AQ boat
Subcontractor(s): Weather: overcast
Dredge Area:

Station ID: A-05 Water Depth: 15.1 Latitude: 33° 36. ~~332~~ 250' 680'
Time: 1059 Tide Level: 3.2 Longitude: 117° 55 ~~676~~ '
Bioassay / Chemistry Depth MLLW: -11.9 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	trace shell hash
gravel	(gray)	slight	Petroleum	slight	
(sand) C (M) F	black	moderate	other:	moderate	
silt clay	(brown)	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: ~~1120~~ B-05 Water Depth: 15.4 Latitude: 33° 36.172
Time: ~~3-7-1120~~ Tide Level: 3.4 Longitude: -117° 54.995
Bioassay / Chemistry Depth MLLW: -12 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 0-2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-05 Water Depth: 15.4 Latitude: 33° 36.172
Time: 1125 Tide Level: 3.4 Longitude: 117° 54.995
Bioassay / Chemistry Depth MLLW: -12 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-05 Water Depth: 15.4 Latitude: 33° 36.172'
Time: 1130 Tide Level: 3.4 Longitude: 117° 54.995'
Bioassay / Chemistry Depth MLLW: -12 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-05 Water Depth: 15.4 Latitude: 33° 36.172'
Time: 1140 Tide Level: 3.4 Longitude: 117° 54.995'
Bioassay / Chemistry Depth MLLW: -12 Datum: NAD 83 / WGS 84
Grab Number: 4 Grab Recovery: 2 cm Sample Interval: 0-2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

1 # Photos Taken

Recorded by: C. Dolphin, C. Ojuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Olsen / C. Dolphin
Sample Date: 3/7/18 Sampling Method: Ponar grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: overcast
Dredge Area:

Station ID: B-05 Water Depth: 15.4 Latitude: 33° 36.172'
Time: 1150 Tide Level: 3.4 Longitude: 117° 54.992'
Bioassay / Chemistry Depth MLLW: -12 Datum: NAD 83 / WGS 84
Grab Number: 5 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-06 Water Depth: 21.5 Latitude: 33° 36.157'
Time: 1200 Tide Level: 3.5 Longitude: 117° 54.994'
Bioassay / Chemistry Depth MLLW: -18 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	Trace shells
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-06 Water Depth: 21.5 Latitude: 33° 36.157'
Time: 1202 Tide Level: 3.5 Longitude: 117° 54.994'
Bioassay / Chemistry Depth MLLW: -18 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	occasional shells
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-06 Water Depth: 21.5 Latitude: 33° 36.157'
Time: 1205 Tide Level: 3.5 Longitude: 117° 54.994'
Bioassay / Chemistry Depth MLLW: -18 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-06 Water Depth: 21.5 Latitude: 33° 36.157'
Time: 1208 Tide Level: 3.5 Longitude: 117° 54.994'
Bioassay / Chemistry Depth MLLW: -18 Datum: NAD 83 / WGS 84
Grab Number: 4 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	Trace gravel
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

1 # Photos Taken

Recorded by: C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Osuch / C. Dolphin
Sample Date: 3/7/18 Sampling Method: Ponar grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: B-06 Water Depth: 21.5 Latitude: 33° 36.157'
Time: 1215 Tide Level: 3.5 Longitude: 117° 54.994'
Bioassay / Chemistry Depth MLLW: -18 Datum: NAD 83 / WGS 84
Grab Number: 5 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	Trace Shells
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-07 Water Depth: 27.5 Latitude: 33° 36.130'
Time: 1225 Tide Level: 3.5 Longitude: 117° ~~54.994~~ 55.004'
Bioassay / Chemistry Depth MLLW: -24 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-07 Water Depth: 27.5 Latitude: 33° ~~54~~ 36.130'
Time: 1229 Tide Level: 3.5 Longitude: 117° ~~54~~ 55.004'
Bioassay / Chemistry Depth MLLW: -24 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-08 Water Depth: 33.5 Latitude: 33° 36.113'
Time: 1240 Tide Level: 3.5 Longitude: 117° ~~56.012~~ 55.012'
Bioassay / Chemistry Depth MLLW: -30 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-08 Water Depth: 33.5 Latitude: 33° 36.113'
Time: 1242 Tide Level: 3.5 Longitude: 117° ~~56.012~~ 55.002'
Bioassay / Chemistry Depth MLLW: -30 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 5 cm Sample Interval: 5 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

2 # Photos Taken

Recorded by: C. Dolphin, C. Osuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Dolphin, C. Osuch
Sample Date: 3/7/18 Sampling Method: Ponar grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: B09 Water Depth: 39.4 Latitude: 33° 36.068'
Time: 1250 Tide Level: 3.4 Longitude: 117° 55.018'
Bioassay / Chemistry Depth MLLW: -36 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: B-09 Water Depth: 39.4 Latitude: 33° 36.068'
Time: 1254 Tide Level: 3.4 Longitude: 117° 55.018'
Bioassay / Chemistry Depth MLLW: -36 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-05 Water Depth: 15.4 Latitude: 33° 35.998'
Time: 1321 Tide Level: 3.4 Longitude: 117° 54.182'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-05 Water Depth: 15.4 Latitude: 33° 35.998'
Time: 1329 Tide Level: 3.4 Longitude: 117° 54.182'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-05 Water Depth: 15.4 Latitude: 33° 35.998'
Time: 1330 Tide Level: 3.4 Longitude: 117° 54.182'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

1 # Photos Taken

Recorded by: Chris Osuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Osuch / C. Dolphin
Sample Date: 3/7/18 Sampling Method: Ponar grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: C-06 Water Depth: 21.3 Latitude: 33° 35.974'
Time: 1335 Tide Level: 3.3 Longitude: 117° 54.190'
Bioassay / Chemistry Depth MLLW: -18.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	1 photo
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-06 Water Depth: 21.3 Latitude: 33° 35.974'
Time: 1339 Tide Level: 3.3 Longitude: 117° 54.190'
Bioassay / Chemistry Depth MLLW: -18.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-07 Water Depth: 27.1 Latitude: 33° ~~34~~.35.946'
Time: 1345 Tide Level: 3.1 Longitude: 117° 54. 205'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	Even w/ pier 1 photo
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-07 Water Depth: 27.1 Latitude: 33° 35.946'
Time: 1350 Tide Level: 3.1 Longitude: 117° 54. 205'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-07 Water Depth: 27.1 Latitude: 33° 35. 946'
Time: 1352 Tide Level: 3.1 Longitude: 117° 54. 205'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M (F)	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

23 # Photos Taken

Recorded by: C. Dolphin, C. Osuch

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Osuch, C. Dolphin
Sample Date: 3/7/18 Sampling Method: Ponar grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: C-08 Water Depth: 33.1 Latitude: 33° 35. 922'
Time: 1403 Tide Level: 3.1 Longitude: 117° 54. 215'
Bioassay / Chemistry Depth MLLW: -30.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	Trace shells
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	1 photo
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-08 Water Depth: 33.1 Latitude: 33° 35. 922'
Time: 1411 Tide Level: 3.1 Longitude: 117° 54. 215'
Bioassay / Chemistry Depth MLLW: -30 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-08 Water Depth: 33.1 Latitude: 33° 35. 922'
Time: 1413 Tide Level: 3.1 Longitude: 117° 54. 215'
Bioassay / Chemistry Depth MLLW: -30 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-09 Water Depth: 38.9 Latitude: 33° 35.8931'
Time: 1420 Tide Level: 2.9 Longitude: 117° 54.222'
Bioassay / Chemistry Depth MLLW: -36.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	1 photo
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: C-09 Water Depth: 38.9 Latitude: 33° 35.8931'
Time: 1425 Tide Level: 2.9 Longitude: 117° 54.222'
Bioassay / Chemistry Depth MLLW: -36.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

2 **# Photos Taken**

Recorded by: C. Osuch, C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Dolphin, C. OSuch
Sample Date: 3/7/18 Sampling Method: Rover Grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: C-04 Water Depth: ~~38~~ 38.9 Latitude: ~~33°~~ 33° 35.893'
Time: 1427 Tide Level: 2.9 Longitude: 117° 54.222'
Bioassay / Chemistry Depth MLLW: -36.0 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-05 Water Depth: 14.5 Latitude: 33° 35.775'
Time: 1450 Tide Level: 2.5 Longitude: 117° 53.546'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-05 Water Depth: 14.5 Latitude: 33° 35.775'
Time: 1453 Tide Level: 2.5 Longitude: 117° 53.546'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	occasional shell hash
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-05 Water Depth: 14.5 Latitude: 33° 35.775'
Time: 1455 Tide Level: 2.5 Longitude: 117° 53.546'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 3 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-05 Water Depth: 14.5 Latitude: 33° 35.775'
Time: 1457 Tide Level: 2.5 Longitude: 117° 53.546'
Bioassay / Chemistry Depth MLLW: -12.0 Datum: NAD 83 / WGS 84
Grab Number: 4 Grab Recovery: 1 cm Sample Interval: 1 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

1 # Photos Taken

Recorded by: C. OSuch, C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Osuch / C. Dolphin
Sample Date: 3/7/18 Sampling Method: Ponar Grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: D-06 Water Depth: 20.4 Latitude: 33° 35. 748'
Time: 1505 Tide Level: 2.4 Longitude: 117° 53. 550'
Bioassay / Chemistry Depth MLLW: -18.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: _____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	Trace Tidha shells
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-06 Water Depth: 20.4 Latitude: 33° 35.748'
Time: 1508 Tide Level: 2.4 Longitude: 117° 53.550'
Bioassay / Chemistry Depth MLLW: -18.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 4 cm Sample Interval: _____ cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-07 Water Depth: 26.3 Latitude: 33° 35. 737'
Time: 1515 Tide Level: 2.3 Longitude: 117° 53.559'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 3 cm Sample Interval: 3 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	1 photo
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-07 Water Depth: 26.3 Latitude: 33° 35.737'
Time: 1518 Tide Level: 2.3 Longitude: 117° 53.559'
Bioassay / Chemistry Depth MLLW: -24.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 5 cm Sample Interval: 5 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-08 Water Depth: 32.2 Latitude: 33° 35. 700'
Time: 1525 Tide Level: 2.2 Longitude: 117° 53. 563'
Bioassay / Chemistry Depth MLLW: -30.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	1 photo
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

3 **# Photos Taken**

Recorded by: C. Osuch, C. Dolphin

Surface Sediment Field Sample Record

ANCHOR QEA

Project Name: **Project No:**

Sampling Crew: C. Olson, C. Dolphin
Sample Date: 3/7/18 Sampling Method: Power grab
Sampling Vessel: AQ Boat
Subcontractor(s): Weather: Overcast
Dredge Area:

Station ID: D-08 Water Depth: 32.2 Latitude: 33° 35.700'
Time: 1530 Tide Level: 2.2 Longitude: 117° 53.563'
Bioassay / Chemistry Depth MLLW: -30.0 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 5 cm Sample Interval: 5 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-09 Water Depth: 38.1 Latitude: 33° 35.6064'
Time: 1540 Tide Level: 2.1 Longitude: 117° 53.569'
Bioassay / Chemistry Depth MLLW: -36.0 Datum: NAD 83 / WGS 84
Grab Number: 1 Grab Recovery: 2 cm Sample Interval: 2 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	1 photo
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: D-09 Water Depth: 38.1 Latitude: 33° 35.6064'
Time: 1542 Tide Level: 2.1 Longitude: 117° 53.569'
Bioassay / Chemistry Depth MLLW: -36.2 Datum: NAD 83 / WGS 84
Grab Number: 2 Grab Recovery: 4 cm Sample Interval: 4 cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	(none)	H2S	(none)	
gravel	(gray)	slight	Petroleum	slight	
(sand) C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: Water Depth: Latitude:
Time: Tide Level: Longitude:
Bioassay / Chemistry Depth MLLW: Datum: NAD 83 / WGS 84
Grab Number: Grab Recovery: cm Sample Interval: cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Station ID: Water Depth: Latitude:
Time: Tide Level: Longitude:
Bioassay / Chemistry Depth MLLW: Datum: NAD 83 / WGS 84
Grab Number: Grab Recovery: cm Sample Interval: cm

Sediment Type:	Sediment Color:	Sediment Odor:		Sheen:	Comments:
cobble	D.O.	none	H2S	none	
gravel	gray	slight	Petroleum	slight	
sand C M F	black	moderate	other:	moderate	
silt clay	brown	strong		heavy	
organic matter	brown surface	overwhelming			

Notes:

1 **# Photos Taken**

Recorded by: C. Olson

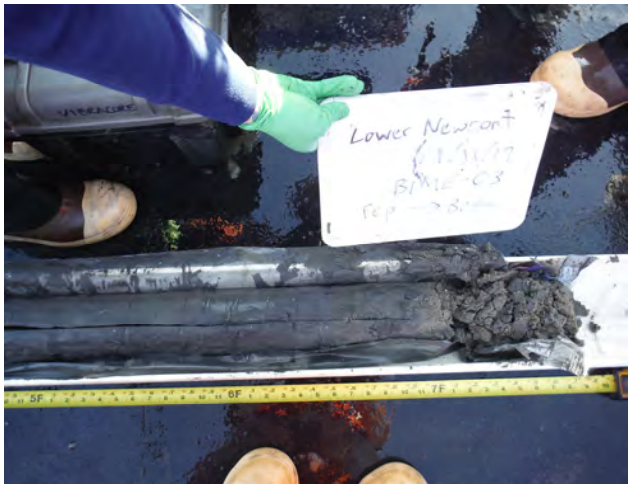
Field Photographs


Lower Newport
1/11/17
BIME-03
Top → Bott


Lower Newport
1/11/18
BIME-04
Top → Bott


Lower Newport
1/11/18
BIME-04
Top → Bott


Lower Newport
1/11/17
BIME-03
Top → Bott


Lower Newport
1/11/17
BIME-03


Lower Newport
1/11/18
BIME-04
Top → Bott

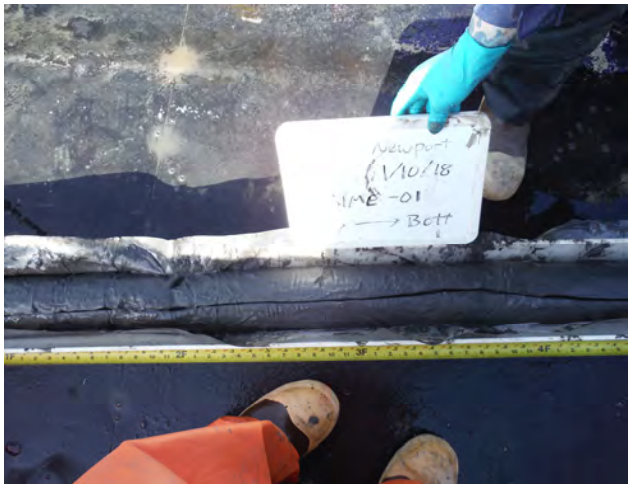

Lower Newport
1/10/18
BIME-02
Top → Bott


Lower Newport
1/11/17
BIME-03
Top → Bott


Lower Newport
1/11/18
BIME-04
Top → Bott


Newport
V10/18
BIME -01
Top → Bott

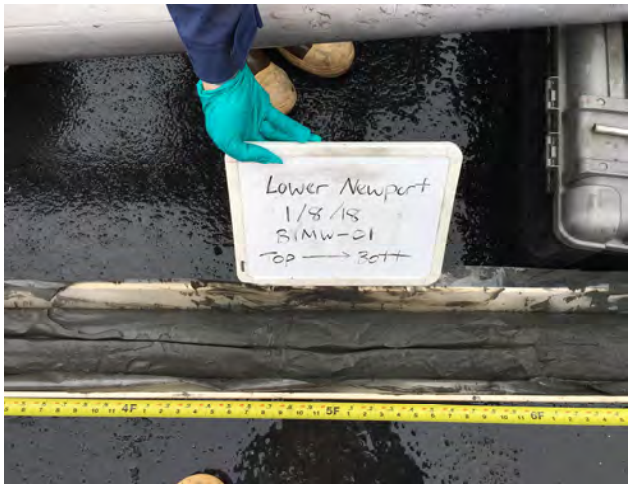

Lower Newport
V10/18
BIME -02
Top → Bott


Newport
V10/18
BIME -01
Top → Bott

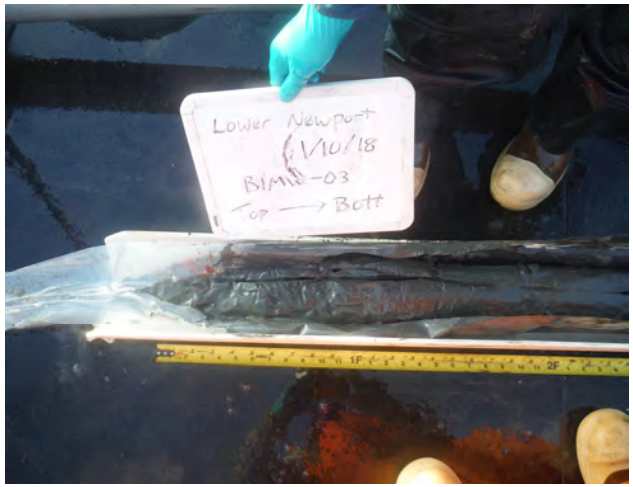

Lower Newport
V10/18
BIME -02
Top → Bott


Newport
V10/18
BIME -01
Top → Bott


Lower Newport
V10/18
BIME -02
Top → Bott


Lower Newport
1/8/18
BIMW-01
Top → Bott

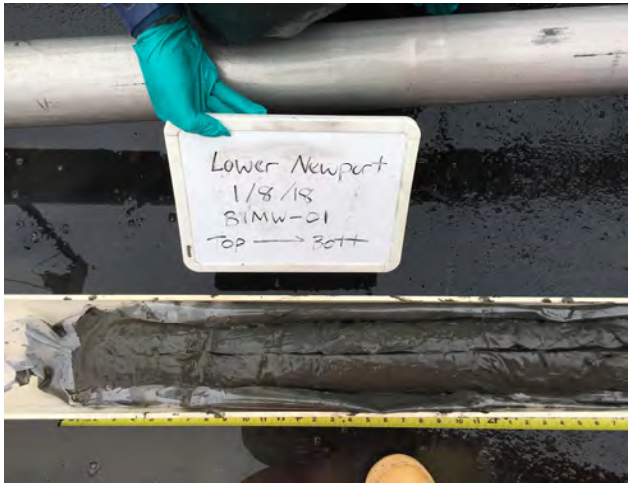

Lower Newport
1/7/18
BIMW-02
Top → Bott


Lower Newport
1/10/18
BIMW-03
Top → Bott


Lower Newport
1/8/18
BIMW-01
Top → Bott


Lower Newport
1/7/18
BIMW-02
Top → Bott


Lower Newport
1/7/18
BIMW-02
Top → Bott


Lower Newport
1/8/18
BIMW-01
Top → Bott

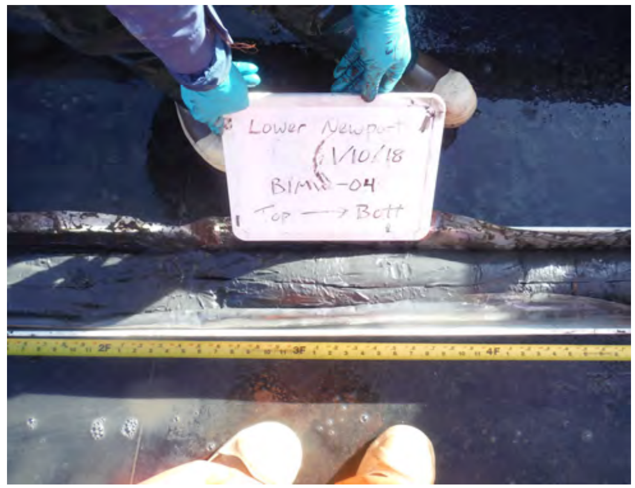

Lower Newport
1/8/18
BIMW-01
Top → Bott


Lower Newport
1/7/18
BIMW-02
Top → Bott


Lower Newport
1/10/18
BIM -03
Top → Bott


Lower Newport
1/10/18
BIM -04
Top → Bott


Lower Newport
1/10/18
BIM -03
Top → Bott


Lower Newport
1/10/18
BIM -04
Top → Bott


Lower Newport
1/10/18
BIM -03
Top → Bott


Lower Newport
1/10/18
BIM -04
Top → Bott


Lower Newport
1/10/18
BIM -04
Top → Bott


Lower Newport
BIN-05
1/16/18
Top → Bott


Lower Newport
BIN-06
1/17/18
Top → Bottom


Lower Newport
BIN-01
1/16/18
Top → Bott


Lower Newport
BIN-05
1/16/18
Top → Bott

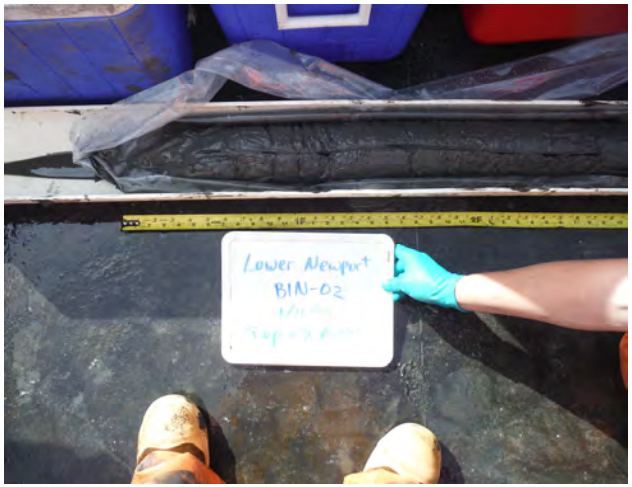

Lower Newport
BIN-06
1/17/18
Top → Bottom


Lower Newport
BIN-01
1/16/18
Top → Bott


Lower Newport
BIN-05
1/16/18
Top → Bott


Lower Newport
BIN-06
1/17/18
Top → Bottom

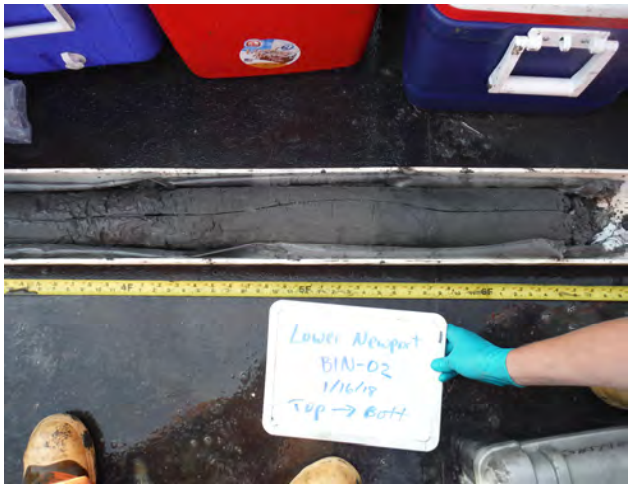

Lower Newport
BIN-06
1/17/18
Top → Bottom


Lower Newport
BIN-02


Lower Newport
BIN-03
1/16/18
Top → Bott

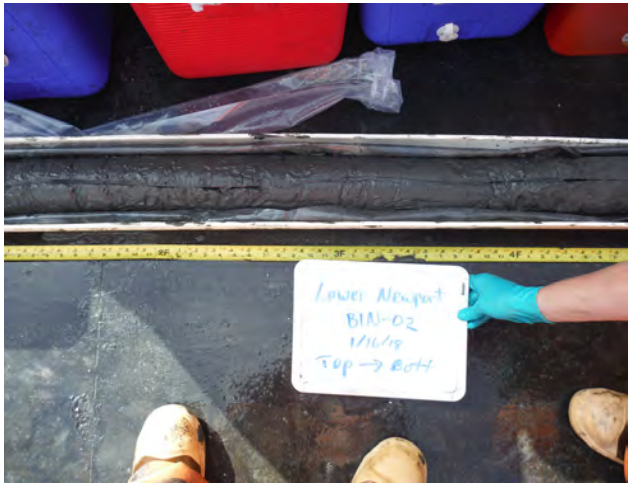

Lower Newport
BIN-03
1/16/18
Top → Bott


Lower Newport
BIN-01
1/16/18
Top → Bott


Lower Newport
BIN-02
1/16/18
Top → Bott


Lower Newport
BIN-03
1/16/18
Top → Bott

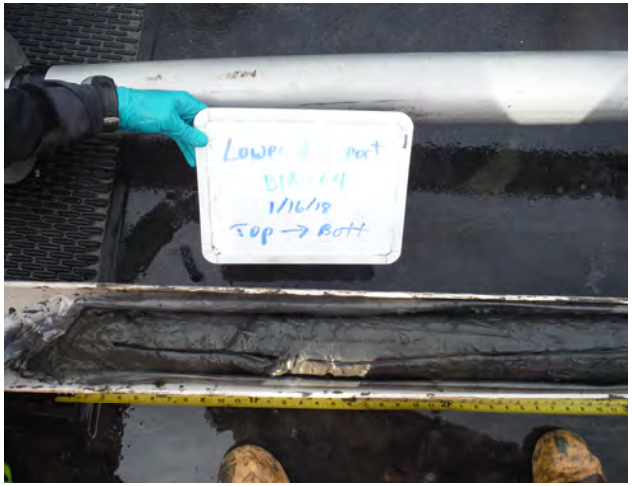

Lower Newport
BIN-01
1/16/18
Top → Bott


Lower Newport
BIN-02
1/16/18
Top → Bott


Lower Newport
BIN-03
1/16/18
Top → Bott


Lower Newport
BIN-04
1/16/18
Top → Bott


Lower Newport
BIN-05
1/16/18
Top → Bott


1/16/18
Top → Bott


Lower Newport
BIN-04
1/16/18
Top → Bott


/18
BIS-03
Bott


Lower Newport
1/11/18
BIS-04
Top → Bott


Lower Newport
1/11/18
BIS-04
Top → Bott


Lower Newport
1/11/18
BIS-02
Top → Bott


Lower Newport
1/11/18
BIS-03
Top → Bott


Lower Newport
1/11/18
BIS-04
Top → Bott

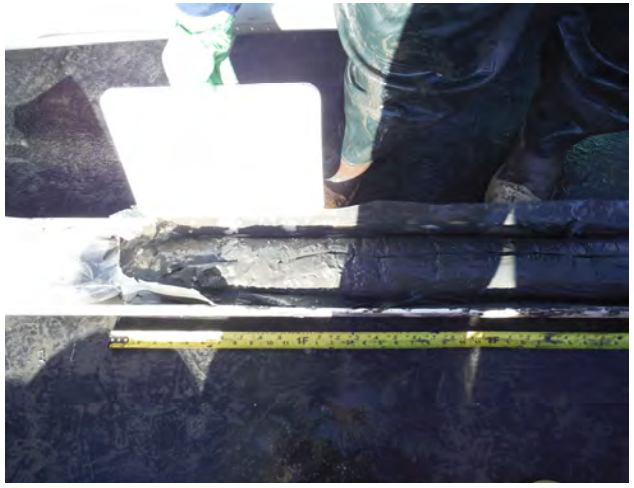

Lower Newport
1/11/18
BIS-02
Top → Bott


1/11/18
BIS-03
P → Bott

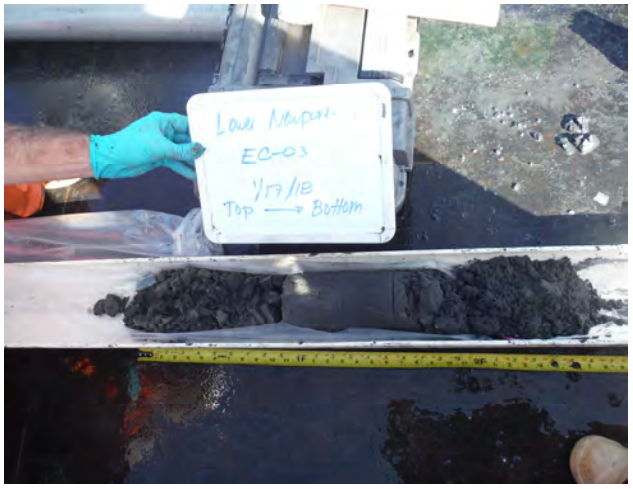

Lower Newport
1/11/18
BIS-04
Top → Bott


Lower Newport
5/11/18
Top → Bott


Lower Newport
5/11/18
Top → Bott




Lower Newport
EC-04
1/17/18
Top → Bottom


Lower Newport
EC-03
1/17/18
Top → Bottom


Lower Newport
EC-04
1/17/18
Top → Bottom


Lower Newport
EC-02
1/17/18
→ Bottom


Lower Newport
EC-01
1/17/18


Lower Newport
MCN2-02
1/15/18
-Top → Bott


Lower Newport
MCN2-03
1/15/18
-Top → Bott

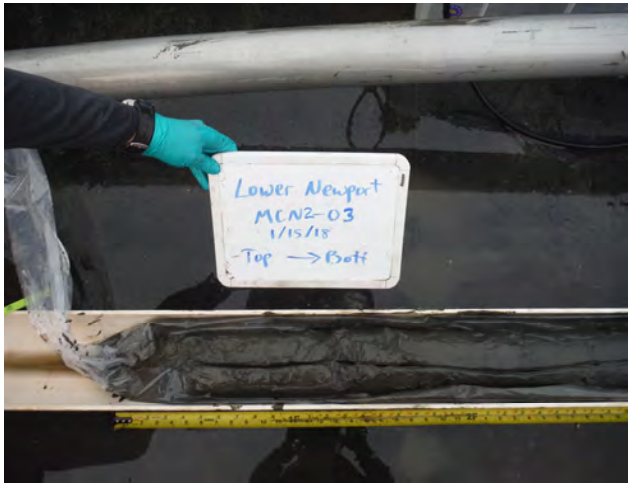

Lower Newport
MCN2-04
1/16/18
Top → Bott


Lower Newport
MCN2-02
1/15/18
-Top → Bott


Lower Newport
MCN2-03
1/15/18
-Top → Bott


Lower Newport
MCN2-04
1/16/18
Top → Bott


Lower Newport
MCN2-02
1/15/18
-Top → Bott


Lower Newport
MCN2-03
1/15/18
-Top → Bott

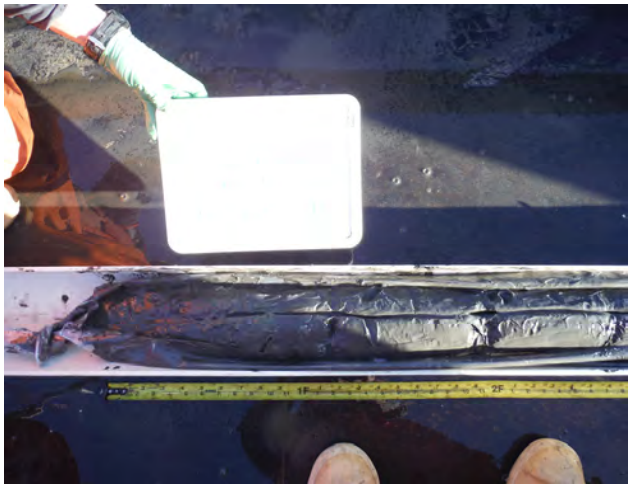

Lower Newport
MCN2-03
1/15/18
-Top → Bott


Lower Newport Bay
1/19/18 13:15
MCN3-01 Att 1
Top → Bottom


Lower Newport
MCN1-01


Lower Newport
MCN1-02
1/15/18
Top → Bott


Lower Newport
MCN2-04
1/16/18
Top → Bott




Lower Newport
MCN1-01
1/15/18
Top → Bott


Lower Newport
MCN2-04
1/16/18
Top → Bott


Lower Newport Bay
1/19/18 13:15
MCN3-01 Att 1
Top → Bottom


Lower Newport
MCN1-01
1/15/18
Top → Bott


Lower Newport
MCNI-03
1/15/18
Top → Bott


Lower Newport
MCNI-04
1/15/18
Top → Bott


Lower Newport
MCNI-04
1/15/18
Top → Bott


Lower Newport
MCNI-02
1/15/18
Top → Bott


Lower Newport
MCNI-03
1/15/18
Top → Bott


Lower Newport
MCNI-04
1/15/18
Top → Bott

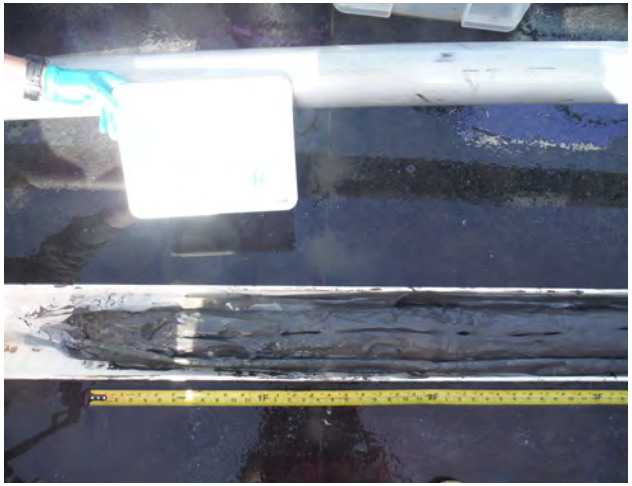

Lower Newport
MCNI-02
1/15/18
Top → Bott

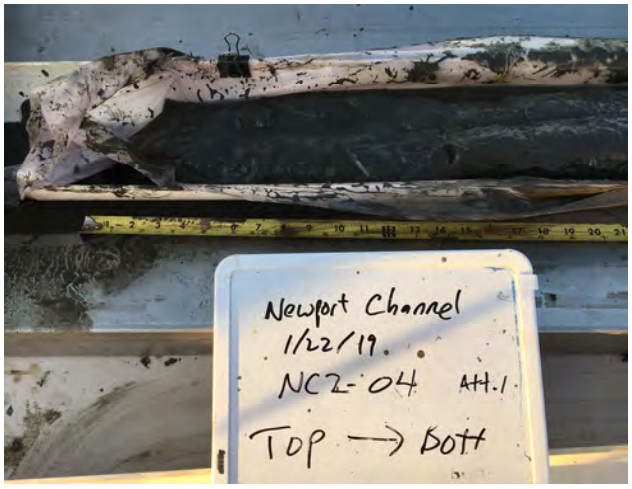

Lower Newport
MCNI-03
1/15/18
Top → Bott


Lower Newport
MCNI-04
1/15/18
Top → Bott

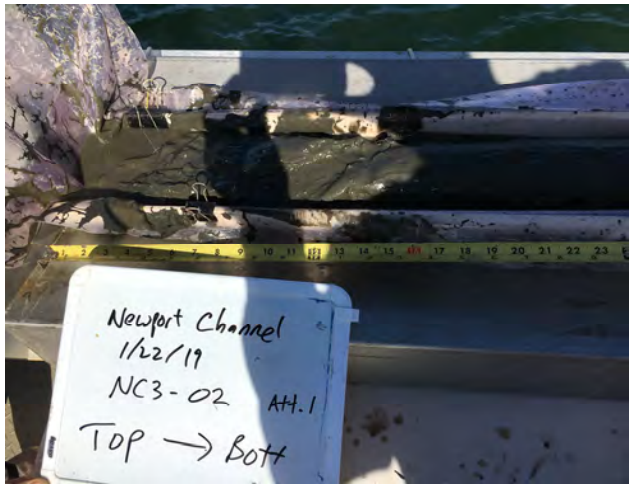

Lower Newport
MCN2-01
1/15/18
Top -> Bott


Top -> Bott



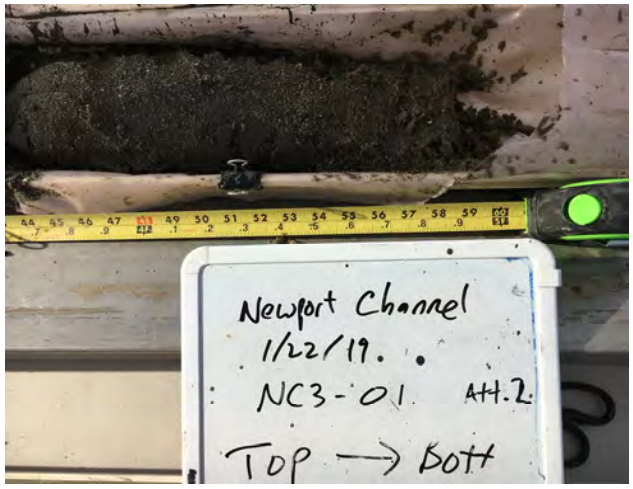

Newport Channel
1/22/19.
NC2-04 ATH.1
TOP → BOTT


Newport Channel
1/22/19.
NC3-01 ATH.2
TOP → BOTT


Newport Channel
1/22/19
NC3-02 ATH.1
TOP → BOTT

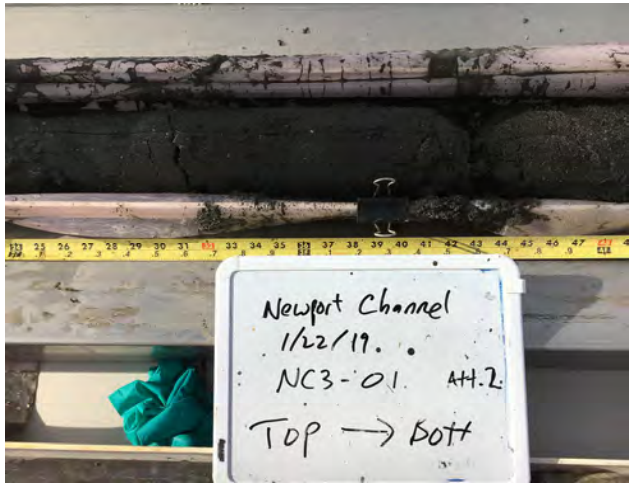

Newport Channel
1/24/19
13:10
NC2-03 #3
Top → Bottom


Newport Channel
1/22/19.
NC2-04 ATH.1
TOP → BOTT


Newport Channel
1/22/19.
NC3-01 ATH.2
TOP → BOTT


Newport Channel
1/24/19
13:10
NC2-03 #3
Top → Bottom


Newport Channel
1/22/19.
NC2-04 ATH.1
TOP → BOTT


Newport Channel
1/22/19.
NC3-01 ATH.2
TOP → BOTT

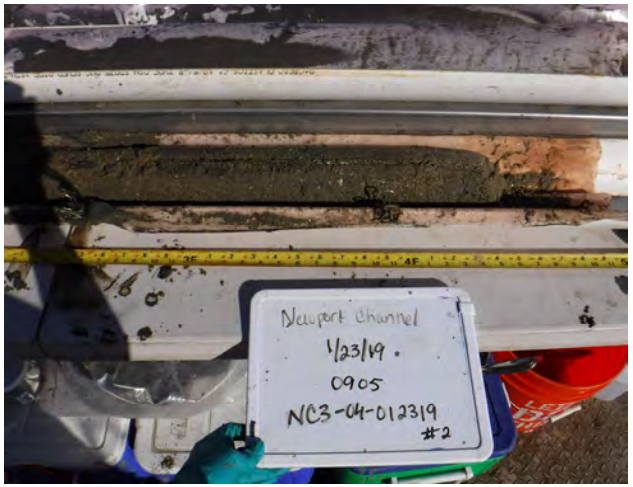

Newport Channel
1/22/19 0947
NC3-03 Att.2
Top → Bott

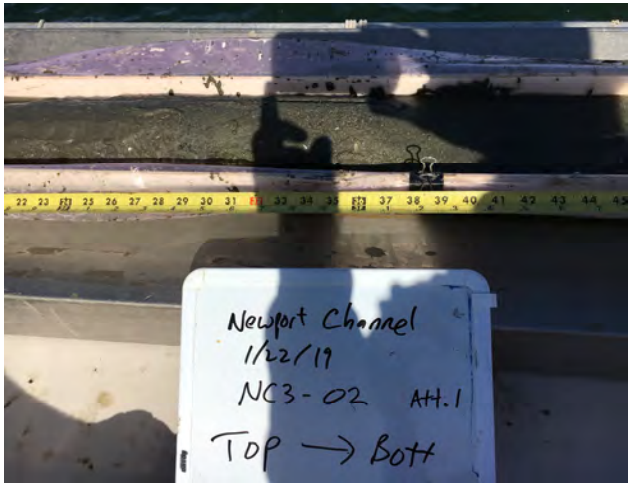

Newport Channel
1/23/19
0905
NC3-04-012319
#2


Newport Channel
1/23/19
1220
NC1-01-012319
#1


Newport Channel
1/22/19
NC3-02 Att.1
Top → Bott


Newport Channel
1/22/19 0947
NC3-03 Att.2
Top → Bott


Newport Channel
1/23/19
0905
NC3-04-012319
#2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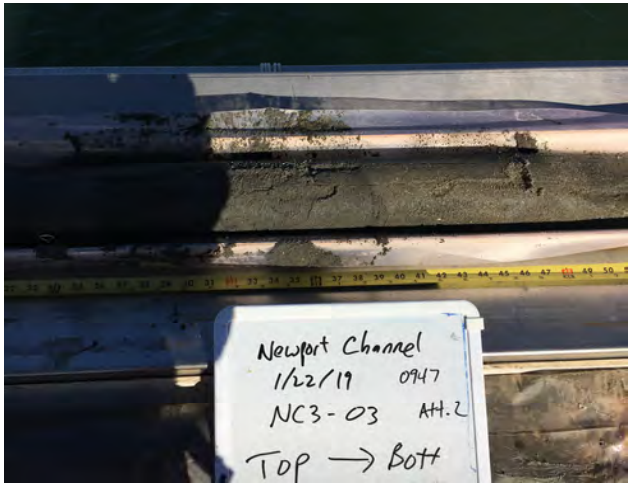
NC3-02 Att.1
Top → Bott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NC3-03 Att.2
Top → Bott


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1/23/19
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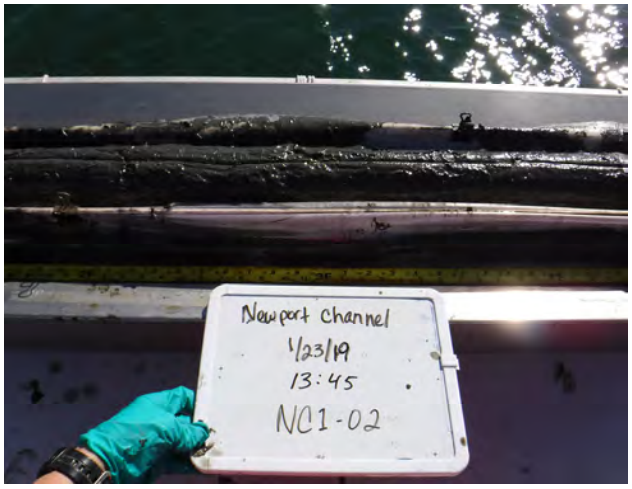
#2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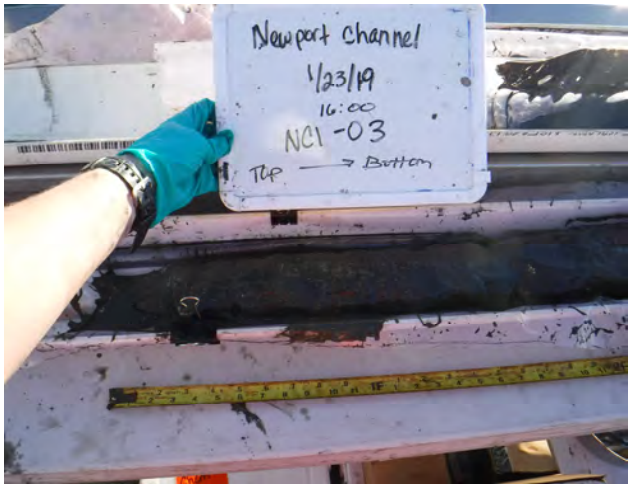
13:45
NC1-02


Newport Channel
1/23/19
16:00
NC1-03
Top → Bottom


Newport Channel
1/24/19
08:10
NC2-01
Top → Bottom


Newport Channel
1/23/19
13:45
NC1-02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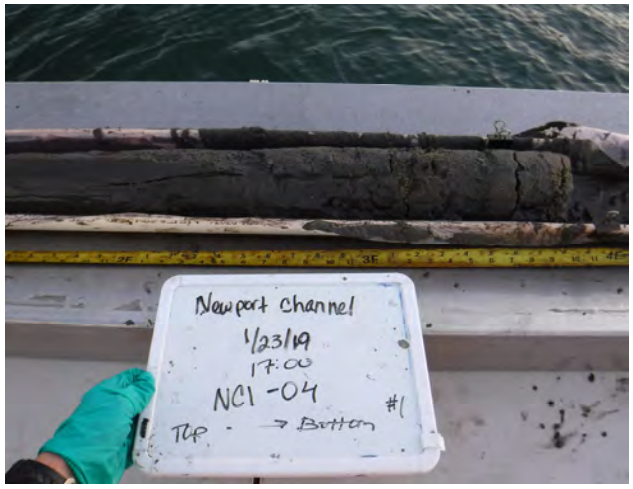
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#1
Top → Bottom


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1/23/19
1220
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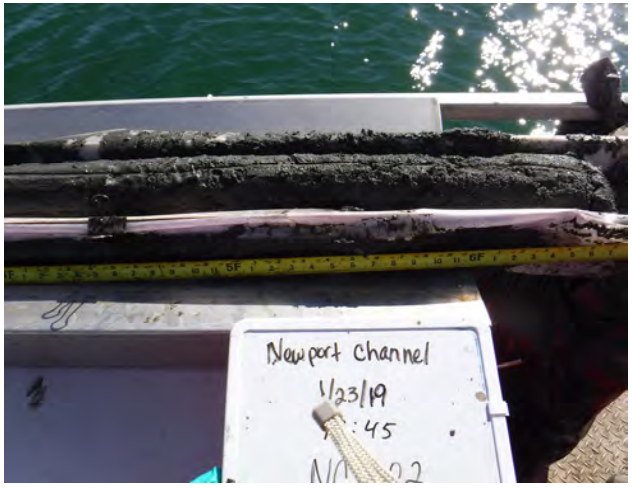
#1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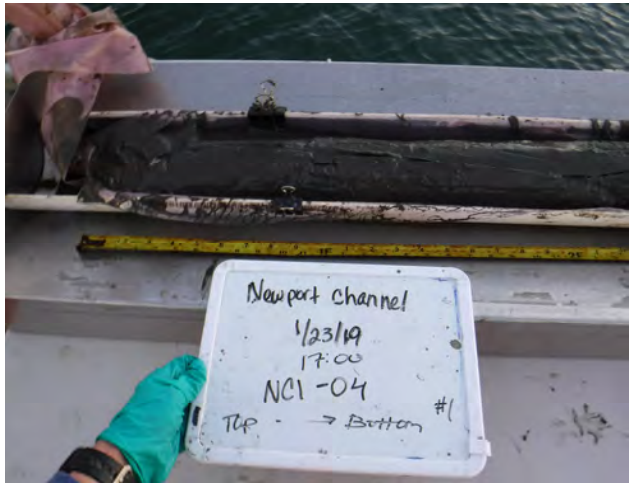
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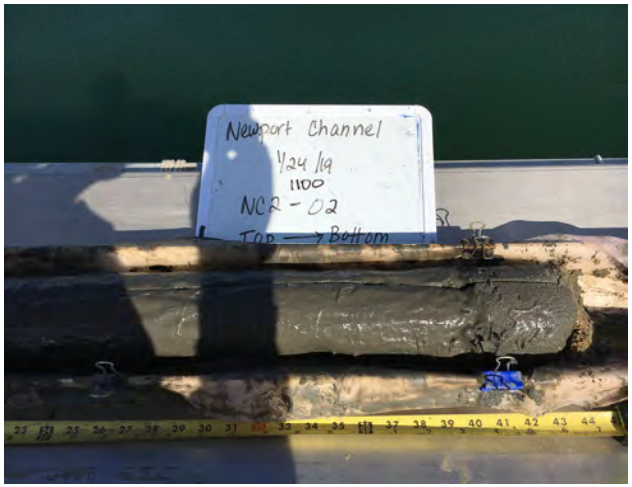
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Newport Channel
1/24/19
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Top → Bottom


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1/24/19
08:10
NC2 - 01
Top → Bottom


Newport Channel
1/24/19
1310
NC2 - 03 #3
Top → Bottom


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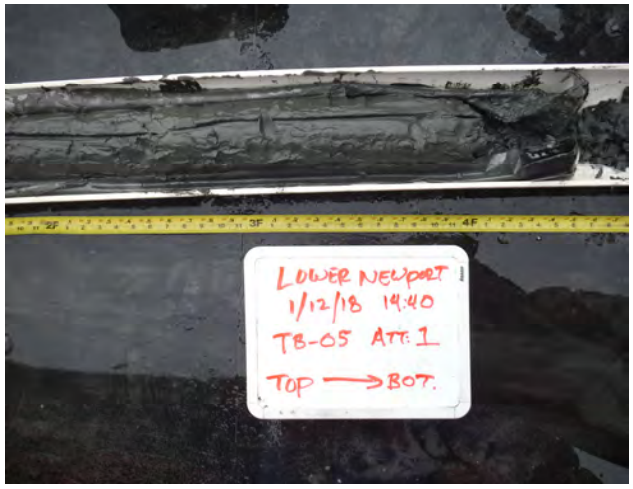
TB-03 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 11:00
TB-04 ATT: 1
TOP → BOT.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1/12/18 12:10
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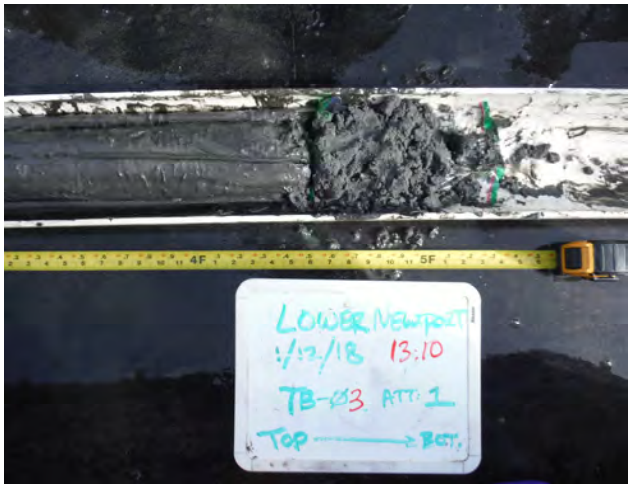
TOP → BOT.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TOP → BOT.


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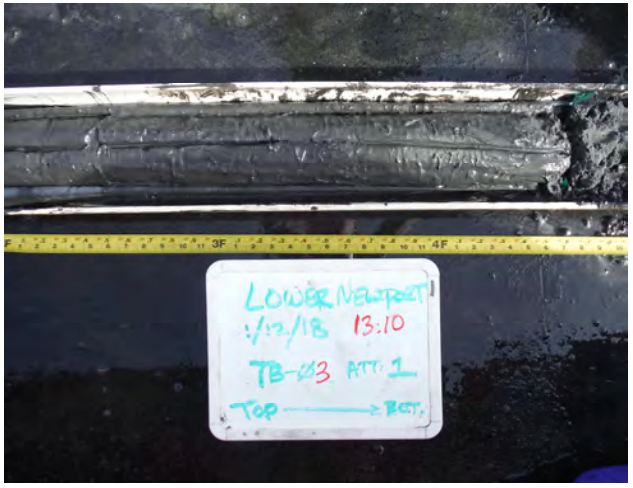
TOP → BOT.


LOWER NEWPORT
1/12/18 13:10
TB-03 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 11:00
TB-04 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 08:45
TB-01 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 09:50
TB-06 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 12:10
TB-02 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 09:50
TB-06 ATT: 1
TOP → BOT.


LOWER NEWPORT
1/12/18 08:45
TB-01 ATT: 1
TOP → BOT.

Appendix B
USEPA Communication

From: Smith, Lawrence J Jr CIV USARMY CESPL (US) <Lawrence.J.Smith@usace.army.mil>
Sent: Friday, January 19, 2018 10:10 AM
To: Scianni, Melissa; Adam Gale; Larry.Simon@coastal.ca.gov; Ota, Allan; Jason.Freshwater@Waterboards.ca.gov; Steve Cappellino; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US); Ryan, Joseph A CIV CESPL CESPD (US); Fields, James A CIV USARMY CESPL (US); jzhu@waterboards.ca.gov
Cc: Chris Osuch; Steve Cappellino; Miller, Chris
Subject: RE: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

I agree with EPA's recommendation on Bay Island West. I don't see as much reason for concern with Bay Island East. Looking at the data, the difference between upper and lower is restricted to 4,4'-DDD. I don't think there would be a difference in toxicity, however, I also would not object to splitting these cores as a precautionary measure for purposes of bioassay testing. I'll leave that up to the city.

Larry Smith
Ecologist
Planning Division/Environmental Resources Branch/Environmental Policy Group Los Angeles District, U.S. Army Corps of Engineers lawrence.j.smith@usace.army.mil

Office: 213-452-3846
Government Mobile: 213-453-3205

-----Original Message-----
From: Scianni, Melissa [mailto:Scianni.Melissa@epa.gov]
Sent: Friday, January 19, 2018 9:47 AM
To: Adam Gale <agale@anchorqea.com>; Larry.Simon@coastal.ca.gov; Ota, Allan <Ota.Allan@epa.gov>; Jason.Freshwater@Waterboards.ca.gov; Smith, Lawrence J Jr CIV USARMY CESPL (US) <Lawrence.J.Smith@usace.army.mil>; Steve Cappellino <scappellino@anchorqea.com>; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US) <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US) <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US) <James.A.Fields@usace.army.mil>; jzhu@waterboards.ca.gov
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: [EXTERNAL] RE: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

Hi Adam,

Allan and I spoke and we are ok with combing the vertical composites for Bay Island West. We recommend testing the vertical composites for Bay Island East separately due the difference in total DDX between the two areas. If you decide to combine the vertical composites for Bay Island East, please be aware that a failure in any one bioassay will result in a not suitable determination for the entire area. We will not be able to go back and make a determination for the top layer separate from the bottom layer. Also, we request individual core chemistry for the DDX's from all four of these

composites. If there are other composites with total DDX above 100 ppb please also run the individual cores for those composites. Please give either Allan or myself a call if you have any questions.

Thanks,

Melissa

_____

Melissa Scianni

Wetlands Office

US EPA, Region IX, Southern CA Field Office

600 Wilshire Blvd, Suite 1460

Los Angeles, CA 90017

(213) 244-1817

scianni.melissa@epa.gov

From: Adam Gale [mailto:agale@anchorqea.com]
Sent: Wednesday, January 17, 2018 7:53 PM
To: Larry.Simon@coastal.ca.gov; Ota, Allan <Ota.Allan@epa.gov>; Jason.Freshwater@Waterboards.ca.gov; lawrence.j.smith@usace.army.mil; Steve Cappellino <scappellino@anchorqea.com>; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>; Scianni, Melissa <Scianni.Melissa@epa.gov>; jzhu@waterboards.ca.gov
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

DMMT - The City of Newport Beach Lower Newport Bay Federal Channel SAP was presented to the DMMT for review in December 2017. Based on comments received from the EPA, the SAP was updated to prepare vertical interval composites for the Bay Island East and West dredge areas. The upper composite consisted of sediment from the mudline to 3 feet below the mudline, and the lower composite consisted of sediment from 3 feet below the mudline to the design depth plus overdepth. As agreed previously during review of the SAP, the upper and lower composites may be combined for biological testing if results from physical and chemical analyses indicated the sediments were similar.

Sampling commenced on January 8th and is still underway. Bay Island East and West DUs were sampled first and the four composites (upper and lower from each DU) were submitted for lab analysis as specified in the SAP. Preliminary physical and chemical results for each of the four composites are presented in the table attached. In general, the physical and chemical results from the upper and lower composites for each DU were similar. Key findings are summarized below:

* Bay Island East

o TOC ranged from 1.4 and 1.7%; and total solids ranged from 49.2 and 53.7%

o Grain size was predominantly fine-grained and ranged from 87.7 to 98.2%

o All metals were below ERM values. Mercury ranged from 0.142 to 0.690 mg/kg

o Only dibutyltin was detected in the upper composite with results estimated at 3.1 ug/kg

o Several individual PAH compounds were detected; but Total PAHs were below the ERL value.

o Total DDX compounds were detected above the ERM at concentrations ranging from 125.2 to 207.6 ug/kg (about 2.5 to 4.5 x the ERM - but relatively consistent between upper and lower composites)

o Total PCB congeners ranged from 22.97 to 40.4 ug/kg.

* Bay Island West

o TOC ranged from 1.2 and 1.5%; and total solids ranged from 48.9 and 52.9%

o Grain size was predominantly fine-grained and ranged from 85.7 to 90.1%

o All metals were below ERM values. Mercury ranged from 0.153 to 0.658 mg/kg

o Only dibutyltin was detected with results ranging from 6.7 to 8.1 ug/kg

o Several individual PAH compounds were detected; but Total PAHs were below the ERL value.

o Total DDX compounds were detected above the ERM at concentrations ranging from 159.7 to 165.1 ug/kg (about 3.5 x the ERM - but consistent between upper and lower composites)

o Total PCB congeners ranged from 24 to 41 ug/kg.

We are requesting that the upper and lower composites be combined for both the Bay Island East and West dredge areas. We have scheduled the bioaccumulation testing to commence on January 24, and would therefore appreciate a response to this proposal by Friday, January 19, so we may plan accordingly.

Looking forward, once analytical data from all DUs has been received and validated, we will coordinate with you to confirm tissue chemistry requirements per DU.

As always, we appreciate your input and willingness to work closely on these matters as they come up.

Thanks,

Adam

ANCHOR QEA, LLC
agale@anchorqea.com <mailto:agale@anchorqea.com>
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
T 949.334.9635
C 805.390.0285

From: Ota, Allan <Ota.Allan@epa.gov>
Sent: Friday, January 19, 2018 10:43 AM
To: Scianni, Melissa; Adam Gale; Larry.Simon@coastal.ca.gov; Jason.Freshwater@Waterboards.ca.gov; lawrence.j.smith@usace.army.mil; Steve Cappellino; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US; Ryan, Joseph A CIV CESPL CESPD (US; Fields, James A CIV USARMY CESPL (US; jzhu@waterboards.ca.gov
Cc: Chris Osuch; Steve Cappellino; Miller, Chris
Subject: RE: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

Importance: High

Hi, Adam.
One additional clarification on the need to do individual core chemistry – keep in mind that the composite values presented in this preliminary table are average values, especially for the total DDx values in excess of 200 ppb, so we are concerned about potentially higher concentrations in individual cores. The cleanup target for a Superfund cleanup site in the San Francisco Bay region was about 400-500 ppb; the highest composite is about half-way there already… relative to the non-degradation management approach for the LA-3 ocean dredged material disposal site concentrations, currently with low to non-detect levels…
-Allan

==========
Allan Ota
Oceanographer / Regional Ocean Dumping Program Coordinator
Dredging and Sediment Management Team
U.S. Environmental Protection Agency, Region 9
Water Division
Mail Code: WTR-2-4
75 Hawthorne Street
San Francisco, CA 94105

415-972-3476 office
ota.allan@epa.gov
==========

If you have more than 20 MB worth of attachments to send to me,
please contact me first by email to make arrangements to share the files.

"Live simply, so that others may simply live." -- Mother Teresa

---

From: Scianni, Melissa
Sent: Friday, January 19, 2018 9:47 AM
To: Adam Gale <agale@anchorqea.com>; Larry.Simon@coastal.ca.gov; Ota, Allan <Ota.Allan@epa.gov>; Jason.Freshwater@Waterboards.ca.gov; lawrence.j.smith@usace.army.mil; Steve Cappellino <scappellino@anchorqea.com>; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields,

James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>; jzhu@waterboards.ca.gov
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: RE: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

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Thanks,
Melissa

_____

Melissa Scianni
Wetlands Office
US EPA, Region IX, Southern CA Field Office
600 Wilshire Blvd, Suite 1460
Los Angeles, CA 90017
(213) 244-1817
scianni.melissa@epa.gov

From: Adam Gale [mailto:agale@anchorqea.com]
Sent: Wednesday, January 17, 2018 7:53 PM
To: Larry.Simon@coastal.ca.gov; Ota, Allan <Ota.Allan@epa.gov>; Jason.Freshwater@Waterboards.ca.gov; lawrence.j.smith@usace.army.mil; Steve Cappellino <scappellino@anchorqea.com>; Carol_A_Roberts@FWS.gov; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>; Scianni, Melissa <Scianni.Melissa@epa.gov>; jzhu@waterboards.ca.gov
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: Lower Newport Bay Federal Channels Dredging: Request to Combine Intervals for Biological Testing

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- Bay Island East
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    - All metals were below ERM values. Mercury ranged from 0.142 to 0.690 mg/kg
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    - Several individual PAH compounds were detected; but Total PAHs were below the ERL value.
    - Total DDX compounds were detected above the ERM at concentrations ranging from 125.2 to 207.6 ug/kg (about 2.5 to 4.5 x the ERM – but relatively consistent between upper and lower composites)
    - Total PCB congeners ranged from 22.97 to 40.4 ug/kg.
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    - TOC ranged from 1.2 and 1.5%; and total solids ranged from 48.9 and 52.9%
    - Grain size was predominantly fine-grained and ranged from 85.7 to 90.1%
    - All metals were below ERM values. Mercury ranged from 0.153 to 0.658 mg/kg
    - Only dibutyltin was detected with results ranging from 6.7 to 8.1 ug/kg
    - Several individual PAH compounds were detected; but Total PAHs were below the ERL value.
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    - Total PCB congeners ranged from 24 to 41 ug/kg.

We are requesting that the upper and lower composites be combined for both the Bay Island East and West dredge areas. We have scheduled the bioaccumulation testing to commence on January 24, and would therefore appreciate a response to this proposal by Friday, January 19, so we may plan accordingly.

Looking forward, once analytical data from all DUs has been received and validated, we will coordinate with you to confirm tissue chemistry requirements per DU.

As always, we appreciate your input and willingness to work closely on these matters as they come up.

Thanks,

Adam

ANCHOR QEA, LLC
agale@anchorqea.com
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
T 949.334.9635
C 805.390.0285

From: Scianni, Melissa <Scianni.Melissa@epa.gov>
Sent: Tuesday, February 27, 2018 4:01 PM
To: Adam Gale; Ota, Allan; lawrence.j.smith@usace.army.mil; Rogers, Bonnie L CIV USARMY CESPL (US; Ryan, Joseph A CIV CESPL CESPD (US; Fields, James A CIV USARMY CESPL (US
Cc: Chris Osuch; Steve Cappellino; Miller, Chris
Subject: RE: Lower Newport - Tissue Analyte List

Hi Adam,

Thank you for sending the preliminary data. EPA concurs with your proposed tissue analyte list. However, we have significant concerns with the Turning Basin composite sediment chemistry. Both the Hg and PCBs are very high. For this composite, we request individual core Hg and PCB analysis. Even with the individual core data, it is very likely that we will be asking for additional higher resolution testing in the Turning Basin before providing an ocean suitability determination. Therefore, the Corps may want to hold off on analyzing the tissues for this composite until we have the individual core data. We also request the individual cores for composites MCN1, MCN2, and MCN3 be analyzed for Hg. We agree that it is not necessary to analyze the Entrance Channel composite tissues since this material would qualify for an exclusion from Tier III testing. We don't object to combing the Bay Island upper and lower composites for the individual core analyses since they were combined for the bioassays. However, as with the bioassays, we recommend they be analyzed separately. In summary, we request the following:

- Turning Basin individual core Hg and PCB analysis. Additional higher resolution testing will likely be necessary;
- Individual core Hg analysis for composites MCN1, MCN2, and MCN3;
- Analyzing the tissues for the EC composite is not necessary;
- Individual core DDT analysis for any composite that exceeds 100ppb; and
- We concur with the proposed tissue analyte list below.

Please let me know if you have any questions.
Melissa

_____
Melissa Scianni
Wetlands Office
US EPA, Region IX, Southern CA Field Office
600 Wilshire Blvd, Suite 940
Los Angeles, CA 90017
(213) 244-1817
scianni.melissa@epa.gov

From: Adam Gale [mailto:agale@anchorqea.com]
Sent: Tuesday, February 27, 2018 10:14 AM
To: Scianni, Melissa <Scianni.Melissa@epa.gov>; Ota, Allan <Ota.Allan@epa.gov>; lawrence.j.smith@usace.army.mil; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: RE: Lower Newport - Tissue Analyte List

Thanks, Melissa. Please see attached.
-Adam

From: Scianni, Melissa [mailto:Scianni.Melissa@epa.gov]
Sent: Tuesday, February 27, 2018 9:59 AM
To: Adam Gale <agale@anchorqea.com>; Ota, Allan <Ota.Allan@epa.gov>; lawrence.j.smith@usace.army.mil; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: RE: Lower Newport - Tissue Analyte List

Hi Adam,

It doesn't look the attachments came through. Can you please resend them.

Thanks,
Melissa

_____
Melissa Scianni
Wetlands Office
US EPA, Region IX, Southern CA Field Office
600 Wilshire Blvd, Suite 940
Los Angeles, CA 90017
(213) 244-1817
scianni.melissa@epa.gov

From: Adam Gale [mailto:agale@anchorqea.com]
Sent: Monday, February 26, 2018 4:36 PM
To: Ota, Allan <Ota.Allan@epa.gov>; Scianni, Melissa <Scianni.Melissa@epa.gov>; lawrence.j.smith@usace.army.mil; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Ryan, Joseph A CIV CESPL CESPD (US <Joseph.A.Ryan@usace.army.mil>; Fields, James A CIV USARMY CESPL (US <James.A.Fields@usace.army.mil>
Cc: Chris Osuch <cosuch@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris <CMiller@newportbeachca.gov>
Subject: Lower Newport - Tissue Analyte List

Hi Allan and Melissa,

Attached are the preliminary sediment chemistry results and composite area figure for Lower Newport Federal Channels. For bioassay and bioaccumulation testing, the City elected to combine the upper and lower vertical composites for both Bay Island Middle East (BIME) and Bay Island Middle West (BIMW). Preliminary solid phase testing results indicated no toxicity to polychaetes or amphipods for all composite areas. Polychaete survival ranged from 92 to 100%, and amphipod survival ranged from 83 to 99%. An outlier was identified in the amphipod test. With this outlier removed, amphipod survival ranged from 93.75 to 99%. Suspended particulate phase testing is still underway. Bioaccumulation testing ended last Wednesday and tissue samples were delivered to the chemistry lab on Friday. Based on preliminary sediment chemistry results (attached), we are proposing to analyze tissue samples for the analytes listed below in Table 1. PCBs are not included for Bay Island South (BIS) because total PCBs (22.72 µg/kg) are just above the ERL (22.7 µg/kg). For the Entrance Channel (EC), we would like to request an exclusion from analyzing tissue samples. The composite sample for this area is 98% sand and all concentrations are less than the ERL. Please let us know as soon as possible if you concur with the proposed tissue analyte list. Also, as previously discussed, we will move forward with analyzing DDTs on individual cores for composite areas with sediment concentrations greater than

100 µg/kg. Because the upper and lower vertical composites for Bay Island Middle East (BIME) and Bay Island Middle West (BIMW) were combined for bioassay and bioaccumulation testing, we are planning to combine the upper and lower intervals for individual core chemistry.

Table 1
Summary of Proposed Tissue Analysis

Sample	Tissue Analysis
Time Zero (T0)	Lipids, Mercury, Dibutyltin, DDTs, PCBs
LA3-REF	Lipids, Mercury, Dibutyltin, DDTs, PCBs
Turning Basin	Lipids, Mercury, Dibutyltin, DDTs, PCBs
Main Channel North 1	Lipids, Mercury, DDTs, PCBs
Main Channel North 2	Lipids, Mercury, DDTs, PCBs
Main Channel North 3	Lipids, Mercury, DDTs, PCBs
Main Channel North 4	Lipids, Mercury, DDTs, PCBs
Main Channel North 5	Lipids, Mercury, DDTs, PCBs
Bay Island North	Lipids, Mercury, DDTs, PCBs
Bay Island Middle East	Lipids, Mercury, DDTs, PCBs
Bay Island Middle West	Lipids, Mercury, DDTs, PCBs
Bay Island South	Lipids, Mercury, DDTs
Entrance Channel	Request exclusion from further testing (98.12% sand; all sediment concentrations less than ERL)

Thanks
Adam Gale

ANCHOR QEA, LLC
agale@anchorqea.com
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
T 949.334.9635
C 805.390.0285

From: Chris Osuch
To: Chris Osuch
Subject: FW: Newport Harbor Federal Dredging - Newport Channel Preliminary Results
Date: Monday, May 13, 2019 11:34:29 AM

From: Scianni, Melissa <Scianni.Melissa@epa.gov>
Sent: Thursday, February 21, 2019 3:04 PM
To: Adam Gale <agale@anchorqea.com>; Ota, Allan <Ota.Allan@epa.gov>; Ross, Brian <Ross.Brian@epa.gov>
Cc: Andy Martin <amartin@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris (CMiller@newportbeachca.gov) <CMiller@newportbeachca.gov>; lawrence.j.smith@usace.army.mil
Subject: RE: Newport Harbor Federal Dredging - Newport Channel Preliminary Results

Hi Adam,

Brian, Allan, and I have reviewed your request to change the NC2 composite line. We are ok with your proposal. However, we would like to note that two of the cores in the NC2 composite had Hg levels above 1ppm. Compositing these cores in with the others could affect the results. If the composite fails any one of the bioassays, the entire composite will be excluded from ocean disposal. In such a situation, we will not be able to approve the lower concentration areas for ocean disposal. In the past we have excluded areas with Hg concentrations above 1ppm from ocean disposal. We are still discussing with the City and Corps what material is suitable for ocean disposal, and it is possible cores NC2-03 and NC2-04 will be found not suitable. Therefore, we recommend considering whether these cores should also be left out of the bioassays composites.

Also, we were confused about the cores labeled NC-01, NC-02, and NC-03 on your figures. Were these the original exploratory cores? Is the sediment from those cores being included in the bioassays?

Please give me or Allan a call if you have any questions.
Melissa

_____

Melissa Scianni
Wetlands Office
US EPA, Region IX, Southern CA Field Office
600 Wilshire Blvd, Suite 940
Los Angeles, CA 90017
(213) 244-1817
scianni.melissa@epa.gov

From: Adam Gale <agale@anchorqea.com>
Sent: Thursday, February 14, 2019 9:45 AM
To: Scianni, Melissa <Scianni.Melissa@epa.gov>; Ota, Allan <Ota.Allan@epa.gov>; Ross, Brian <Ross.Brian@epa.gov>
Cc: Andy Martin <amartin@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris (CMiller@newportbeachca.gov) <CMiller@newportbeachca.gov>
Subject: Newport Harbor Federal Dredging - Newport Channel Preliminary Results

Brian, Mellissa, and Allan,

This email is regarding the Newport Harbor Federal Channel maintenance dredging. A Tier III dredged material

evaluation for all Federal Channel areas within Newport Harbor (excluding Newport Channel) was completed in 2018; results were presented to the DMMT in June and July. As part of the that sampling program, exploratory samples were also collected within Newport Channel and presented to the DMMT in June 2018 as part of an updated sampling and analysis approach for a full Tier III investigation with Newport Channel.

Sampling within Newport Channel was completed in January 2019. Preliminary chemistry results from the individual cores are attached, as a well as a map showing the core locations, associated mercury concentrations, and the previously proposed dredge unit boundaries (Figure 1).

Based on the preliminary chemistry results, we are proposing a slightly amended compositing scheme as presented in Figure 2.

- Dredge Unit NC1 would be managed through an alternate disposal option with no additional testing proposed.
- Dredge Unit NC2 would be expanded to the west to include core locations NC1-03 and NC1-04. While there are two cores within NC2 that had slightly elevated mercury concentrations, the average for all the cores in NC2 is 0.71 ppm
- Dredge Unit NC3 remains unchanged.

The volumes associated with these new dredge units are presented below:

Dredge Unit	**Design Depth (feet MLLW)**	**Estimated Volume to Design Depth (cy)**	**2-Foot Overdepth Volume (cy)**	**Total Volume (cy)**
Newport Channel 1 (No Further Testing)	-15	27,259	21,362	48,621
Newport Channel 2	-15	82,607	39,520	122,127
Newport Channel 3 (No Change)	-15	51,620	24,534	76,154
Total	**--**	**161,486**	**85,416**	**246,902**

We are requesting approval to proceed with this modified composite scheme, so that we can initiate additional Tier III tests as soon as possible. We will coordinate tissue chemistry analysis with you at a later date. The goal is to present the results to the DMMT in April 2019. At that time we'd also present the remainder of the Federal Channel data as previously presented.

Thank you very much for your consideration.

Adam Gale

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agale@anchorqea.com
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T 949.334.9635
C 805.390.0285

From:	Scianni, Melissa
To:	Adam Gale; Simon, Larry@Coastal; Freshwater, Jason@Waterboards; "Carol_A_Roberts@FWS.gov"; Rogers, Bonnie L CIV USARMY CESPL (US; Ross, Brian; Ota, Allan
Cc:	Chris Osuch; Andy Martin; Steve Cappellino; Miller, Chris (CMiller@newportbeachca.gov); Cooke, Mark D CIV USARMY CESPL (US); lawrence.j.smith@usace.army.mil
Subject:	RE: Newport Harbor Federal Dredging - Newport Channel Tissue Analyte List
Date:	Tuesday, March 26, 2019 10:38:09 AM

Hi Adam,

EPA concurs with your proposal to test the Newport Channel tissues for Hg only. Not testing for DDT and PCBs is consistent with what we required for the material from the other channels (i.e. DDT tissue testing when sediments exceed the ERM and PCB tissue testing when the sediments exceed the ERL).

When do you expected the data compilation memo to be available? We would like to have that information in advance of an in person meeting.

Thank you,
Melissa

_____

Melissa Scianni
Wetlands Office
US EPA, Region IX, Southern CA Field Office
600 Wilshire Blvd, Suite 940
Los Angeles, CA 90017
(213) 244-1817
scianni.melissa@epa.gov

From: Adam Gale <agale@anchorqea.com>
Sent: Monday, March 25, 2019 2:44 PM
To: Simon, Larry@Coastal <Larry.Simon@coastal.ca.gov>; Freshwater, Jason@Waterboards <Jason.Freshwater@Waterboards.ca.gov>; 'Carol_A_Roberts@FWS.gov' <Carol_A_Roberts@FWS.gov>; Rogers, Bonnie L CIV USARMY CESPL (US <Bonnie.L.Rogers@usace.army.mil>; Scianni, Melissa <Scianni.Melissa@epa.gov>; Ross, Brian <Ross.Brian@epa.gov>; Ota, Allan <Ota.Allan@epa.gov>
Cc: Chris Osuch <cosuch@anchorqea.com>; Andy Martin <amartin@anchorqea.com>; Steve Cappellino <scappellino@anchorqea.com>; Miller, Chris (CMiller@newportbeachca.gov) <CMiller@newportbeachca.gov>; Cooke, Mark D CIV USARMY CESPL (US) <Mark.D.Cooke@usace.army.mil>; lawrence.j.smith@usace.army.mil
Subject: Newport Harbor Federal Dredging - Newport Channel Tissue Analyte List

Good afternoon DMMT,

Attached are the composite sediment chemistry results for Newport Channel. Sediment concentrations are relatively low, with all concentrations less than the ERM. All bioassay testing is

complete. Based on preliminary test results, no toxicity was observed in solid phase or suspended particulate phase testing. Bioaccumulation testing is ending this week; therefore, we would like to finalize the tissue analyte list. Based on composite sediment chemistry results, and consistent with EPA requirements for other LNB composite sediments samples with similar concentrations, we are proposing to analyze tissue samples from NC2 and NC3 for lipids and mercury. PCBs are not proposed for analysis because sediment concentrations are less than or just above the ERL. Please let us know as soon as possible if you concur with the proposed tissue analyte list.

Also, we are expecting tissue chemistry to be completed in mid-April and the City is requesting an in-person meeting during the week of April 22 at the EPA office in San Francisco to discuss the results as they relate to disposal suitability at the LA-3 site (this would be in advance of the anticipated May DMMT meeting). We'll coordinate specific dates and times directly with EPA, but if other DMMT representatives are interested in participating please let me know and we can make arrangements.

Thank you,
Adam

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Appendix C
Chemistry and Grain Size Laboratory Reports

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WORK ORDER NUMBER: 19-01-1422

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ANCHOR QEA, LLC

Client Project Name: City of Newport Beach - Federal Channels

Attention: Chris Osuch
9700 RESEARCH DR
IRVINE, CA 92618-4327

Approved for release on 02/04/2019 by:
Richard Villafania
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: City of Newport Beach - Federal Channels
Work Order Number: 19-01-1422

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Work Order Narrative

Work Order: 19-01-1422 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/22/19. They were assigned to Work Order 19-01-1422.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.

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Sample Summary

Client:	ANCHOR QEA, LLC 9700 RESEARCH DR IRVINE, CA 92618-4327	Work Order:	19-01-1422
		Project Name:	City of Newport Beach - Federal Channels
		PO Number:	
		Date/Time Received:	01/22/19 18:50
		Number of Containers:	12
Attn:	Chris Osuch		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
NC3-03-012219	19-01-1422-1	01/22/19 09:47	2	Sediment
NC3-03-Z-012219	19-01-1422-2	01/22/19 09:47	1	Sediment
NC3-02-012219	19-01-1422-3	01/22/19 11:34	2	Sediment
NC3-02-Z-012219	19-01-1422-4	01/22/19 11:34	1	Sediment
NC3-01-012219	19-01-1422-5	01/22/19 14:15	2	Sediment
NC3-01-Z-012219	19-01-1422-6	01/22/19 14:15	1	Sediment
NC2-04-012219	19-01-1422-7	01/22/19 15:52	2	Sediment
NC2-04-Z-012219	19-01-1422-8	01/22/19 15:52	1	Sediment

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: N/A
Method: EPA 9060A
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.025	0.065	0.023	1.00	J

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.39	0.080	0.028	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.30	0.073	0.025	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.50	0.086	0.030	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-06-013-1936**	**N/A**	**Solid**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	ND	0.050	0.017	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: N/A
Method: SM 2540 B (M)
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**N/A**	**01/24/19**	**01/24/19 16:00**	**J0124TSB1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	76.8	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**N/A**	**01/24/19**	**01/24/19 16:00**	**J0124TSB1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	62.7	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**N/A**	**01/24/19**	**01/24/19 16:00**	**J0124TSB1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	68.5	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**N/A**	**01/24/19**	**01/24/19 16:00**	**J0124TSB1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	58.3	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-019-4388**	**N/A**	**Solid**	**N/A**	**01/24/19**	**01/24/19 16:00**	**J0124TSB1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	ND	0.100	0.100	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GCTQ 1**	**01/28/19**	**02/01/19 04:43**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.64	0.32	1.00	
Bifenthrin	0.41	0.64	0.38	1.00	J
Cyfluthrin	ND	0.64	0.32	1.00	
Cypermethrin	ND	0.64	0.32	1.00	
Deltamethrin/Tralomethrin	ND	0.64	0.32	1.00	
Fenpropathrin	ND	0.64	0.32	1.00	
Fenvalerate/Esfenvalerate	ND	0.64	0.32	1.00	
Fluvalinate	ND	0.64	0.32	1.00	
Permethrin (cis/trans)	ND	1.3	0.64	1.00	
Phenothrin	ND	0.64	0.32	1.00	
Resmethrin/Bioresmethrin	ND	0.64	0.55	1.00	
Tetramethrin	ND	0.64	0.38	1.00	
lambda-Cyhalothrin	ND	0.64	0.32	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	90	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GCTQ 1**	**01/28/19**	**02/01/19 05:35**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.79	0.40	1.00	
Bifenthrin	0.75	0.79	0.48	1.00	J
Cyfluthrin	ND	0.79	0.40	1.00	
Cypermethrin	ND	0.79	0.40	1.00	
Deltamethrin/Tralomethrin	ND	0.79	0.40	1.00	
Fenpropathrin	ND	0.79	0.40	1.00	
Fenvalerate/Esfenvalerate	ND	0.79	0.40	1.00	
Fluvalinate	ND	0.79	0.40	1.00	
Permethrin (cis/trans)	ND	1.6	0.79	1.00	
Phenothrin	ND	0.79	0.40	1.00	
Resmethrin/Bioresmethrin	ND	0.79	0.67	1.00	
Tetramethrin	ND	0.79	0.48	1.00	
lambda-Cyhalothrin	ND	0.79	0.40	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	105	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GCTQ 1**	**01/28/19**	**02/01/19 06:27**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.72	0.36	1.00	
Bifenthrin	0.90	0.72	0.43	1.00	
Cyfluthrin	ND	0.72	0.36	1.00	
Cypermethrin	ND	0.72	0.36	1.00	
Deltamethrin/Tralomethrin	ND	0.72	0.36	1.00	
Fenpropathrin	ND	0.72	0.36	1.00	
Fenvalerate/Esfenvalerate	ND	0.72	0.36	1.00	
Fluvalinate	ND	0.72	0.36	1.00	
Permethrin (cis/trans)	ND	1.4	0.72	1.00	
Phenothrin	ND	0.72	0.36	1.00	
Resmethrin/Bioresmethrin	ND	0.72	0.61	1.00	
Tetramethrin	ND	0.72	0.43	1.00	
lambda-Cyhalothrin	ND	0.72	0.36	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	98	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GCTQ 1**	**01/28/19**	**02/01/19 07:18**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.84	0.42	1.00	
Bifenthrin	1.6	0.84	0.51	1.00	
Cyfluthrin	ND	0.84	0.42	1.00	
Cypermethrin	ND	0.84	0.42	1.00	
Deltamethrin/Tralomethrin	ND	0.84	0.42	1.00	
Fenpropathrin	ND	0.84	0.42	1.00	
Fenvalerate/Esfenvalerate	ND	0.84	0.42	1.00	
Fluvalinate	ND	0.84	0.42	1.00	
Permethrin (cis/trans)	ND	1.7	0.84	1.00	
Phenothrin	ND	0.84	0.42	1.00	
Resmethrin/Bioresmethrin	ND	0.84	0.72	1.00	
Tetramethrin	ND	0.84	0.51	1.00	
lambda-Cyhalothrin	ND	0.84	0.42	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	81	14-116	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-403-193**	**N/A**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 04:54**	**190127L07**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.50	0.25	1.00	
Bifenthrin	ND	0.50	0.30	1.00	
Cyfluthrin	ND	0.50	0.25	1.00	
Cypermethrin	ND	0.50	0.25	1.00	
Deltamethrin/Tralomethrin	ND	0.50	0.25	1.00	
Fenpropathrin	ND	0.50	0.25	1.00	
Fenvalerate/Esfenvalerate	ND	0.50	0.25	1.00	
Fluvalinate	ND	0.50	0.25	1.00	
Permethrin (cis/trans)	ND	1.0	0.50	1.00	
Phenothrin	ND	0.50	0.25	1.00	
Resmethrin/Bioresmethrin	ND	0.50	0.42	1.00	
Tetramethrin	ND	0.50	0.30	1.00	
lambda-Cyhalothrin	ND	0.50	0.25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	94	14-116	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:36**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	3.01	0.130	0.114	1.00	
Cadmium	0.179	0.130	0.0745	1.00	
Chromium	6.74	0.130	0.0808	1.00	
Copper	8.88	0.130	0.0546	1.00	
Lead	6.38	0.130	0.0858	1.00	
Nickel	4.24	0.130	0.0659	1.00	
Selenium	0.429	0.130	0.0951	1.00	
Silver	0.116	0.130	0.0408	1.00	J
Zinc	25.3	1.30	1.03	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:40**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	4.08	0.159	0.139	1.00	
Cadmium	0.423	0.159	0.0913	1.00	
Chromium	11.8	0.159	0.0990	1.00	
Copper	16.8	0.159	0.0668	1.00	
Lead	12.5	0.159	0.105	1.00	
Nickel	7.68	0.159	0.0807	1.00	
Selenium	1.03	0.159	0.117	1.00	
Silver	0.234	0.159	0.0499	1.00	
Zinc	49.5	1.59	1.27	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:43**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	4.33	0.146	0.127	1.00	
Cadmium	0.387	0.146	0.0835	1.00	
Chromium	11.4	0.146	0.0906	1.00	
Copper	23.3	0.146	0.0612	1.00	
Lead	12.4	0.146	0.0962	1.00	
Nickel	7.44	0.146	0.0739	1.00	
Selenium	0.931	0.146	0.107	1.00	
Silver	0.206	0.146	0.0457	1.00	
Zinc	59.8	1.46	1.16	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:47**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	6.03	0.172	0.150	1.00	
Cadmium	0.487	0.172	0.0982	1.00	
Chromium	19.2	0.172	0.106	1.00	
Copper	42.4	0.172	0.0719	1.00	
Lead	15.6	0.172	0.113	1.00	
Nickel	12.3	0.172	0.0868	1.00	
Selenium	2.02	0.172	0.125	1.00	
Silver	0.364	0.172	0.0537	1.00	
Zinc	100	1.72	1.36	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-254-710**	**N/A**	**Solid**	**ICP/MS 05**	**01/28/19**	**01/29/19 13:44**	**190128L02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	ND	0.100	0.0873	1.00	
Cadmium	ND	0.100	0.0572	1.00	
Chromium	ND	0.100	0.0621	1.00	
Copper	ND	0.100	0.0419	1.00	
Lead	ND	0.100	0.0659	1.00	
Nickel	ND	0.100	0.0506	1.00	
Selenium	ND	0.100	0.0731	1.00	
Silver	ND	0.100	0.0313	1.00	
Zinc	ND	1.00	0.795	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:55**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.144	0.0269	0.00791	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:57**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.190	0.0330	0.00969	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:59**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.245	0.0307	0.00902	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 19:02**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.267	0.0332	0.00975	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-278-512**	**N/A**	**Solid**	**Mercury 08**	**01/29/19**	**01/29/19 18:27**	**190129L04E**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	ND	0.0197	0.00578	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: N/A
Method: ASTM D4464 (M)
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-B**	**01/22/19 09:47**	**Sediment**	**LPSA 1**	**N/A**	**01/30/19 18:39**	

Parameter	Result	Qualifiers
Clay (less than 0.00391mm)	8.98	
Silt (0.00391 to 0.0625mm)	20.59	
Total Silt and Clay (0 to 0.0625mm)	29.56	
Very Fine Sand (0.0625 to 0.125mm)	2.78	
Fine Sand (0.125 to 0.25mm)	18.29	
Medium Sand (0.25 to 0.5mm)	31.61	
Coarse Sand (0.5 to 1mm)	14.98	
Very Coarse Sand (1 to 2mm)	2.77	
Gravel (greater than 2mm)	ND	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-B**	**01/22/19 11:34**	**Sediment**	**LPSA 1**	**N/A**	**01/30/19 18:47**	

Parameter	Result	Qualifiers
Clay (less than 0.00391mm)	8.73	
Silt (0.00391 to 0.0625mm)	19.43	
Total Silt and Clay (0 to 0.0625mm)	28.16	
Very Fine Sand (0.0625 to 0.125mm)	2.98	
Fine Sand (0.125 to 0.25mm)	18.14	
Medium Sand (0.25 to 0.5mm)	35.17	
Coarse Sand (0.5 to 1mm)	12.92	
Very Coarse Sand (1 to 2mm)	2.63	
Gravel (greater than 2mm)	ND	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-B**	**01/22/19 14:15**	**Sediment**	**LPSA 1**	**N/A**	**01/30/19 18:56**	

Parameter	Result	Qualifiers
Clay (less than 0.00391mm)	8.74	
Silt (0.00391 to 0.0625mm)	21.03	
Total Silt and Clay (0 to 0.0625mm)	29.77	
Very Fine Sand (0.0625 to 0.125mm)	2.14	
Fine Sand (0.125 to 0.25mm)	11.68	
Medium Sand (0.25 to 0.5mm)	33.79	
Coarse Sand (0.5 to 1mm)	18.09	
Very Coarse Sand (1 to 2mm)	4.53	
Gravel (greater than 2mm)	ND	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	N/A
		Method:	ASTM D4464 (M)
		Units:	%

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-B**	**01/22/19 15:52**	**Sediment**	**LPSA 1**	**N/A**	**01/30/19 19:06**	

Parameter	Result	Qualifiers
Clay (less than 0.00391mm)	14.25	
Silt (0.00391 to 0.0625mm)	34.01	
Total Silt and Clay (0 to 0.0625mm)	48.26	
Very Fine Sand (0.0625 to 0.125mm)	5.84	
Fine Sand (0.125 to 0.25mm)	31.85	
Medium Sand (0.25 to 0.5mm)	13.11	
Coarse Sand (0.5 to 1mm)	0.94	
Very Coarse Sand (1 to 2mm)	ND	
Gravel (greater than 2mm)	ND	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 11:53**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Aldrin	ND	1.3	0.56	1.00	
Alpha-BHC	ND	2.6	0.94	1.00	
Beta-BHC	ND	1.3	0.63	1.00	
Delta-BHC	ND	2.6	1.1	1.00	
Gamma-BHC	ND	1.3	0.57	1.00	
Dieldrin	ND	1.3	0.56	1.00	
Trans-nonachlor	ND	1.3	0.35	1.00	
2,4'-DDD	ND	1.3	0.36	1.00	
2,4'-DDE	ND	2.6	1.3	1.00	
2,4'-DDT	ND	1.3	0.40	1.00	
4,4'-DDD	2.0	1.3	0.64	1.00	
4,4'-DDT	ND	1.3	0.56	1.00	
Endosulfan I	ND	1.3	0.51	1.00	
Endosulfan II	ND	1.3	0.60	1.00	
Endosulfan Sulfate	ND	1.3	0.67	1.00	
Endrin	ND	1.3	0.61	1.00	
Endrin Aldehyde	ND	1.3	0.77	1.00	
Endrin Ketone	ND	1.3	0.64	1.00	
Heptachlor	ND	1.3	0.55	1.00	
Heptachlor Epoxide	ND	2.6	0.94	1.00	
Methoxychlor	ND	1.3	0.71	1.00	
Toxaphene	ND	26	11	1.00	
Alpha Chlordane	ND	1.3	0.52	1.00	
Gamma Chlordane	1.7	2.6	1.1	1.00	J
Cis-nonachlor	ND	1.3	0.33	1.00	
Oxychlordane	ND	1.3	0.34	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	61	25-145	
Decachlorobiphenyl	89	24-168	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 3541
		Method:	EPA 8081A
		Units:	ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 12:51**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
4,4'-DDE	10	6.4	2.8	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	55	25-145	
Decachlorobiphenyl	82	24-168	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 12:07**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Aldrin	ND	1.6	0.69	1.00	
Alpha-BHC	ND	3.1	1.2	1.00	
Beta-BHC	ND	1.6	0.78	1.00	
Delta-BHC	ND	3.1	1.4	1.00	
Gamma-BHC	ND	1.6	0.70	1.00	
Dieldrin	ND	1.6	0.69	1.00	
Trans-nonachlor	ND	1.6	0.43	1.00	
2,4'-DDD	ND	1.6	0.45	1.00	
2,4'-DDE	2.4	3.1	1.6	1.00	J
2,4'-DDT	ND	1.6	0.49	1.00	
4,4'-DDD	11	1.6	0.79	1.00	
4,4'-DDT	ND	1.6	0.69	1.00	
Endosulfan I	ND	1.6	0.62	1.00	
Endosulfan II	ND	1.6	0.74	1.00	
Endosulfan Sulfate	ND	1.6	0.82	1.00	
Endrin	ND	1.6	0.76	1.00	
Endrin Aldehyde	ND	1.6	0.95	1.00	
Endrin Ketone	ND	1.6	0.79	1.00	
Heptachlor	ND	1.6	0.68	1.00	
Heptachlor Epoxide	ND	3.1	1.2	1.00	
Methoxychlor	ND	1.6	0.88	1.00	
Toxaphene	ND	31	14	1.00	
Alpha Chlordane	ND	1.6	0.64	1.00	
Gamma Chlordane	2.6	3.1	1.4	1.00	J
Cis-nonachlor	ND	1.6	0.41	1.00	
Oxychlordane	ND	1.6	0.42	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	68	25-145	
Decachlorobiphenyl	80	24-168	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 3541
		Method:	EPA 8081A
		Units:	ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 13:05**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
4,4'-DDE	22	7.9	3.5	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	65	25-145	
Decachlorobiphenyl	76	24-168	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 12:21**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Aldrin	ND	1.4	0.63	1.00	
Alpha-BHC	ND	2.9	1.1	1.00	
Beta-BHC	ND	1.4	0.72	1.00	
Delta-BHC	ND	2.9	1.3	1.00	
Gamma-BHC	ND	1.4	0.64	1.00	
Dieldrin	ND	1.4	0.63	1.00	
Trans-nonachlor	ND	1.4	0.39	1.00	
2,4'-DDD	ND	1.4	0.41	1.00	
2,4'-DDE	ND	2.9	1.4	1.00	
2,4'-DDT	ND	1.4	0.45	1.00	
4,4'-DDD	6.3	1.4	0.72	1.00	
4,4'-DDT	ND	1.4	0.63	1.00	
Endosulfan I	ND	1.4	0.57	1.00	
Endosulfan II	ND	1.4	0.68	1.00	
Endosulfan Sulfate	ND	1.4	0.75	1.00	
Endrin	ND	1.4	0.70	1.00	
Endrin Aldehyde	ND	1.4	0.87	1.00	
Endrin Ketone	ND	1.4	0.73	1.00	
Heptachlor	ND	1.4	0.62	1.00	
Heptachlor Epoxide	ND	2.9	1.1	1.00	
Methoxychlor	ND	1.4	0.81	1.00	
Toxaphene	ND	29	13	1.00	
Alpha Chlordane	ND	1.4	0.59	1.00	
Gamma Chlordane	1.5	2.9	1.3	1.00	J
Cis-nonachlor	ND	1.4	0.37	1.00	
Oxychlordane	ND	1.4	0.39	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	66	25-145	
Decachlorobiphenyl	84	24-168	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 13:19**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
4,4'-DDE	12	7.2	3.2	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	63	25-145	
Decachlorobiphenyl	81	24-168	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 12:36**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Aldrin	ND	1.7	0.74	1.00	
Alpha-BHC	ND	3.4	1.3	1.00	
Beta-BHC	ND	1.7	0.84	1.00	
Delta-BHC	ND	3.4	1.5	1.00	
Gamma-BHC	ND	1.7	0.75	1.00	
Dieldrin	ND	1.7	0.74	1.00	
Trans-nonachlor	ND	1.7	0.46	1.00	
2,4'-DDD	ND	1.7	0.48	1.00	
2,4'-DDE	ND	3.4	1.7	1.00	
2,4'-DDT	ND	1.7	0.53	1.00	
4,4'-DDD	2.2	1.7	0.85	1.00	
4,4'-DDT	ND	1.7	0.74	1.00	
Endosulfan I	ND	1.7	0.67	1.00	
Endosulfan II	ND	1.7	0.80	1.00	
Endosulfan Sulfate	ND	1.7	0.88	1.00	
Endrin	ND	1.7	0.81	1.00	
Endrin Aldehyde	ND	1.7	1.0	1.00	
Endrin Ketone	ND	1.7	0.85	1.00	
Heptachlor	ND	1.7	0.73	1.00	
Heptachlor Epoxide	ND	3.4	1.2	1.00	
Methoxychlor	ND	1.7	0.94	1.00	
Toxaphene	ND	34	15	1.00	
Alpha Chlordane	ND	1.7	0.69	1.00	
Gamma Chlordane	2.2	3.4	1.5	1.00	J
Cis-nonachlor	ND	1.7	0.44	1.00	
Oxychlordane	ND	1.7	0.46	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	60	25-145	
Decachlorobiphenyl	89	24-168	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 13:33**	**190130L09**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
4,4'-DDE	19	8.4	3.8	5.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	60	25-145	
Decachlorobiphenyl	87	24-168	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-858-608**	**N/A**	**Solid**	**GC 51**	**01/30/19**	**01/31/19 07:07**	**190130L09**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Aldrin	ND	1.0	0.44	1.00	
Alpha-BHC	ND	2.0	0.74	1.00	
Beta-BHC	ND	1.0	0.50	1.00	
Delta-BHC	ND	2.0	0.88	1.00	
Gamma-BHC	ND	1.0	0.45	1.00	
Dieldrin	ND	1.0	0.44	1.00	
Trans-nonachlor	ND	1.0	0.27	1.00	
2,4'-DDD	ND	1.0	0.29	1.00	
2,4'-DDE	ND	2.0	0.99	1.00	
2,4'-DDT	ND	1.0	0.31	1.00	
4,4'-DDD	ND	1.0	0.50	1.00	
4,4'-DDE	ND	1.0	0.44	1.00	
4,4'-DDT	ND	1.0	0.44	1.00	
Endosulfan I	ND	1.0	0.40	1.00	
Endosulfan II	ND	1.0	0.47	1.00	
Endosulfan Sulfate	ND	1.0	0.52	1.00	
Endrin	ND	1.0	0.48	1.00	
Endrin Aldehyde	ND	1.0	0.60	1.00	
Endrin Ketone	ND	1.0	0.50	1.00	
Heptachlor	ND	1.0	0.43	1.00	
Heptachlor Epoxide	ND	2.0	0.74	1.00	
Methoxychlor	ND	1.0	0.56	1.00	
Toxaphene	ND	20	9.0	1.00	
Alpha Chlordane	ND	1.0	0.41	1.00	
Gamma Chlordane	ND	2.0	0.89	1.00	
Cis-nonachlor	ND	1.0	0.26	1.00	
Oxychlordane	ND	1.0	0.27	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	64	25-145	
Decachlorobiphenyl	93	24-168	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 20:07**	**190125L17**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Acenaphthene	ND	0.013	0.0030	1.00	
Acenaphthylene	ND	0.013	0.0023	1.00	
Anthracene	ND	0.013	0.0045	1.00	
Benzo (a) Anthracene	ND	0.013	0.0028	1.00	
Benzo (a) Pyrene	0.0042	0.013	0.0024	1.00	J
Benzo (b) Fluoranthene	ND	0.013	0.0035	1.00	
Benzo (g,h,i) Perylene	0.0039	0.013	0.0020	1.00	J
Benzo (k) Fluoranthene	ND	0.013	0.0036	1.00	
Chrysene	ND	0.013	0.0029	1.00	
Dibenz (a,h) Anthracene	ND	0.013	0.0025	1.00	
Fluoranthene	0.0027	0.013	0.0024	1.00	J
Fluorene	ND	0.013	0.0040	1.00	
Indeno (1,2,3-c,d) Pyrene	0.0027	0.013	0.0021	1.00	J
2-Methylnaphthalene	ND	0.013	0.0030	1.00	
1-Methylnaphthalene	ND	0.013	0.0030	1.00	
Naphthalene	ND	0.013	0.0045	1.00	
Phenanthrene	ND	0.013	0.0029	1.00	
Pyrene	0.0035	0.013	0.0029	1.00	J

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	26	14-146	
Nitrobenzene-d5	23	18-162	
p-Terphenyl-d14	76	34-148	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 3541
		Method:	EPA 8270C SIM PAHs
		Units:	mg/kg
Project: City of Newport Beach - Federal Channels			Page 2 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 20:27**	**190125L17**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Acenaphthene	ND	0.016	0.0038	1.00	
Acenaphthylene	ND	0.016	0.0028	1.00	
Anthracene	ND	0.016	0.0056	1.00	
Benzo (a) Anthracene	ND	0.016	0.0034	1.00	
Benzo (a) Pyrene	0.0067	0.016	0.0029	1.00	J
Benzo (b) Fluoranthene	0.0061	0.016	0.0044	1.00	J
Benzo (g,h,i) Perylene	0.0078	0.016	0.0025	1.00	J
Benzo (k) Fluoranthene	0.0050	0.016	0.0044	1.00	J
Chrysene	0.0052	0.016	0.0036	1.00	J
Dibenz (a,h) Anthracene	ND	0.016	0.0031	1.00	
Fluoranthene	0.0053	0.016	0.0029	1.00	J
Fluorene	ND	0.016	0.0050	1.00	
Indeno (1,2,3-c,d) Pyrene	0.0041	0.016	0.0025	1.00	J
2-Methylnaphthalene	ND	0.016	0.0037	1.00	
1-Methylnaphthalene	ND	0.016	0.0037	1.00	
Naphthalene	ND	0.016	0.0055	1.00	
Phenanthrene	ND	0.016	0.0036	1.00	
Pyrene	0.0092	0.016	0.0036	1.00	J

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	26	14-146	
Nitrobenzene-d5	20	18-162	
p-Terphenyl-d14	77	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 20:47**	**190125L17**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Acenaphthene	ND	0.014	0.0034	1.00	
Acenaphthylene	ND	0.014	0.0026	1.00	
Anthracene	ND	0.014	0.0050	1.00	
Benzo (a) Anthracene	0.0069	0.014	0.0031	1.00	J
Benzo (a) Pyrene	0.010	0.014	0.0027	1.00	J
Benzo (b) Fluoranthene	0.0085	0.014	0.0039	1.00	J
Benzo (g,h,i) Perylene	0.010	0.014	0.0022	1.00	J
Benzo (k) Fluoranthene	0.011	0.014	0.0040	1.00	J
Chrysene	0.0090	0.014	0.0032	1.00	J
Dibenz (a,h) Anthracene	ND	0.014	0.0028	1.00	
Fluoranthene	0.0088	0.014	0.0026	1.00	J
Fluorene	ND	0.014	0.0045	1.00	
Indeno (1,2,3-c,d) Pyrene	0.0071	0.014	0.0023	1.00	J
2-Methylnaphthalene	ND	0.014	0.0034	1.00	
1-Methylnaphthalene	ND	0.014	0.0034	1.00	
Naphthalene	ND	0.014	0.0050	1.00	
Phenanthrene	0.0035	0.014	0.0032	1.00	J
Pyrene	0.012	0.014	0.0033	1.00	J

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	28	14-146	
Nitrobenzene-d5	19	18-162	
p-Terphenyl-d14	81	34-148	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 3541
		Method:	EPA 8270C SIM PAHs
		Units:	mg/kg
Project: City of Newport Beach - Federal Channels			Page 4 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 21:07**	**190125L17**

Comment(s): - Results are reported on a dry weight basis.

- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Acenaphthene	ND	0.017	0.0040	1.00	
Acenaphthylene	ND	0.017	0.0030	1.00	
Anthracene	ND	0.017	0.0059	1.00	
Benzo (a) Anthracene	0.0081	0.017	0.0036	1.00	J
Benzo (a) Pyrene	0.014	0.017	0.0031	1.00	J
Benzo (b) Fluoranthene	0.0087	0.017	0.0046	1.00	J
Benzo (g,h,i) Perylene	0.015	0.017	0.0026	1.00	J
Benzo (k) Fluoranthene	0.0095	0.017	0.0047	1.00	J
Chrysene	0.012	0.017	0.0038	1.00	J
Dibenz (a,h) Anthracene	ND	0.017	0.0033	1.00	
Fluoranthene	0.011	0.017	0.0031	1.00	J
Fluorene	ND	0.017	0.0053	1.00	
Indeno (1,2,3-c,d) Pyrene	0.012	0.017	0.0027	1.00	J
2-Methylnaphthalene	ND	0.017	0.0039	1.00	
1-Methylnaphthalene	ND	0.017	0.0039	1.00	
Naphthalene	ND	0.017	0.0059	1.00	
Phenanthrene	ND	0.017	0.0038	1.00	
Pyrene	0.016	0.017	0.0038	1.00	J

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	64	14-146	
Nitrobenzene-d5	46	18-162	
p-Terphenyl-d14	86	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-097-323**	**N/A**	**Solid**	**GC/MS EEE**	**01/25/19**	**01/29/19 18:25**	**190125L17**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Acenaphthene	ND	0.010	0.0024	1.00	
Acenaphthylene	ND	0.010	0.0018	1.00	
Anthracene	ND	0.010	0.0035	1.00	
Benzo (a) Anthracene	ND	0.010	0.0022	1.00	
Benzo (a) Pyrene	ND	0.010	0.0018	1.00	
Benzo (b) Fluoranthene	ND	0.010	0.0027	1.00	
Benzo (g,h,i) Perylene	ND	0.010	0.0015	1.00	
Benzo (k) Fluoranthene	ND	0.010	0.0028	1.00	
Chrysene	ND	0.010	0.0022	1.00	
Dibenz (a,h) Anthracene	ND	0.010	0.0020	1.00	
Fluoranthene	ND	0.010	0.0018	1.00	
Fluorene	ND	0.010	0.0031	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	0.010	0.0016	1.00	
2-Methylnaphthalene	ND	0.010	0.0023	1.00	
1-Methylnaphthalene	ND	0.010	0.0023	1.00	
Naphthalene	ND	0.010	0.0035	1.00	
Phenanthrene	ND	0.010	0.0022	1.00	
Pyrene	ND	0.010	0.0022	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	63	14-146	
Nitrobenzene-d5	52	18-162	
p-Terphenyl-d14	79	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 23:30**	**190125L16**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
PCB018	ND	0.26	0.084	1.00	
PCB028	ND	0.26	0.089	1.00	
PCB037	ND	0.26	0.078	1.00	
PCB044	ND	0.26	0.20	1.00	
PCB049	ND	0.26	0.064	1.00	
PCB052	ND	0.26	0.25	1.00	
PCB066	ND	0.26	0.16	1.00	
PCB070	ND	0.26	0.092	1.00	
PCB074	ND	0.26	0.12	1.00	
PCB077	ND	0.26	0.15	1.00	
PCB081	ND	0.26	0.12	1.00	
PCB087	ND	0.26	0.14	1.00	
PCB099	ND	0.26	0.061	1.00	
PCB101	ND	0.26	0.057	1.00	
PCB105	ND	0.26	0.069	1.00	
PCB110	ND	0.26	0.044	1.00	
PCB114	ND	0.26	0.096	1.00	
PCB118	ND	0.26	0.045	1.00	
PCB119	ND	0.26	0.081	1.00	
PCB123	ND	0.26	0.094	1.00	
PCB126	ND	0.26	0.071	1.00	
PCB128	ND	0.26	0.15	1.00	
PCB132/153	0.64	0.52	0.21	1.00	
PCB138/158	ND	0.52	0.45	1.00	
PCB149	0.43	0.26	0.15	1.00	
PCB151	ND	0.26	0.11	1.00	
PCB156	ND	0.26	0.10	1.00	
PCB157	ND	0.26	0.11	1.00	
PCB167	ND	0.26	0.17	1.00	
PCB168	ND	0.26	0.18	1.00	
PCB169	ND	0.26	0.084	1.00	
PCB170	ND	0.26	0.14	1.00	
PCB177	ND	0.26	0.15	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC	Date Received:	01/22/19
9700 RESEARCH DR	Work Order:	19-01-1422
IRVINE, CA 92618-4327	Preparation:	EPA 3541
	Method:	EPA 8270C SIM PCB Congeners
	Units:	ug/kg
Project: City of Newport Beach - Federal Channels		Page 2 of 10

Parameter	Result	RL	MDL	DF	Qualifiers
PCB180	ND	0.26	0.12	1.00	
PCB183	ND	0.26	0.12	1.00	
PCB187	ND	0.26	0.13	1.00	
PCB189	ND	0.26	0.083	1.00	
PCB194	ND	0.26	0.095	1.00	
PCB201	ND	0.26	0.044	1.00	
PCB206	ND	0.26	0.15	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	24	14-146	
p-Terphenyl-d14	71	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 23:54**	**190125L16**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
PCB018	ND	0.32	0.10	1.00	
PCB028	ND	0.32	0.11	1.00	
PCB037	ND	0.32	0.097	1.00	
PCB044	ND	0.32	0.24	1.00	
PCB049	ND	0.32	0.079	1.00	
PCB052	ND	0.32	0.30	1.00	
PCB066	ND	0.32	0.20	1.00	
PCB070	ND	0.32	0.11	1.00	
PCB074	ND	0.32	0.14	1.00	
PCB077	ND	0.32	0.18	1.00	
PCB081	ND	0.32	0.14	1.00	
PCB087	ND	0.32	0.18	1.00	
PCB099	ND	0.32	0.076	1.00	
PCB101	ND	0.32	0.071	1.00	
PCB105	ND	0.32	0.085	1.00	
PCB110	0.49	0.32	0.054	1.00	
PCB114	ND	0.32	0.12	1.00	
PCB118	ND	0.32	0.055	1.00	
PCB119	ND	0.32	0.10	1.00	
PCB123	ND	0.32	0.12	1.00	
PCB126	ND	0.32	0.088	1.00	
PCB128	ND	0.32	0.19	1.00	
PCB132/153	1.4	0.64	0.26	1.00	
PCB138/158	1.1	0.64	0.56	1.00	
PCB149	0.78	0.32	0.19	1.00	
PCB151	ND	0.32	0.14	1.00	
PCB156	ND	0.32	0.12	1.00	
PCB157	ND	0.32	0.14	1.00	
PCB167	ND	0.32	0.21	1.00	
PCB168	ND	0.32	0.23	1.00	
PCB169	ND	0.32	0.10	1.00	
PCB170	ND	0.32	0.18	1.00	
PCB177	ND	0.32	0.19	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Parameter	Result	RL	MDL	DF	Qualifiers
PCB180	ND	0.32	0.15	1.00	
PCB183	0.29	0.32	0.15	1.00	J
PCB187	0.47	0.32	0.16	1.00	
PCB189	ND	0.32	0.10	1.00	
PCB194	ND	0.32	0.12	1.00	
PCB201	ND	0.32	0.054	1.00	
PCB206	ND	0.32	0.18	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	23	14-146	
p-Terphenyl-d14	77	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/02/19 00:18**	**190125L16**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
PCB018	ND	0.29	0.094	1.00	
PCB028	ND	0.29	0.10	1.00	
PCB037	ND	0.29	0.088	1.00	
PCB044	ND	0.29	0.22	1.00	
PCB049	ND	0.29	0.072	1.00	
PCB052	ND	0.29	0.27	1.00	
PCB066	0.67	0.29	0.18	1.00	
PCB070	0.34	0.29	0.10	1.00	
PCB074	0.25	0.29	0.13	1.00	J
PCB077	ND	0.29	0.17	1.00	
PCB081	ND	0.29	0.13	1.00	
PCB087	ND	0.29	0.16	1.00	
PCB099	ND	0.29	0.069	1.00	
PCB101	ND	0.29	0.064	1.00	
PCB105	ND	0.29	0.077	1.00	
PCB110	0.62	0.29	0.049	1.00	
PCB114	ND	0.29	0.11	1.00	
PCB118	0.58	0.29	0.050	1.00	
PCB119	ND	0.29	0.090	1.00	
PCB123	ND	0.29	0.11	1.00	
PCB126	ND	0.29	0.079	1.00	
PCB128	ND	0.29	0.17	1.00	
PCB132/153	1.3	0.58	0.23	1.00	
PCB138/158	0.96	0.58	0.51	1.00	
PCB149	0.69	0.29	0.17	1.00	
PCB151	ND	0.29	0.13	1.00	
PCB156	ND	0.29	0.11	1.00	
PCB157	ND	0.29	0.12	1.00	
PCB167	ND	0.29	0.19	1.00	
PCB168	ND	0.29	0.21	1.00	
PCB169	ND	0.29	0.094	1.00	
PCB170	ND	0.29	0.16	1.00	
PCB177	ND	0.29	0.17	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Parameter	Result	RL	MDL	DF	Qualifiers
PCB180	0.66	0.29	0.13	1.00	
PCB183	ND	0.29	0.14	1.00	
PCB187	0.43	0.29	0.15	1.00	
PCB189	ND	0.29	0.093	1.00	
PCB194	ND	0.29	0.11	1.00	
PCB201	ND	0.29	0.049	1.00	
PCB206	ND	0.29	0.17	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	28	14-146	
p-Terphenyl-d14	83	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/02/19 00:42**	**190125L16**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
PCB018	ND	0.34	0.11	1.00	
PCB028	ND	0.34	0.12	1.00	
PCB037	ND	0.34	0.10	1.00	
PCB044	ND	0.34	0.26	1.00	
PCB049	ND	0.34	0.084	1.00	
PCB052	ND	0.34	0.32	1.00	
PCB066	ND	0.34	0.21	1.00	
PCB070	ND	0.34	0.12	1.00	
PCB074	ND	0.34	0.15	1.00	
PCB077	ND	0.34	0.20	1.00	
PCB081	ND	0.34	0.15	1.00	
PCB087	ND	0.34	0.19	1.00	
PCB099	0.37	0.34	0.080	1.00	
PCB101	ND	0.34	0.075	1.00	
PCB105	ND	0.34	0.090	1.00	
PCB110	0.54	0.34	0.057	1.00	
PCB114	ND	0.34	0.13	1.00	
PCB118	ND	0.34	0.058	1.00	
PCB119	ND	0.34	0.11	1.00	
PCB123	ND	0.34	0.12	1.00	
PCB126	ND	0.34	0.093	1.00	
PCB128	ND	0.34	0.20	1.00	
PCB132/153	1.2	0.68	0.27	1.00	
PCB138/158	0.91	0.68	0.60	1.00	
PCB149	0.53	0.34	0.20	1.00	
PCB151	ND	0.34	0.15	1.00	
PCB156	ND	0.34	0.13	1.00	
PCB157	ND	0.34	0.14	1.00	
PCB167	ND	0.34	0.22	1.00	
PCB168	ND	0.34	0.24	1.00	
PCB169	ND	0.34	0.11	1.00	
PCB170	ND	0.34	0.19	1.00	
PCB177	ND	0.34	0.20	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC	Date Received:	01/22/19
9700 RESEARCH DR	Work Order:	19-01-1422
IRVINE, CA 92618-4327	Preparation:	EPA 3541
	Method:	EPA 8270C SIM PCB Congeners
	Units:	ug/kg
Project: City of Newport Beach - Federal Channels		Page 8 of 10

Parameter	Result	RL	MDL	DF	Qualifiers
PCB180	ND	0.34	0.16	1.00	
PCB183	ND	0.34	0.16	1.00	
PCB187	ND	0.34	0.17	1.00	
PCB189	ND	0.34	0.11	1.00	
PCB194	ND	0.34	0.12	1.00	
PCB201	ND	0.34	0.058	1.00	
PCB206	ND	0.34	0.20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	62	14-146	
p-Terphenyl-d14	87	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-16-418-353**	**N/A**	**Solid**	**GC/MS HHH**	**01/25/19**	**02/01/19 20:22**	**190125L16**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
PCB018	ND	0.20	0.065	1.00	
PCB028	ND	0.20	0.069	1.00	
PCB037	ND	0.20	0.061	1.00	
PCB044	ND	0.20	0.15	1.00	
PCB049	ND	0.20	0.050	1.00	
PCB052	ND	0.20	0.19	1.00	
PCB066	ND	0.20	0.12	1.00	
PCB070	ND	0.20	0.072	1.00	
PCB074	ND	0.20	0.090	1.00	
PCB077	ND	0.20	0.12	1.00	
PCB081	ND	0.20	0.090	1.00	
PCB087	ND	0.20	0.11	1.00	
PCB099	ND	0.20	0.047	1.00	
PCB101	ND	0.20	0.044	1.00	
PCB105	ND	0.20	0.053	1.00	
PCB110	ND	0.20	0.034	1.00	
PCB114	ND	0.20	0.074	1.00	
PCB118	ND	0.20	0.035	1.00	
PCB119	ND	0.20	0.062	1.00	
PCB123	ND	0.20	0.073	1.00	
PCB126	ND	0.20	0.055	1.00	
PCB128	ND	0.20	0.12	1.00	
PCB132/153	ND	0.40	0.16	1.00	
PCB138/158	ND	0.40	0.35	1.00	
PCB149	ND	0.20	0.12	1.00	
PCB151	ND	0.20	0.088	1.00	
PCB156	ND	0.20	0.077	1.00	
PCB157	ND	0.20	0.085	1.00	
PCB167	ND	0.20	0.13	1.00	
PCB168	ND	0.20	0.14	1.00	
PCB169	ND	0.20	0.065	1.00	
PCB170	ND	0.20	0.11	1.00	
PCB177	ND	0.20	0.12	1.00	
PCB180	ND	0.20	0.092	1.00	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Parameter	Result	RL	MDL	DF	Qualifiers
PCB183	ND	0.20	0.093	1.00	
PCB187	ND	0.20	0.10	1.00	
PCB189	ND	0.20	0.064	1.00	
PCB194	ND	0.20	0.074	1.00	
PCB201	ND	0.20	0.034	1.00	
PCB206	ND	0.20	0.12	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
2-Fluorobiphenyl	68	14-146	
p-Terphenyl-d14	91	34-148	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-03-012219	**19-01-1422-1-AA**	**01/22/19 09:47**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/31/19 00:25**	**190129L04**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Dibutyltin	7.6	3.8	0.92	1.00	
Monobutyltin	ND	3.8	1.7	1.00	
Tetrabutyltin	ND	3.8	0.94	1.00	
Tributyltin	ND	3.8	1.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Tripentyltin	80	27-135	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-02-012219	**19-01-1422-3-AA**	**01/22/19 11:34**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/31/19 00:42**	**190129L04**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Dibutyltin	14	4.6	1.1	1.00	
Monobutyltin	ND	4.6	2.1	1.00	
Tetrabutyltin	ND	4.6	1.2	1.00	
Tributyltin	ND	4.6	2.3	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Tripentyltin	78	27-135	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-01-012219	**19-01-1422-5-AA**	**01/22/19 14:15**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/31/19 00:59**	**190129L04**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Dibutyltin	6.8	4.3	1.0	1.00	
Monobutyltin	ND	4.3	2.0	1.00	
Tetrabutyltin	ND	4.3	1.1	1.00	
Tributyltin	ND	4.3	2.1	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Tripentyltin	72	27-135	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC2-04-012219	**19-01-1422-7-AA**	**01/22/19 15:52**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/31/19 01:16**	**190129L04**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Dibutyltin	9.0	4.9	1.2	1.00	
Monobutyltin	ND	4.9	2.3	1.00	
Tetrabutyltin	ND	4.9	1.2	1.00	
Tributyltin	ND	4.9	2.5	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Tripentyltin	75	27-135	

Method Blank	099-07-016-1662	N/A	Solid	GC/MS Y	01/29/19	01/30/19 21:33	190129L04

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Dibutyltin	ND	3.0	0.73	1.00	
Monobutyltin	ND	3.0	1.4	1.00	
Tetrabutyltin	ND	3.0	0.74	1.00	
Tributyltin	ND	3.0	1.5	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Tripentyltin	90	27-135	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: N/A
Method: EPA 9060A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCS1**
19-01-1512-1	**Matrix Spike**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCS1**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCS1**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Carbon, Total Organic	0.4920	3.000	3.315	94	3.361	96	75-125	1	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 08:21**	**190128S07**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 12:41**	**190128S07**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 13:33**	**190128S07**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Allethrin	ND	5.000	5.406	108	6.056	121	10-148	11	0-30	
Bifenthrin	ND	5.000	6.085	122	6.791	136	26-128	11	0-30	3
Cyfluthrin	ND	5.000	6.980	140	7.399	148	10-131	6	0-30	3
Cypermethrin	ND	5.000	6.189	124	6.765	135	10-136	9	0-30	
Deltamethrin/Tralomethrin	ND	5.000	6.749	135	7.689	154	13-190	13	0-30	
Fenpropathrin	ND	5.000	7.267	145	8.008	160	10-148	10	0-30	3
Fenvalerate/Esfenvalerate	ND	5.000	7.242	145	7.571	151	10-149	4	0-30	3
Fluvalinate	ND	5.000	6.323	126	6.917	138	10-121	9	0-30	3
Permethrin (cis/trans)	ND	5.000	7.207	144	7.858	157	45-123	9	0-30	3
Phenothrin	ND	5.000	8.089	162	8.985	180	45-165	11	0-30	3
Resmethrin/Bioresmethrin	ND	5.000	9.575	192	10.22	204	38-164	6	0-30	3
Tetramethrin	ND	5.000	8.147	163	8.958	179	15-153	9	0-30	3
lambda-Cyhalothrin	ND	5.000	7.224	144	8.220	164	10-123	13	0-30	3

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RPD: Relative Percent Difference. CL: Control Limits

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Spike/Spike Duplicate - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 08:21**	**190128S07**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 12:41**	**190128S07**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 13:33**	**190128S07**

Parameter	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	Qualifiers
Dibutylchlorendate	5.000	48.52	97	51.16	102	14-116	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:08**	**190128S02**
19-01-1512-1	**Matrix Spike**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 13:54**	**190128S02**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 13:58**	**190128S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	2.161	25.00	31.48	117	31.30	117	80-120	1	0-20	
Cadmium	0.1162	25.00	29.31	117	28.83	115	80-120	2	0-20	
Chromium	4.979	25.00	35.65	123	34.36	118	80-120	4	0-20	3
Copper	7.095	25.00	37.40	121	35.98	116	80-120	4	0-20	3
Lead	4.541	25.00	34.30	119	34.15	118	80-120	0	0-20	
Nickel	3.048	25.00	31.20	113	30.28	109	80-120	3	0-20	
Selenium	0.4396	25.00	28.29	111	27.19	107	80-120	4	0-20	
Silver	ND	12.50	14.73	118	14.29	114	80-120	3	0-20	
Zinc	18.46	25.00	51.48	132	50.11	127	80-120	3	0-20	3

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC	Date Received:	01/22/19
9700 RESEARCH DR	Work Order:	19-01-1422
IRVINE, CA 92618-4327	Preparation:	EPA 7471A Total
	Method:	EPA 7471A
Project: City of Newport Beach - Federal Channels		Page 5 of 13

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:34**	**190129S04**
19-01-1512-1	**Matrix Spike**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:36**	**190129S04**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:38**	**190129S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.07125	0.8350	0.7740	84	0.7597	82	76-136	2	0-16	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 11:54**	**190130S09**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 10:56**	**190130S09**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 11:10**	**190130S09**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aldrin	ND	5.000	2.102	42	2.984	60	50-135	35	0-25	3,4
Alpha-BHC	ND	5.000	3.543	71	3.584	72	50-135	1	0-25	
Beta-BHC	ND	5.000	5.268	105	4.612	92	50-135	13	0-25	
Delta-BHC	ND	5.000	3.637	73	3.591	72	50-135	1	0-25	
Gamma-BHC	ND	5.000	3.038	61	3.201	64	50-135	5	0-25	
Dieldrin	ND	5.000	2.954	59	3.112	62	50-135	5	0-25	
4,4'-DDD	ND	5.000	3.979	80	4.289	86	50-135	8	0-25	
4,4'-DDE	5.025	5.000	7.617	52	7.486	49	50-135	2	0-25	3
4,4'-DDT	ND	5.000	3.344	67	2.824	56	50-135	17	0-25	
Endosulfan I	ND	5.000	2.792	56	2.929	59	50-135	5	0-25	
Endosulfan II	ND	5.000	4.266	85	3.451	69	50-135	21	0-25	
Endosulfan Sulfate	ND	5.000	3.119	62	3.307	66	50-135	6	0-25	
Endrin	ND	5.000	2.663	53	2.938	59	50-135	10	0-25	
Endrin Aldehyde	ND	5.000	3.168	63	3.036	61	50-135	4	0-25	
Endrin Ketone	ND	5.000	3.451	69	3.419	68	50-135	1	0-25	
Heptachlor	ND	5.000	2.864	57	3.337	67	50-135	15	0-25	
Heptachlor Epoxide	ND	5.000	3.144	63	3.288	66	50-135	5	0-25	
Methoxychlor	ND	5.000	3.201	64	3.354	67	50-135	5	0-25	
Alpha Chlordane	ND	5.000	3.051	61	3.145	63	50-135	3	0-25	
Gamma Chlordane	ND	5.000	3.740	75	3.694	74	50-135	1	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Spike/Spike Duplicate - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GC 51**	**01/30/19**	**02/01/19 11:54**	**190130S09**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 10:56**	**190130S09**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GC 51**	**01/30/19**	**01/31/19 11:10**	**190130S09**

Parameter	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	1.000	4.896	49	4.897	49	25-145	
Decachlorobiphenyl	1.000	6.672	67	6.067	61	24-168	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 3541
		Method:	EPA 8270C SIM PAHs
Project: City of Newport Beach - Federal Channels			Page 8 of 13

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NC2-04-012219	**Sample**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 21:07**	**190125S17**
NC2-04-012219	**Matrix Spike**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:26**	**190125S17**
NC2-04-012219	**Matrix Spike Duplicate**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:46**	**190125S17**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Acenaphthene	ND	0.1000	0.05806	58	0.06886	69	40-160	17	0-20	
Acenaphthylene	ND	0.1000	0.06116	61	0.07351	74	40-160	18	0-20	
Anthracene	ND	0.1000	0.07116	71	0.07854	79	40-160	10	0-20	
Benzo (a) Anthracene	ND	0.1000	0.07149	71	0.07791	78	40-160	9	0-20	
Benzo (a) Pyrene	ND	0.1000	0.07399	74	0.08385	84	40-160	12	0-20	
Benzo (b) Fluoranthene	ND	0.1000	0.06071	61	0.06430	64	40-160	6	0-20	
Benzo (g,h,i) Perylene	ND	0.1000	0.07192	72	0.07606	76	40-160	6	0-20	
Benzo (k) Fluoranthene	ND	0.1000	0.07699	77	0.08218	82	40-160	7	0-20	
Chrysene	ND	0.1000	0.07838	78	0.08694	87	40-160	10	0-20	
Dibenz (a,h) Anthracene	ND	0.1000	0.06948	69	0.07601	76	40-160	9	0-20	
Fluoranthene	ND	0.1000	0.07470	75	0.08081	81	40-160	8	0-20	
Fluorene	ND	0.1000	0.06173	62	0.06958	70	40-160	12	0-20	
Indeno (1,2,3-c,d) Pyrene	ND	0.1000	0.06774	68	0.07307	73	40-160	8	0-20	
2-Methylnaphthalene	ND	0.1000	0.05964	60	0.07118	71	40-160	18	0-20	
1-Methylnaphthalene	ND	0.1000	0.05953	60	0.07097	71	40-160	18	0-20	
Naphthalene	ND	0.1000	0.04929	49	0.06072	61	40-160	21	0-20	4
Phenanthrene	ND	0.1000	0.07171	72	0.08193	82	40-160	13	0-20	
Pyrene	ND	0.1000	0.08636	86	0.09642	96	40-160	11	0-46	

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RPD: Relative Percent Difference. CL: Control Limits

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Spike/Spike Duplicate - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NC2-04-012219	**Sample**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 21:07**	**190125S17**
NC2-04-012219	**Matrix Spike**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:26**	**190125S17**
NC2-04-012219	**Matrix Spike Duplicate**	**Sediment**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:46**	**190125S17**

Parameter	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	Qualifiers
2-Fluorobiphenyl	0.01000	0.05653	57	0.06337	63	14-146	
Nitrobenzene-d5	0.01000	0.04368	44	0.04991	50	18-162	
p-Terphenyl-d14	0.01000	0.07872	79	0.08280	83	34-148	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NC2-04-012219	**Sample**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/02/19 00:42**	**190125S16**
NC2-04-012219	**Matrix Spike**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 22:43**	**190125S16**
NC2-04-012219	**Matrix Spike Duplicate**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 23:06**	**190125S16**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
PCB018	ND	50.00	38.93	78	33.56	67	50-150	15	0-25	
PCB028	ND	50.00	43.15	86	42.68	85	50-150	1	0-25	
PCB044	ND	50.00	44.80	90	41.15	82	50-150	8	0-25	
PCB052	ND	50.00	37.61	75	35.60	71	50-150	5	0-25	
PCB066	ND	50.00	54.09	108	50.83	102	50-150	6	0-25	
PCB077	ND	50.00	47.71	95	44.12	88	50-150	8	0-25	
PCB101	ND	50.00	47.65	95	43.79	88	50-150	8	0-25	
PCB105	ND	50.00	49.26	99	46.37	93	50-150	6	0-25	
PCB118	ND	50.00	48.61	97	46.28	93	50-150	5	0-25	
PCB126	ND	50.00	50.49	101	48.38	97	50-150	4	0-25	
PCB128	ND	50.00	54.22	108	48.75	97	50-150	11	0-25	
PCB170	ND	50.00	43.82	88	39.15	78	50-150	11	0-25	
PCB180	ND	50.00	56.90	114	52.07	104	50-150	9	0-25	
PCB187	ND	50.00	52.54	105	48.46	97	50-150	8	0-25	
PCB206	ND	50.00	46.23	92	41.00	82	50-150	12	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Spike/Spike Duplicate - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NC2-04-012219	**Sample**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/02/19 00:42**	**190125S16**
NC2-04-012219	**Matrix Spike**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 22:43**	**190125S16**
NC2-04-012219	**Matrix Spike Duplicate**	**Sediment**	**GC/MS HHH**	**01/25/19**	**02/01/19 23:06**	**190125S16**

Parameter	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	Qualifiers
2-Fluorobiphenyl	10.00	71.96	72	66.38	66	14-146	
p-Terphenyl-d14	10.00	86.51	87	82.68	83	34-148	

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RPD: Relative Percent Difference. CL: Control Limits

eurofins | Calscience

Quality Control - Spike/Spike Duplicate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:59**	**190129S04**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:24**	**190129S04**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:41**	**190129S04**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	ND	100.0	73.66	74	77.12	77	33-129	5	0-36	
Tributyltin	ND	100.0	75.13	75	78.63	79	34-142	5	0-50	

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RPD: Relative Percent Difference. CL: Control Limits

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Spike/Spike Duplicate - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:59**	**190129S04**
19-01-1512-1	**Matrix Spike**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:24**	**190129S04**
19-01-1512-1	**Matrix Spike Duplicate**	**Sediment**	**GC/MS Y**	**01/29/19**	**01/30/19 22:41**	**190129S04**

Parameter	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	Qualifiers
Tripentyltin	50.00	81.93	82	84.43	84	27-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - PDS

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
19-01-1512-1	**Sample**	**Sediment**	**ICP/MS 05**	**01/28/19 00:00**	**01/29/19 14:08**	**190128S02**
19-01-1512-1	**PDS**	**Sediment**	**ICP/MS 05**	**01/28/19 00:00**	**01/29/19 14:01**	**190128S02**

Parameter	Sample Conc.	Spike Added	PDS Conc.	PDS %Rec.	%Rec. CL	Qualifiers
Arsenic	2.161	25.00	30.72	114	75-125	
Cadmium	0.1162	25.00	28.07	112	75-125	
Chromium	4.979	25.00	33.00	112	75-125	
Copper	7.095	25.00	35.28	113	75-125	
Lead	4.541	25.00	33.18	115	75-125	
Nickel	3.048	25.00	30.43	110	75-125	
Selenium	0.4396	25.00	29.00	114	75-125	
Silver	ND	12.50	13.19	105	75-125	
Zinc	18.46	25.00	48.78	121	75-125	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Sample Duplicate

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	N/A
		Method:	SM 2540 B (M)
Project: City of Newport Beach - Federal Channels			Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
NC3-03-012219	**Sample**	**Sediment**	**N/A**	**01/24/19 00:00**	**01/24/19 16:00**	**J0124TSD1**
NC3-03-012219	**Sample Duplicate**	**Sediment**	**N/A**	**01/24/19 00:00**	**01/24/19 16:00**	**J0124TSD1**

Parameter	Sample Conc.	DUP Conc.	RPD	RPD CL	Qualifiers
Solids, Total	76.80	76.90	0	0-10	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: N/A
Method: EPA 9060A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-06-013-1936	**LCS**	**Solid**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**
099-06-013-1936	**LCSD**	**Solid**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Carbon, Total Organic	0.6000	0.5108	85	0.6206	103	80-120	19	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-403-193	**LCS**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 03:10**	**190127L07**
099-14-403-193	**LCSD**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 04:02**	**190127L07**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Allethrin	5.000	4.961	99	4.952	99	10-148	0-171	0	0-25	
Bifenthrin	5.000	5.147	103	5.524	110	26-128	9-145	7	0-25	
Cyfluthrin	5.000	4.444	89	4.861	97	10-131	0-151	9	0-25	
Cypermethrin	5.000	3.785	76	4.104	82	10-136	0-157	8	0-25	
Deltamethrin/Tralomethrin	5.000	3.997	80	4.268	85	13-190	0-220	7	0-25	
Fenpropathrin	5.000	4.798	96	5.107	102	10-148	0-171	6	0-25	
Fenvalerate/Esfenvalerate	5.000	3.616	72	3.989	80	10-149	0-172	10	0-25	
Fluvalinate	5.000	3.427	69	3.859	77	10-121	0-140	12	0-25	
Permethrin (cis/trans)	5.000	4.604	92	5.095	102	45-123	32-136	10	0-25	
Phenothrin	5.000	5.587	112	5.883	118	45-165	25-185	5	0-25	
Resmethrin/Bioresmethrin	5.000	6.677	134	7.224	144	38-164	17-185	8	0-25	
Tetramethrin	5.000	4.990	100	5.410	108	15-153	0-176	8	0-25	
lambda-Cyhalothrin	5.000	4.582	92	4.933	99	10-123	0-142	7	0-25	

Total number of LCS compounds: 13
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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LCS/LCSD - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-403-193	**LCS**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 03:10**	**190127L07**
099-14-403-193	**LCSD**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 04:02**	**190127L07**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	Qualifiers
Dibutylchlorendate	5.000	41.53	83	45.31	91	14-116	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3050B
Method: EPA 6020

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-254-710	**LCS**	**Solid**	**ICP/MS 05**	**01/28/19**	**01/29/19 15:40**	**190128L02**
099-15-254-710	**LCSD**	**Solid**	**ICP/MS 05**	**01/28/19**	**01/29/19 15:43**	**190128L02**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Arsenic	25.00	25.89	104	26.49	106	80-120	2	0-20	
Cadmium	25.00	25.78	103	26.18	105	80-120	2	0-20	
Chromium	25.00	26.42	106	26.65	107	80-120	1	0-20	
Copper	25.00	25.48	102	25.29	101	80-120	1	0-20	
Lead	25.00	27.32	109	27.62	110	80-120	1	0-20	
Nickel	25.00	25.87	103	26.41	106	80-120	2	0-20	
Selenium	25.00	23.08	92	23.93	96	80-120	4	0-20	
Silver	12.50	12.75	102	12.91	103	80-120	1	0-20	
Zinc	25.00	29.49	118	28.05	112	80-120	5	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC		Date Received:	01/22/19
9700 RESEARCH DR		Work Order:	19-01-1422
IRVINE, CA 92618-4327		Preparation:	EPA 7471A Total
		Method:	EPA 7471A
Project: City of Newport Beach - Federal Channels			Page 5 of 13

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-278-512	**LCS**	**Solid**	**Mercury 08**	**01/29/19**	**01/29/19 18:29**	**190129L04E**
099-16-278-512	**LCSD**	**Solid**	**Mercury 08**	**01/29/19**	**01/29/19 18:31**	**190129L04E**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Mercury	0.8350	0.7044	84	0.7003	84	82-124	1	0-16	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-858-608	**LCS**	**Solid**	**GC 51**	**01/30/19**	**02/01/19 16:22**	**190130L09**
099-12-858-608	**LCSD**	**Solid**	**GC 51**	**01/30/19**	**01/31/19 07:35**	**190130L09**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Aldrin	5.000	3.630	73	2.988	60	50-135	36-149	19	0-25	
Alpha-BHC	5.000	3.819	76	3.440	69	50-135	36-149	10	0-25	
Beta-BHC	5.000	3.993	80	3.722	74	50-135	36-149	7	0-25	
Delta-BHC	5.000	4.269	85	3.955	79	50-135	36-149	8	0-25	
Gamma-BHC	5.000	3.825	77	3.584	72	50-135	36-149	7	0-25	
Dieldrin	5.000	3.750	75	3.585	72	50-135	36-149	4	0-25	
4,4'-DDD	5.000	4.118	82	4.004	80	50-135	36-149	3	0-25	
4,4'-DDE	5.000	4.079	82	3.959	79	50-135	36-149	3	0-25	
4,4'-DDT	5.000	4.171	83	4.684	94	50-135	36-149	12	0-25	
Endosulfan I	5.000	3.456	69	3.383	68	50-135	36-149	2	0-25	
Endosulfan II	5.000	3.799	76	4.056	81	50-135	36-149	7	0-25	
Endosulfan Sulfate	5.000	3.878	78	3.286	66	50-135	36-149	17	0-25	
Endrin	5.000	3.823	76	3.729	75	50-135	36-149	3	0-25	
Endrin Aldehyde	5.000	2.667	53	3.119	62	50-135	36-149	16	0-25	
Endrin Ketone	5.000	4.009	80	3.885	78	50-135	36-149	3	0-25	
Heptachlor	5.000	4.097	82	3.619	72	50-135	36-149	12	0-25	
Heptachlor Epoxide	5.000	3.764	75	3.564	71	50-135	36-149	5	0-25	
Methoxychlor	5.000	4.157	83	3.976	80	50-135	36-149	4	0-25	
Alpha Chlordane	5.000	3.689	74	3.533	71	50-135	36-149	4	0-25	
Gamma Chlordane	5.000	3.760	75	3.706	74	50-135	36-149	1	0-25	

Total number of LCS compounds: 20
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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LCS/LCSD - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8081A

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-858-608	**LCS**	**Solid**	**GC 51**	**01/30/19**	**02/01/19 16:22**	**190130L09**
099-12-858-608	**LCSD**	**Solid**	**GC 51**	**01/30/19**	**01/31/19 07:35**	**190130L09**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	Qualifiers
2,4,5,6-Tetrachloro-m-Xylene	1.000	6.902	69	7.218	72	25-145	
Decachlorobiphenyl	1.000	8.406	84	8.572	86	24-168	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-097-323	**LCS**	**Solid**	**GC/MS EEE**	**01/25/19**	**01/29/19 18:45**	**190125L17**
099-14-097-323	**LCSD**	**Solid**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:06**	**190125L17**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
Acenaphthene	0.1000	0.06312	63	0.06758	68	40-160	20-180	7	0-20	
Acenaphthylene	0.1000	0.06572	66	0.07232	72	40-160	20-180	10	0-20	
Anthracene	0.1000	0.06620	66	0.07053	71	40-160	20-180	6	0-20	
Benzo (a) Anthracene	0.1000	0.07366	74	0.07703	77	40-160	20-180	4	0-20	
Benzo (a) Pyrene	0.1000	0.07860	79	0.08155	82	40-160	20-180	4	0-20	
Benzo (b) Fluoranthene	0.1000	0.06565	66	0.06819	68	40-160	20-180	4	0-20	
Benzo (g,h,i) Perylene	0.1000	0.07843	78	0.08453	85	40-160	20-180	7	0-20	
Benzo (k) Fluoranthene	0.1000	0.07836	78	0.08090	81	40-160	20-180	3	0-20	
Chrysene	0.1000	0.07775	78	0.07840	78	40-160	20-180	1	0-20	
Dibenz (a,h) Anthracene	0.1000	0.07895	79	0.08169	82	40-160	20-180	3	0-20	
Fluoranthene	0.1000	0.07257	73	0.07523	75	40-160	20-180	4	0-20	
Fluorene	0.1000	0.06707	67	0.07085	71	40-160	20-180	5	0-20	
Indeno (1,2,3-c,d) Pyrene	0.1000	0.07630	76	0.07885	79	40-160	20-180	3	0-20	
2-Methylnaphthalene	0.1000	0.07515	75	0.07896	79	40-160	20-180	5	0-20	
1-Methylnaphthalene	0.1000	0.07542	75	0.07797	78	40-160	20-180	3	0-20	
Naphthalene	0.1000	0.06766	68	0.07429	74	40-160	20-180	9	0-20	
Phenanthrene	0.1000	0.06855	69	0.07116	71	40-160	20-180	4	0-20	
Pyrene	0.1000	0.07753	78	0.08331	83	40-160	20-180	7	0-20	

Total number of LCS compounds: 18
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

RPD: Relative Percent Difference. CL: Control Limits

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LCS/LCSD - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PAHs

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-14-097-323	**LCS**	**Solid**	**GC/MS EEE**	**01/25/19**	**01/29/19 18:45**	**190125L17**
099-14-097-323	**LCSD**	**Solid**	**GC/MS EEE**	**01/25/19**	**01/29/19 19:06**	**190125L17**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	Qualifiers
2-Fluorobiphenyl	0.01000	0.06223	62	0.06631	66	14-146	
Nitrobenzene-d5	0.01000	0.05262	53	0.05911	59	18-162	
p-Terphenyl-d14	0.01000	0.07674	77	0.07864	79	34-148	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-418-353	**LCS**	**Solid**	**GC/MS HHH**	**01/25/19**	**02/01/19 20:46**	**190125L16**
099-16-418-353	**LCSD**	**Solid**	**GC/MS HHH**	**01/25/19**	**02/01/19 21:09**	**190125L16**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	ME CL	RPD	RPD CL	Qualifiers
PCB018	50.00	41.73	83	39.68	79	24-132	6-150	5	0-28	
PCB028	50.00	46.05	92	42.52	85	31-133	14-150	8	0-26	
PCB044	50.00	48.03	96	44.72	89	36-120	22-134	7	0-28	
PCB052	50.00	43.13	86	40.22	80	31-121	16-136	7	0-27	
PCB066	50.00	55.15	110	52.28	105	43-139	27-155	5	0-25	
PCB077	50.00	48.68	97	45.17	90	41-131	26-146	7	0-25	
PCB101	50.00	48.32	97	45.48	91	37-121	23-135	6	0-27	
PCB105	50.00	50.06	100	47.31	95	48-132	34-146	6	0-26	
PCB118	50.00	49.65	99	47.00	94	46-136	31-151	5	0-25	
PCB126	50.00	50.49	101	46.75	93	38-134	22-150	8	0-25	
PCB128	50.00	53.28	107	50.95	102	40-130	25-145	4	0-26	
PCB170	50.00	46.70	93	43.58	87	40-124	26-138	7	0-29	
PCB180	50.00	57.61	115	52.57	105	41-143	24-160	9	0-26	
PCB187	50.00	52.57	105	49.27	99	39-129	24-144	6	0-26	
PCB206	50.00	49.77	100	46.77	94	33-135	16-152	6	0-24	

Total number of LCS compounds: 15
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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LCS/LCSD - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3541
Method: EPA 8270C SIM PCB Congeners

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-16-418-353	**LCS**	**Solid**	**GC/MS HHH**	**01/25/19**	**02/01/19 20:46**	**190125L16**
099-16-418-353	**LCSD**	**Solid**	**GC/MS HHH**	**01/25/19**	**02/01/19 21:09**	**190125L16**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	Qualifiers
2-Fluorobiphenyl	10.00	62.13	62	57.06	57	14-146	
p-Terphenyl-d14	10.00	80.96	81	74.48	74	34-148	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-016-1662	**LCS**	**Solid**	**GC/MS Y**	**01/29/19**	**01/30/19 21:50**	**190129L04**
099-07-016-1662	**LCSD**	**Solid**	**GC/MS Y**	**01/29/19**	**01/30/19 22:07**	**190129L04**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Tetrabutyltin	100.0	63.86	64	72.28	72	40-142	12	0-20	
Tributyltin	100.0	55.93	56	46.79	47	33-147	18	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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LCS/LCSD - Surrogate

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/22/19
Work Order: 19-01-1422
Preparation: EPA 3550B (M)
Method: Organotins by Krone et al.

Project: City of Newport Beach - Federal Channels

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-016-1662	**LCS**	**Solid**	**GC/MS Y**	**01/29/19**	**01/30/19 21:50**	**190129L04**
099-07-016-1662	**LCSD**	**Solid**	**GC/MS Y**	**01/29/19**	**01/30/19 22:07**	**190129L04**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	Qualifiers
Tripentyltin	50.00	73.54	74	62.69	63	27-135	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

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Method	Extraction	Chemist ID	Instrument	Analytical Location
ASTM D4464 (M)	N/A	1106	LPSA 1	1
EPA 6020	EPA 3050B	598	ICP/MS 05	1
EPA 7471A	EPA 7471A Total	868	Mercury 08	1
EPA 8081A	EPA 3541	669	GC 51	1
EPA 8270C SIM PAHs	EPA 3541	1037	GC/MS EEE	1
EPA 8270C SIM PCB Congeners	EPA 3541	1037	GC/MS HHH	1
EPA 8270D (M)/TQ/EI	EPA 3541	27	GCTQ 1	3
EPA 9060A	N/A	834	TOC 10	1
Organotins by Krone et al.	EPA 3550B (M)	1117	GC/MS Y	1
SM 2540 B (M)	N/A	1136	N/A	1

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Glossary of Terms and Qualifiers

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Qualifiers	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **19-01-1422**

DATE: 1/22/19

PAGE: 1 OF 1

LABORATORY CLIENT: **Anchor QEA**

ADDRESS: **27201 Puerta Real, Suite 350**

CITY: **Mission Viejo** STATE: **CA** ZIP: **92691**

TEL: **949.347.2780** E-MAIL: cosuch@anchorqea.com

CLIENT PROJECT NAME / NUMBER: City of Newport Beach - Federal Channels

P.O. NO.:

PROJECT CONTACT: Chris Osuch

QUOTE #: 963350

SAMPLER(S): (PRINT) Chris Osuch

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ■ STANDARD

☐ COELT EDF

GLOBAL ID:

LOG CODE:

SPECIAL INSTRUCTIONS:

Report down to the MDL. Refer to SAP for parameters and QC frequency.

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	EPA 6020 Metals	EPA 7471A Mercury	EPA 8081A Organochlorine pesticides	EPA 8270C SIM PAHs	EPA 8270C SIM PCB Congeners	EPA 9060A Total Organic Carbon	Krone et al. Organotins	Pyrethroids by EPA 8270D (M)/TQ/EI	SM 2540 B (M) Total Solids	ASTM D4464 (M) Particle Size	MS/MSD	Archive
1	NC3-03-012219	1/22/19	0947	SED	2				X	X	X	X	X	X	X	X	X	X		
2	NC3-03-Z-012219	↓	↓	↓	1													SAC		X
3	NC3-02-012219		1134		2				X	X	X	X	X	X	X	X	X	X		
4	NC3-02-Z-012219		↓		1															X
5	NC3-01-012219		1415		2				X	X	X	X	X	X	X	X	X	X		
6	NC3-01-Z-012219		↓		1															X
7	NC2-04-012219		1552		2				X	X	X	X	X	X	X	X	X	X		
8	NC2-04-Z-012219	↓	↓	↓	1															X

Relinquished by: (Signature) Chris Osuch	Received by: (Signature/Affiliation)	Date: 1/22/19	Time: 1750
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 1/22/19	Time: 1850
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

06/02/14 Revision

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WORK ORDER NUMBER: 19-01-1422

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Anchor

DATE: 01/22/2019

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: -0.5°C); Temperature (w/o CF): 2.4 °C (w/ CF): 1.9 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 1091

CUSTODY SEAL:

Cooler ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1091

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: SM

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Acid/base preserved samples - pH within acceptable range	☐	☐	☑
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** (pH__9)

☐ 250AGB ☐ 250CGB ☐ 250CGB**s** (pH__2) ☐ 250PB ☐ 250PB**n** (pH__2) ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** (pH__2) ☐ 500PB

☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** (pH__2) ☐ 1AGB**s** (O&G) ☐ 1PB ☐ 1PB**na** (pH__12) ☐ _____ ☐ _____ ☐ _____

Solid: ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (___) ☐ EnCores® (___) ☐ TerraCores® (___) ☐ _____ ☐ _____ ☐ _____

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (Sediment): ☑ 16 oz Glass ☑ 2 ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: SM

Reviewed by: TB

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WORK ORDER NUMBER: 19-01-1512

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: ANCHOR QEA, LLC

Client Project Name: City of Newport Beach - Federal Channels

Attention: Chris Osuch
9700 RESEARCH DR
IRVINE, CA 92618-4327

Approved for release on 02/05/2019 by:
Richard Villafania
Project Manager

ResultLink

Email your PM

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Client Project Name: City of Newport Beach - Federal Channels
Work Order Number: 19-01-1512

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Work Order Narrative

Work Order: 19-01-1512 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 01/23/19. They were assigned to Work Order 19-01-1512.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

DoD Projects:

The test results contained in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation ADE-1864.

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Sample Summary

Client:	ANCHOR QEA, LLC 9700 RESEARCH DR IRVINE, CA 92618-4327	Work Order:	19-01-1512
		Project Name:	City of Newport Beach - Federal Channels
		PO Number:	
		Date/Time Received:	01/23/19 18:50
		Number of Containers:	16
Attn:	Chris Osuch		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
NC3-04-012319	19-01-1512-1	01/23/19 08:15	3	Sediment
NC3-04-Z-012319	19-01-1512-2	01/23/19 08:15	1	Sediment
NC1-01-012319	19-01-1512-3	01/23/19 11:15	2	Sediment
NC1-01-Z-012319	19-01-1512-4	01/23/19 11:15	1	Sediment
NC1-02-012319	19-01-1512-5	01/23/19 13:45	2	Sediment
NC1-02-Z-012319	19-01-1512-6	01/23/19 13:45	1	Sediment
NC1-03-012319	19-01-1512-7	01/23/19 15:30	2	Sediment
NC1-03-Z-012319	19-01-1512-8	01/23/19 15:30	1	Sediment
NC1-04-012319	19-01-1512-9	01/23/19 17:00	2	Sediment
NC1-04-Z-012319	19-01-1512-10	01/23/19 17:00	1	Sediment

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: N/A
Method: EPA 9060A
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-04-012319	**19-01-1512-1-AA**	**01/23/19 08:15**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.63	0.064	0.022	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-01-012319	**19-01-1512-3-AA**	**01/23/19 11:15**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.75	0.089	0.031	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-02-012319	**19-01-1512-5-AA**	**01/23/19 13:45**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.91	0.085	0.029	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-03-012319	**19-01-1512-7-AA**	**01/23/19 15:30**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.41	0.077	0.027	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-04-012319	**19-01-1512-9-AA**	**01/23/19 17:00**	**Sediment**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	0.42	0.084	0.029	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: N/A
Method: EPA 9060A
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-06-013-1936**	**N/A**	**Solid**	**TOC 10**	**01/29/19**	**01/29/19 13:19**	**J0129TOCL1**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Carbon, Total Organic	ND	0.050	0.017	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: N/A
Method: SM 2540 B (M)
Units: %

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-04-012319	**19-01-1512-1-AA**	**01/23/19 08:15**	**Sediment**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	78.7	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-01-012319	**19-01-1512-3-AA**	**01/23/19 11:15**	**Sediment**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	56.3	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-02-012319	**19-01-1512-5-AA**	**01/23/19 13:45**	**Sediment**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	58.9	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-03-012319	**19-01-1512-7-AA**	**01/23/19 15:30**	**Sediment**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	65.2	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-04-012319	**19-01-1512-9-AA**	**01/23/19 17:00**	**Sediment**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	59.8	0.100	0.100	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-05-019-4390**	**N/A**	**Solid**	**N/A**	**01/28/19**	**01/28/19 20:00**	**J0128TSB2**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Solids, Total	ND	0.100	0.100	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-04-012319	**19-01-1512-1-AA**	**01/23/19 08:15**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 08:21**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.63	0.32	1.00	
Bifenthrin	ND	0.63	0.38	1.00	
Cyfluthrin	ND	0.63	0.32	1.00	
Cypermethrin	ND	0.63	0.32	1.00	
Deltamethrin/Tralomethrin	ND	0.63	0.32	1.00	
Fenpropathrin	ND	0.63	0.32	1.00	
Fenvalerate/Esfenvalerate	ND	0.63	0.32	1.00	
Fluvalinate	ND	0.63	0.32	1.00	
Permethrin (cis/trans)	ND	1.3	0.63	1.00	
Phenothrin	ND	0.63	0.32	1.00	
Resmethrin/Bioresmethrin	ND	0.63	0.54	1.00	
Tetramethrin	ND	0.63	0.38	1.00	
lambda-Cyhalothrin	ND	0.63	0.32	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	93	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-01-012319	**19-01-1512-3-AA**	**01/23/19 11:15**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 09:13**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.89	0.44	1.00	
Bifenthrin	1.4	0.89	0.53	1.00	
Cyfluthrin	ND	0.89	0.44	1.00	
Cypermethrin	ND	0.89	0.44	1.00	
Deltamethrin/Tralomethrin	ND	0.89	0.44	1.00	
Fenpropathrin	ND	0.89	0.44	1.00	
Fenvalerate/Esfenvalerate	ND	0.89	0.44	1.00	
Fluvalinate	ND	0.89	0.44	1.00	
Permethrin (cis/trans)	ND	1.8	0.89	1.00	
Phenothrin	ND	0.89	0.44	1.00	
Resmethrin/Bioresmethrin	ND	0.89	0.75	1.00	
Tetramethrin	ND	0.89	0.53	1.00	
lambda-Cyhalothrin	ND	0.89	0.44	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	97	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-02-012319	**19-01-1512-5-AA**	**01/23/19 13:45**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 10:05**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.84	0.42	1.00	
Bifenthrin	0.63	0.84	0.51	1.00	J
Cyfluthrin	ND	0.84	0.42	1.00	
Cypermethrin	ND	0.84	0.42	1.00	
Deltamethrin/Tralomethrin	ND	0.84	0.42	1.00	
Fenpropathrin	ND	0.84	0.42	1.00	
Fenvalerate/Esfenvalerate	ND	0.84	0.42	1.00	
Fluvalinate	ND	0.84	0.42	1.00	
Permethrin (cis/trans)	ND	1.7	0.84	1.00	
Phenothrin	ND	0.84	0.42	1.00	
Resmethrin/Bioresmethrin	ND	0.84	0.72	1.00	
Tetramethrin	ND	0.84	0.51	1.00	
lambda-Cyhalothrin	ND	0.84	0.42	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	89	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-03-012319	**19-01-1512-7-AA**	**01/23/19 15:30**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 10:57**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.77	0.38	1.00	
Bifenthrin	0.48	0.77	0.46	1.00	J
Cyfluthrin	ND	0.77	0.38	1.00	
Cypermethrin	ND	0.77	0.38	1.00	
Deltamethrin/Tralomethrin	ND	0.77	0.38	1.00	
Fenpropathrin	ND	0.77	0.38	1.00	
Fenvalerate/Esfenvalerate	ND	0.77	0.38	1.00	
Fluvalinate	ND	0.77	0.38	1.00	
Permethrin (cis/trans)	ND	1.5	0.77	1.00	
Phenothrin	ND	0.77	0.38	1.00	
Resmethrin/Bioresmethrin	ND	0.77	0.65	1.00	
Tetramethrin	ND	0.77	0.46	1.00	
lambda-Cyhalothrin	ND	0.77	0.38	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	92	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-04-012319	**19-01-1512-9-AA**	**01/23/19 17:00**	**Sediment**	**GCTQ 1**	**01/28/19**	**01/30/19 11:49**	**190127L07**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.84	0.42	1.00	
Bifenthrin	0.90	0.84	0.50	1.00	
Cyfluthrin	ND	0.84	0.42	1.00	
Cypermethrin	ND	0.84	0.42	1.00	
Deltamethrin/Tralomethrin	ND	0.84	0.42	1.00	
Fenpropathrin	ND	0.84	0.42	1.00	
Fenvalerate/Esfenvalerate	ND	0.84	0.42	1.00	
Fluvalinate	ND	0.84	0.42	1.00	
Permethrin (cis/trans)	ND	1.7	0.84	1.00	
Phenothrin	ND	0.84	0.42	1.00	
Resmethrin/Bioresmethrin	ND	0.84	0.71	1.00	
Tetramethrin	ND	0.84	0.50	1.00	
lambda-Cyhalothrin	ND	0.84	0.42	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	94	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3541
Method: EPA 8270D (M)/TQ/EI
Units: ug/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-403-193**	**N/A**	**Solid**	**GCTQ 1**	**01/28/19**	**01/30/19 04:54**	**190127L07**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Allethrin	ND	0.50	0.25	1.00	
Bifenthrin	ND	0.50	0.30	1.00	
Cyfluthrin	ND	0.50	0.25	1.00	
Cypermethrin	ND	0.50	0.25	1.00	
Deltamethrin/Tralomethrin	ND	0.50	0.25	1.00	
Fenpropathrin	ND	0.50	0.25	1.00	
Fenvalerate/Esfenvalerate	ND	0.50	0.25	1.00	
Fluvalinate	ND	0.50	0.25	1.00	
Permethrin (cis/trans)	ND	1.0	0.50	1.00	
Phenothrin	ND	0.50	0.25	1.00	
Resmethrin/Bioresmethrin	ND	0.50	0.42	1.00	
Tetramethrin	ND	0.50	0.30	1.00	
lambda-Cyhalothrin	ND	0.50	0.25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibutylchlorendate	94	14-116	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-04-012319	**19-01-1512-1-AA**	**01/23/19 08:15**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:08**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	2.75	0.127	0.111	1.00	
Cadmium	0.148	0.127	0.0727	1.00	
Chromium	6.33	0.127	0.0789	1.00	
Copper	9.01	0.127	0.0533	1.00	
Lead	5.77	0.127	0.0837	1.00	
Nickel	3.87	0.127	0.0643	1.00	
Selenium	0.559	0.127	0.0928	1.00	
Silver	0.114	0.127	0.0398	1.00	J
Zinc	23.5	1.27	1.01	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-01-012319	**19-01-1512-3-AA**	**01/23/19 11:15**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:12**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	8.11	0.178	0.155	1.00	
Cadmium	0.515	0.178	0.102	1.00	
Chromium	23.3	0.178	0.110	1.00	
Copper	130	0.178	0.0744	1.00	
Lead	38.4	0.178	0.117	1.00	
Nickel	13.7	0.178	0.0899	1.00	
Selenium	5.78	0.178	0.130	1.00	
Silver	0.398	0.178	0.0556	1.00	
Zinc	151	1.78	1.41	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-02-012319	**19-01-1512-5-AA**	**01/23/19 13:45**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:26**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	9.72	0.170	0.148	1.00	
Cadmium	0.568	0.170	0.0972	1.00	
Chromium	26.7	0.170	0.105	1.00	
Copper	85.4	0.170	0.0712	1.00	
Lead	36.5	0.170	0.112	1.00	
Nickel	16.6	0.170	0.0860	1.00	
Selenium	4.02	0.170	0.124	1.00	
Silver	0.359	0.170	0.0531	1.00	
Zinc	130	1.70	1.35	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-03-012319	**19-01-1512-7-AA**	**01/23/19 15:30**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:29**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	5.84	0.153	0.134	1.00	
Cadmium	0.309	0.153	0.0878	1.00	
Chromium	14.6	0.153	0.0952	1.00	
Copper	47.6	0.153	0.0643	1.00	
Lead	19.2	0.153	0.101	1.00	
Nickel	9.18	0.153	0.0776	1.00	
Selenium	2.34	0.153	0.112	1.00	
Silver	0.260	0.153	0.0480	1.00	
Zinc	95.8	1.53	1.22	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 3050B
Method: EPA 6020
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-04-012319	**19-01-1512-9-AA**	**01/23/19 17:00**	**Sediment**	**ICP/MS 05**	**01/28/19**	**01/29/19 14:33**	**190128L02**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	6.26	0.167	0.146	1.00	
Cadmium	0.461	0.167	0.0957	1.00	
Chromium	18.3	0.167	0.104	1.00	
Copper	50.5	0.167	0.0701	1.00	
Lead	20.8	0.167	0.110	1.00	
Nickel	11.8	0.167	0.0847	1.00	
Selenium	2.41	0.167	0.122	1.00	
Silver	0.315	0.167	0.0523	1.00	
Zinc	92.3	1.67	1.33	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-254-710**	**N/A**	**Solid**	**ICP/MS 05**	**01/28/19**	**01/29/19 13:44**	**190128L02**

Comment(s): - Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Arsenic	ND	0.100	0.0873	1.00	
Cadmium	ND	0.100	0.0572	1.00	
Chromium	ND	0.100	0.0621	1.00	
Copper	ND	0.100	0.0419	1.00	
Lead	ND	0.100	0.0659	1.00	
Nickel	ND	0.100	0.0506	1.00	
Selenium	ND	0.100	0.0731	1.00	
Silver	ND	0.100	0.0313	1.00	
Zinc	ND	1.00	0.795	1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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Analytical Report

ANCHOR QEA, LLC
9700 RESEARCH DR
IRVINE, CA 92618-4327

Date Received: 01/23/19
Work Order: 19-01-1512
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg

Project: City of Newport Beach - Federal Channels

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC3-04-012319	**19-01-1512-1-AA**	**01/23/19 08:15**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:34**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.0905	0.0268	0.00785	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-01-012319	**19-01-1512-3-AA**	**01/23/19 11:15**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:41**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	2.00	0.0355	0.0104	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-02-012319	**19-01-1512-5-AA**	**01/23/19 13:45**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:43**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	2.49	0.0357	0.0105	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-03-012319	**19-01-1512-7-AA**	**01/23/19 15:30**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:50**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.708	0.0302	0.00886	1.00	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NC1-04-012319	**19-01-1512-9-AA**	**01/23/19 17:00**	**Sediment**	**Mercury 08**	**01/29/19**	**01/29/19 18:52**	**190129L04E**

Comment(s): - Results are reported on a dry weight basis.
- Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qualifiers
Mercury	0.810	0.0319	0.00935	1.00	

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.