ANCHOR QEA

WEEKLY SUMMARY REPORT

Project Name:	Gasco Sediments Site ISS Field Pilot Study		
Project No:	000029-02.85	**Report Date:**	September 19, 2023
Week Of:	September 11, 2023	**Report No:**	1

Weekly Summary

Item	Approximate Production This Week	Approximate Total Cumulative Production	Approximate Task Percent Completion
Mobilization activities	NA	NA	60%
Dolphin pile removal	NA	NA	100%
Debris removal	NA	NA	0%
ISS auguring	NA	NA	0%
Swell material removal	NA	NA	0%

Work Performed This Period

Mobilization (9/06/2023 – 9/09/2023)

Began mobilization of equipment to site and installation of batch plant, oil containment and absorbent booms, and ISS and swell material removal barge moonpools. The baseline water quality monitoring was conducted on 9/07/2023 and 9/08/2023.

Monday (9/11/2023)

Continue mobilization and equipment set-up including installation of the batch plant, ISS and swell material removal barge moonpools, and ISS drill rig barge. Initiated installation of upland survey equipment to monitor lateral displacement of the Siltronic outfall piling supports and unsubmerged portion of the riverbank directly adjacent to the field pilot study footprint and northern-most portion of the Siltronic property.

Tuesday (9/12/2023)

Continue mobilization and equipment set-up including installation of the batch plant, ISS and swell material removal barge moonpools, and ISS drill rig barge. Continued installation of upland survey equipment to monitor lateral displacement of the Siltronic outfall piling supports and Siltronic riverbank.

Wednesday (9/13/2023)

Continue mobilization and equipment set-up including installation of the batch plant, ISS and swell material removal barge moonpools, and ISS drill rig barge. Completed installation of upland survey equipment to monitor lateral displacement of the Siltronic outfall piling supports and Siltronic riverbank and initiated collection of baseline survey data prior to field pilot study construction.

Thursday (9/14/2023)

Continue mobilization and equipment set-up including installation of the ISS drill rig set-up, ISS and swell material removal barge moonpools, and swell material removal barge.

Friday (9/15/2023)

Extract piling associated with the former timber dolphin using crane and vibratory pile extractor. Fourteen piles were pulled and placed on containment pad on the water-tight haul barge. A single pile broke off underneath the mud line during extraction, so in accordance with Section 3.3.1 of the *Final Revised In Situ Stabilization and Solidification Field Pilot Study Work Plan* the location of the broken piling was recorded and will be managed as necessary during implementation of the full-scale remedy. The vibratory aspect of the pile removal was only about a minute per pile. Water quality monitoring was performed during dolphin removal activities. Equipment set-up continued including batch plant, ISS and swell material removal barge moonpools, swell material removal barge, and ISS drill rig.

Saturday (9/16/2023)

Equipment set-up continued including installation of the temporary floating pier for personnel access and the gangway to the top of riverbank, oil containment and absorbent boom, and ISS and swell material removal barge moon pools.

Water Quality Monitoring

Thursday (9/07/2023) A single round of baseline water quality monitoring was performed during a flood tide with field parameters and chemistry samples collected at background station NWN-BG1N and compliance station NWN-CS2S.
Saturday (9/08/2023) Two rounds of ebb tide baseline water quality monitoring were performed with field parameters and chemistry samples collected at background station NWN-BG1S and compliance station NWN-CS1N. A single round of flood tide baseline water quality monitoring was performed at background station NWN-BG1N and compliance station NWN-CS1S.
Friday (9/15/2023) Two rounds (both flood and ebb tides) of water quality monitoring was performed during pile removal associated with the former timber dolphin.
Findings: There were no exceedances of field or chemical water quality criteria during any monitoring events this week. A compilation of water quality daily field forms from the week, tabulated field parameter data, and received water quality chemical results during this weekly reporting period are attached.

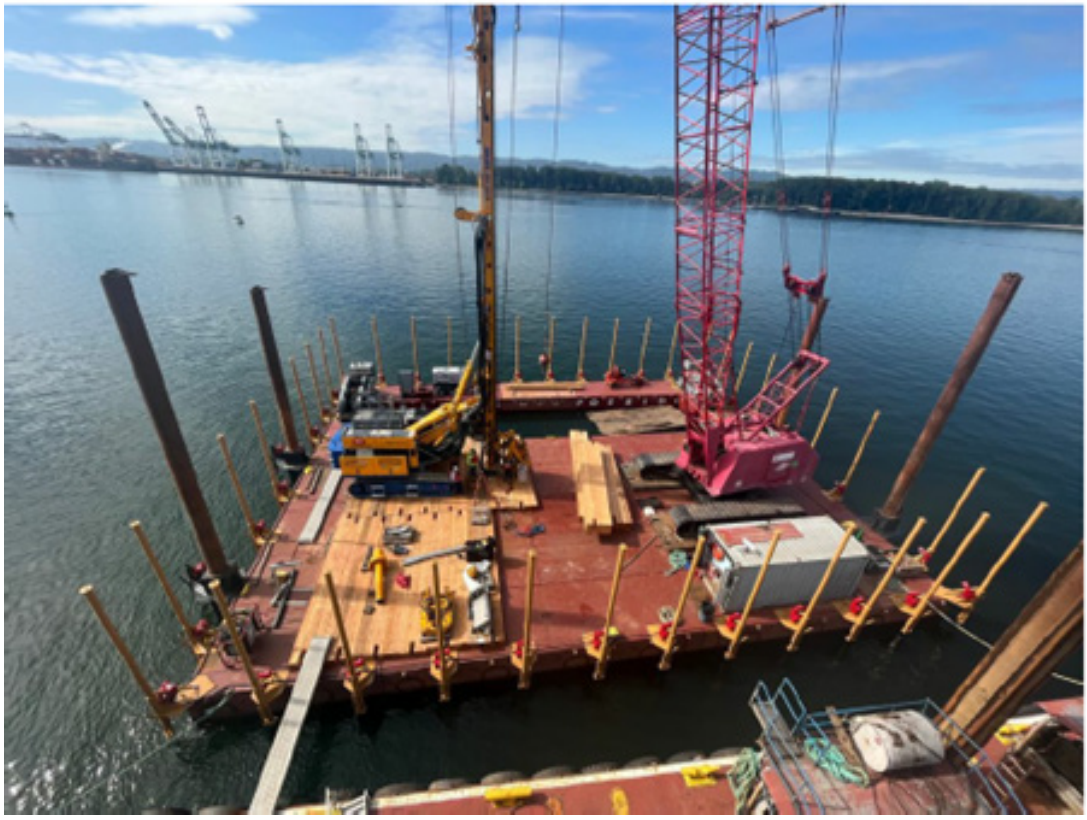
Scheduled Construction Work This Week (Next Reporting Week)

Complete assembly of the ISS and swell material removal barge moonpools, initiate targeted debris removal with excavator barge, and initiate ISS auguring and swell material removal.

Problems Encountered and Contingency Actions Implemented

None.

Prepared By:	Kendra Skellenger	**Contact Information:**	503-752-4218
CC:	Bob Wyatt, Patty Dost, Jen Mott, Ryan Barth, Tim Stone, Ben Uhl, Billie-Jo, Joe Smith, Mike Crystal, Tim Donegan, Taylor Crystal, Gary Rose, Joe Burke, Rob Ede,		
Attachments:	*Photos, Daily Monitoring Logs, Water Quality Monitoring Forms, Water Quality Sampling Forms, Water Quality Monitoring - Calibration Log Form, Water Quality Field Parameter Measurements - Baseline Survey and Water Quality Field Parameter Measurements, and Water Quality Monitoring Chemistry Results*		



Placement of Bauer BG 28 H drill rig on the completed ISS barge (9/12/2023).

Installation of spuds and generators for ISS barge moonpool (9/13/2023).

Mobilized Bauer 28 H drill rig (9/14/2023).

Installation of moonpool spuds and PC300 LF excavator on swell material removal barge (9/14/2023).

Extraction of pilings associated with former timber dolphin (9/15/2023).

Daily Monitoring Log

Gasco Site Remedial Action

ANCHOR QEA

Anchor QEA, LLC
6720 S Macadam Ave., Suite 300
Portland, OR 97219

Phone 503.670.1108

DATE: 9/7/23

PERSONNEL: James Mealy, Simon Dudenhoeffer, Cory Fluker

Wind from: N | NE | E | SE | S | SW | W | NW | NONE | (LIGHT) | MEDIUM | HEAVY

SUNNY | (CLOUDY) | RAIN

Temperature: °F 58 . °C

[Circle appropriate units]

TIME	COMMENTS
0715	Ben Uhl, James Mealy, Simon Dudenhoeffer, Cory Fluker (AQ) on-site
	@ Gasco.
0730	Daily H&S Briefing. Everyone sign HASP. Go over boat safety
	Review HASP & FSP.
0750	Calibrate YSI. Decon Van Dorn. Load equipment into boat
0825	Mobilize to Cathedral Park
0845	On-water. Mobilize to BG-7S EBB Tide.
0910	Confirm Garmin water depth ~~35 ft~~ to lead line
0915	Begin first round of EBB tide baseline measurements
1015	Cory noticed ~~tide~~ flow of river has reversed and now in flood tide.
	Contact Ben and decide to collect EBB tide tomorrow and collect
	flood tide today.
1150	Collect sample NWN-CS25-230907 at 41'
1200	Collect sample NWN-~~BG~~IN-230907 at 38.7'
1230	Off-water @ Cathedral Park. Wrap up equipment & drive boat
	back to Gasco
1430	Load equipment for tomorrow
	Ben delivering samples to Apex

Signature: [signature]

Daily Monitoring Log

Gasco Site Remedial Action

ANCHOR QEA

Anchor QEA, LLC
6720 S Macadam Ave., Suite 300
Portland, OR 97219

Phone 503.670.1108

DATE: 9/8/23

PERSONNEL: Simon Dudenhoefer

Wind from: (N) | NE | E | SE | S | SW | W | NW | NONE | (LIGHT) | MEDIUM | HEAVY

SUNNY | (CLOUDY) | RAIN

Temperature: (°F) 54. °C

[Circle appropriate units]

TIME	COMMENTS
0700	Arrive at Gasco
—	Load Equipment, calibrate YSI
—	Mobilize to boat ramp
800	HASP meeting, went over site security, more people @ Gasco.
805	On water
820	Confirmed depth with lead line
859	Decon'ed Van Dorn sampler
900	Collected NWN-CSIN-230908 @ 29.6'
915	Collected NWN-BGIS-230908 @ 29.2'
918	Start WQM (Ebb Tide) circuit 2
1005	Collected NWN-CSIN-230908-1005 @ 31'
1030	Collected NWN-BGIS-230908-1030 @ 31'
1111	Start Ebb tide WQM
1200	Collected NWN-CSIS-230908 1200 @ 33.6'
1210	Collected NWN-BGIN-230908 1210 @ 33.6'
1220	Arrive @ St. Johns boat ramp
1245	Arrive @ GASCO
1345	Scan field forms, upload to WQM file
1445	Rinsate blank sample prepared after
—	decontaminating the Van Dorn sampler used
—	for water sample collection.
—	Rinsate blank ZP: NWN-RB-230908 1445
—	Rinsate blank sampled in 2 125 ml amber glass containers.
1530	Upload sample data to EZEDD
1600	WQM Team offsight

Signature: _____

Daily Monitoring Log

Gasco Site Remedial Action

ANCHOR QEA

Anchor QEA, LLC
6720 S Macadam Ave., Suite 300
Portland, OR 97219

Phone 503.670.1108

DATE: 9-15-2023
PERSONNEL: BW/CF/SD

Wind from: N | NE | E | SE | S | SW | (W) | NW | NONE | (LIGHT) | MEDIUM | HEAVY

(SUNNY) | CLOUDY | RAIN

Temperature: °F 50-80's °C [Circle appropriate units]

TIME	COMMENTS
06:00	Simon, Cody, myself on site, prepare for water quality monitoring (Field parameters + chemistry - intensive monitoring).
	→ Calibrate YSI Pro DSS
	→ Discuss Health + Safety, Sign HASP
7:50	Arrive @ Cathedral Park boat ramp (me, Simon, Cody) Continue preparing equipment @ ramp; SES indicates around 9:30 or later for dolphin removal activities to commence.
9:00	On water (Cody, Ben, Simon).
9:22	MOB to BG-15 (Ebb Tide)
9:40	Confirmed Garmin water depth is accurate with led line
9:45	confirmed flow direction (downstream) with Swoffer velocity meter
10:10	Deconned Van Dorn samples (Alconox + DI)
10:54	SES setting up rigging on former dolphin piling. Crew appears to be working on about ~~about~~ choke.
11:00	SES could not pull piling w/ choking from the top of piling. Cut piling ~5' above river surface then will set choker mid near top of cut.
11:55	All wooden dolphin pilings. Prepare to vibe on ~~pi~~ pilings a bit.
12:04-1236	SES @ Lunch
12:37	Commence dolphin removal activities. Still not disturbing sediments.
12:48	SES starts attempting to vibe + pull piling. Looks like its working.
13:02	MOB to FW-1N for early morning WQM field parameter measurements.

Signature: Benjamin A. Wle

Daily Monitoring Log

Gasco Site Remedial Action

ANCHOR QEA

Anchor QEA, LLC
6720 S Macadam Ave., Suite 300
Portland, OR 97219

Phone 503.670.1108

DATE: 9-15-23
PERSONNEL: BU/SP/CF SD

Wind from: (N) NE E SE S SW W NW NONE (LIGHT) MEDIUM HEAVY

(SUNNY) CLOUDY RAIN

Temperature: (F) 70's F °C [Circle appropriate units]

TIME	COMMENTS
13:06	Arrive @ FW-IN to collect WQM field parameters
13:17	Complete WQM readings @ FW-IN
13:22	Start @ CS-IN WQM parameters
13:29	Complete WQM readings @ CS-IN, MOB to CS-2N
13:41	Complete WQM @ CS-2N.
	While viewing work area from BG-1S observe sheen in area where previously known sheens occur. Sheen appearance was gray, swirly w/ no visible oil observed. Some minor patches of slight rainbow sheen. → sheen blowing south on top of river dissipating at/near work area, no odor observed.
1523	Slight sheen @ EW-1S
	-SAMPLE SUMMARY
	• collect WQM field parameters Ebb/Normal flow during dolphin pile removal
	• collect WQM field parameters + Chemistry samples Flood/reverse flow during pile removal activities
	• Sheen noted as above
	• No dead/distressed fish observed to be present.
16:30	OFF RIVER → MOB to Gasco to Cleanup + COC/sample MGMT
17:00	Cody/Simon offsite
17:30	BAU to Apex Labs to deliver WQM samples
19:30	BAU-End of field day.

Signature: Benjamin A Uhl

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6720 S Macadam Ave., Suite 300
Portland, OR 98219

FLOOD

Water Quality Monitoring Form (Part A)
Gasco Site Remedial Action

Date: 9/7/23 | **Circuit Number:** 1 (Flood)

Background Station: BG (N) / S | Time: 1032

Lat/Northing: 45.58033 | Long/Easting: 122.75771 | Total Water Depth: 40.8

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.89	6.96	8.93	20.4
Middle	20.4	3.31	6.89	8.59	20.3
Deep	37.8	4.35	6.87	8.51	20.0

Comments[1]: no odor, no sheen, no discoloration, no suspened materials

Early Warning Station: EW N / (S) | Time: 1041

Lat/Northing: 45.57916 | Long/Easting: 122.75493 | Total Water Depth: 41.1

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.37	6.95	8.77	20.4
Middle	20.55	2.91	6.90	8.52	20.3
Deep	38.1	4.05	6.85	8.43	20.2

Comments[1]: no odor, no sheen, no discoloration, no suspended materials

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

6720 S Macadam Ave., Suite 300
Portland, OR 98219

FLOOD #1

Water Quality Monitoring Form (Part B)
Gasco Site Remedial Action

Date: 9/7/23 | **Circuit Number:** 1 (Flood)

Compliance Station: CS-1 N / (S) | Time: 1051

Lat/Northing: 45.57894 | Long/Easting: 122.75456 | Total Water Depth: 35.6

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.41	6.86	8.79	20.4
Middle	17.53	3.15	6.85	8.62	20.3
Deep	32.6	3.52	6.81	8.46	20.2

Comments[1]: no odor, no sheen, no discoloration, no suspended materials

Compliance Station: CS-2 N / (S) | Time: 1056

Lat/Northing: 45.57937 | Long/Easting: 122.75503 | Total Water Depth: 43.2

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.99	6.90	8.93	20.4
Middle	21.51	2.55	6.83	8.58	20.3
Deep	40.2	5.47	6.78	8.46	20.1

Comments[1]: no odor, no sheen, no discoloration, no suspended materials

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

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Portland, OR 98219

Water Quality Monitoring Form (Part A)
Gasco Site Remedial Action

Date: 9/7/23 | **Circuit Number:** 2 (Flood)

Background Station: BG (1N) / S | Time: 1104

Lat/Northing: 45.58032 | Long/Easting: 122.75776 | Total Water Depth: 40.8

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.83	6.87	8.98	20.4
Middle	20.4	0.89	6.83	8.75	20.3
Deep	37.8	2.64	6.79	8.63	20.0

Comments[1]: • No observations [1]

Early Warning Station: EW N (1S) | Time: 1115

Lat/Northing: 45.57913 | Long/Easting: 122.75495 | Total Water Depth: 40.2

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.15	6.87	8.85	20.4
Middle	20.1	1.22	6.82	8.66	20.3
Deep	37.2	3.23	6.79	8.56	20.1

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

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Water Quality Monitoring Form (Part B)
Gasco Site Remedial Action

Date: 9/7/23 | **Circuit Number:** 2 (Flood)

Compliance Station: CS-1 N / (S) | Time: 1119

Lat/Northing: 45.57898 | Long/Easting: 122.75465 | Total Water Depth: 38.3

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.75	6.85	8.82	20.4
Middle	19.15	1.84	6.78	8.66	20.3
Deep	35.3	2.65	6.81	8.53	20.2

Comments[1]: • No observations [1]

Compliance Station: CS-2 N / (S) | Time: 1127

Lat/Northing: 45.57935 | Long/Easting: 122.75497 | Total Water Depth: 44

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.84	6.89	9.00	20.4
Middle	22	0.63	6.82	8.73	20.3
Deep	41	1.10	6.79	8.61	20.1

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

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Water Quality Monitoring Form (Part A)
Gasco Site Remedial Action

Date: 9/8/23 | **Circuit Number:** 1 (Ebb)

Background Station: BG N (1S) | Time: 820

Lat/Northing: 45.57875 | Long/Easting: 122.75403 | Total Water Depth: 35.6

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.35	6.76	8.98	20.0
Middle	17.8	1.97	6.77	8.86	20.0
Deep	32.6	4.45	6.73	8.77	19.7

Comments[1]: • No observation [1]

Early Warning Station: EW (N) / S | Time: 835

Lat/Northing: 45.57990 | Long/Easting: 122.75709 | Total Water Depth: 32

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.26	6.78	9.01	20.0
Middle	16	1.69	6.76	8.92	19.9
Deep	29	3.46	6.74	8.77	19.7

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

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Portland, OR 98219

Water Quality Monitoring Form (Part B)
Gasco Site Remedial Action

Date: 9/8/23 **Circuit Number:** 1 (E66)

Compliance Station: CS-1 (N) / S **Time:** 842

Lat/Northing: 45.57999 Long/Easting: 122.75735 Total Water Depth: 32.6

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.32	6.76	8.98	20.0
Middle	16.3	1.66	6.78	8.92	19.9
Deep	29.6	3.86	6.74	8.76	19.7

Comments[1]: • No observations [1]

Compliance Station: CS-2 (N) / S **Time:** 849

Lat/Northing: 45.58002 Long/Easting: 122.75685 Total Water Depth: 41.3

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.29	6.74	8.95	20.0
Middle	20.65	2.06	6.70	8.83	19.9
Deep	38.3	3.16	6.66	8.79	19.6

Comments[1]: • No observations [1]

Recorded by: Simon Dutenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

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Portland, OR 98219

Water Quality Monitoring Form (Part A)
Gasco Site Remedial Action

Date: 9/8/23 | **Circuit Number:** 2 (E66)

Background Station: BG N / (S) | Time: 918

Lat/Northing: 45.57878 | Long/Easting: 122.75398 | Total Water Depth: 35

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.17	6.86	9.07	20.0
Middle	17.5	1.86	6.76	8.84	19.9
Deep	32	3.78	6.75	8.76	19.7

Comments[1]: • No observations [1]

Early Warning Station: EW (N) / S | Time: 932

Lat/Northing: 45.57990 | Long/Easting: 122.75699 | Total Water Depth: 36

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.06	6.71	9.07	20.0
Middle	18	1.85	6.67	8.88	19.9
Deep	33	3.81	6.63	8.72	19.6

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

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Portland, OR 98219

Water Quality Monitoring Form (Part B)
Gasco Site Remedial Action

Date: 9/8/23 | **Circuit Number:** 2 (E66)

Compliance Station: CS-1 (N) / S | Time: 942

Lat/Northing: 45.58001 | Long/Easting: 122.75727 | Total Water Depth: 36.5

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.21	6.71	9.06	20.0
Middle	18.25	1.86	6.67	8.90	19.9
Deep	33.5	4.32	6.63	8.72	19.7

Comments[1]: • No observations [1]

Compliance Station: CS-2 (N) / S | Time: 948

Lat/Northing: 45.58013 | Long/Easting: 122.75679 | Total Water Depth: 41.9

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.92	6.71	9.13	20.0
Middle	20.95	1.45	6.66	8.87	19.9
Deep	38.9	3.66	6.62	8.77	19.6

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

6720 S Macadam Ave., Suite 300
Portland, OR 98219

Water Quality Monitoring Form (Part A)
Gasco Site Remedial Action

Date: 9/8/23 | **Circuit Number:** 1 (Flood)

Background Station: BG (N) / S | Time: 1111

Lat/Northing: 45.58030 | Long/Easting: 122.75777 | Total Water Depth: 39.6

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	1.21	6.95	9.18	20.1
Middle	19.8	1.93	6.84	8.95	20.0
Deep	36.6	3.85	6.78	8.72	19.7

Comments[1]: • No observations [1]

Early Warning Station: EW N / (S) | Time: 1122

Lat/Northing: 45.57915 | Long/Easting: 122.75505 | Total Water Depth: 38.8

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.71	6.85	9.42	20.2
Middle	19.4	1.73	6.77	8.98	20.0
Deep	35.8	2.89	6.66	8.74	19.7

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

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Portland, OR 98219

Water Quality Monitoring Form (Part B)
Gasco Site Remedial Action

Date: 9/8/23 | **Circuit Number:** 1 (Flood)

Compliance Station: CS-1 N / (S) | Time: 1135

Lat/Northing: 45.57897 | Long/Easting: 122.75461 | Total Water Depth: 37.5

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.70	6.79	9.51	20.2
Middle	18.75	1.71	6.67	8.96	20.0
Deep	34.5	2.79	6.59	8.75	19.7

Comments[1]: • No observations [1]

Compliance Station: CS-2 N / (S) | Time: 1146

Lat/Northing: 45.57934 | Long/Easting: 122.75499 | Total Water Depth: 43

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	0.42	6.78	9.63	20.2
Middle	21.5	1.52	6.63	8.91	19.9
Deep	40	2.47	6.59	8.74	19.7

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and /or odors

ANCHOR QEA

6720 S Macadam Ave., Suite 300
Portland, OR 98219

Water Quality Monitoring Form
Gasco Site Remedial Action

Date: 9-15-23 | **Circuit Number:** 1

Station: BG EW CS-1 CS-2 ~~N~~ 1S | **Time:** 1253

Flood / ~~Ebb~~ | Up River / Down River | **Avg. Velocity:** 0.3

Lat/Northing: 45.57872 | **Long/Easting:** 122.75402 | **Total Water Depth:** 36

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.09	7.85	10.75	21.0
Middle	18	3.68	7.19	9.46	20.1
Deep	33	4.86	7.14	9.24	20.0

Comments[1]: • No observations [1]

Station: BG EW CS-1 CS-2 N ~~S~~ | **Time:** 1306

Flood / ~~Ebb~~ | Up River / ~~Down River~~ | **Avg. Velocity:** 0.7

Lat/Northing: 45.57986 | **Long/Easting:** 122.75705 | **Total Water Depth:** 32.8

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.32	7.51	10.41	21.1
Middle	16.4	3.77	7.10	9.54	20.1
Deep	29.8	4.69	7.00	9.23	20.0

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and odors.

ANCHOR QEA

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Portland, OR 98219

Water Quality Monitoring Form
Gasco Site Remedial Action

Date: 9-15-23 **Circuit Number:** 1

Station: BG EW (CS-1) CS-2 (N) S **Time:** 1321

Flood / (Ebb) Up River / (Down River) **Avg. Velocity:** 0.21

Lat/Northing: 45.58002 **Long/Easting:** 122.75737 **Total Water Depth:** 36.8

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.06	7.74	10.95	21.1
Middle	18.4	3.91	7.13	9.52	20.1
Deep	33.8	4.55	6.94	9.20	20.0

Comments[1]: • No observations [1]

Station: BG EW CS-1 (CS-2) (N) S **Time:** 1332

Flood / (Ebb) Up River / (Down River) **Avg. Velocity:** 1.9

Lat/Northing: 45.58004 **Long/Easting:** 122.75692 **Total Water Depth:** 42.0

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.03	7.51	10.77	21.3
Middle	21	2.91	7.09	9.67	20.1
Deep	39	4.81	6.87	9.20	20.0

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and odors.

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Water Quality Monitoring Form
Gasco Site Remedial Action

Date: 9-15-23 | **Circuit Number:** 2

Station: (BG) EW CS-1 CS-2 (N) S | **Time:** 1510

(Flood) / Ebb | Up River / (Down River) | **Avg. Velocity:** 0.7

Lat/Northing: 45.58027 | **Long/Easting:** 122.75776 | **Total Water Depth:** 40.0

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.42	7.83	11.14	21.9
Middle	20	3.30	7.13	9.50	20.1
Deep	37	4.23	6.90	9.17	20.0

Comments[1]: • No observations [1]

Station: BG (EW) CS-1 CS-2 N (S) | **Time:** 1520

(Flood) / Ebb | (Up River) / Down River | **Avg. Velocity:** 0.9

Lat/Northing: 45.57915 | **Long/Easting:** 122.75502 | **Total Water Depth:** 40.0

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.62	7.69	11.23	21.6
Middle	20	3.13	6.97	9.58	20.1
Deep	37	4.36	6.85	9.22	20.0

Comments[1]:

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and odors.

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Water Quality Monitoring Form
Gasco Site Remedial Action

Date: 9-15-23 **Circuit Number:** 2

Station: BG EW (CS-1) CS-2 N (S) **Time:** 1531

(Flood) / Ebb (Up River) / Down River **Avg. Velocity:** ~~0.3~~ SD 0.24

Lat/Northing: 45.57895 **Long/Easting:** 122.75461 **Total Water Depth:** 37

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.38	7.71	11.17	21.3
Middle	18.5	3.03	6.94	9.60	20.1
Deep	34	3.93	6.85	9.28	20.0

Comments[1]: • No observations [1]

Station: BG EW CS-1 (CS-2) N (S) **Time:** 1542

(Flood) / Ebb (Up River) / Down River **Avg. Velocity:** 0.5

Lat/Northing: 45.57937 **Long/Easting:** 122.75502 **Total Water Depth:** 43.2

	Water Depth [feet]	Turbidity [NTU]	pH [-]	D.O. [mg/L]	Temp. [deg-C]
Surface	1	2.45	7.80	11.41	22.0
Middle	21.6	2.91	6.95	9.61	20.1
Deep	40.2	5.30	6.77	9.25	20.0

Comments[1]: • No observations [1]

Recorded by: Simon Dudenhoefer

[1] Include observations of floating/suspended material, sheens, discoloration, and odors.

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Flood #1

Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG 1N		
Lat/Northing: 45.58034	Long/Easting: 122.75778	
Total Water Depth: 41.7'	Sample Depth: 38.7	
Sample ID: NWN-BG1N-230907	Date: 9-7-23	Time: 1200
Comments[1]: • Collected with Van Dorn sampler • Collected 2 125 ml amber glass jars • No observations [1]		
Compliance Station ID: CS-2 S		
Lat/Northing: 45.57936	Long/Easting: 122.75500	
Total Water Depth: 44	Sample Depth: 41	
Sample ID: NWN-CS2S-230907	Date: 9-7-23	Time: 1150
Comments[1]: • Collected with Van Dorn sampler • Collected 2 125 ml amber glass jars • No observations [1]		

Analytical Suite

Analyte	Bottle	Method	Preservative
~~Free Cyanide~~	~~500 mL Amber Poly~~	~~ASTM D4282~~	~~NaOH~~
PAHs	2 X ~~1L~~ Amber Glass	EPA 8270D SIM	None

[1] Observations of floating/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

125 ml

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Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG-1S		
Lat/Northing: 45.57870	Long/Easting: 122.75405	
Total Water Depth: 32.2	Sample Depth: 29.2	
Sample ID: NWN-BG1S-2309080915	Date: 9/8/23	Time: 915
Comments[1]: • Sample collected using VanDorn sampler • Collected 2 125 ml amber glass containers • No observations [1]		
Compliance Station ID: CS-1N		
Lat/Northing: 45.58001	Long/Easting: 122.75741	
Total Water Depth: 32.6	Sample Depth: 29.6	
Sample ID: NWN-CS1N-2309080900	Date: 9/8/23	Time: 900
Comments[1]: • Sample collected using VanDorn sampler • Collected 2 125 ml amber glass containers • No observations [1]		

Analytical Suite

Analyte	Bottle	Method	Preservative
~~Free Cyanide~~	~~500 mL Amber Poly~~	~~ASTM D4282~~	~~NaOH~~
PAHs	2 X 1L ~~Amber~~ Glass → 125 ml	EPA 8270D SIM	None

[1] Observations of floating/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

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Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG-1S		
Lat/Northing: 45.57874	Long/Easting: 122.75396	
Total Water Depth: 36	Sample Depth: 31	
Sample ID: NWN-BG1S-230908 1030	Date: 9/8/23	Time: 1030
Comments[1]: • Sample collected w/ VanDorn sampler • Collected 2 125 ml amber glass containers • No observations [1]		
Compliance Station ID: CS-1N		
Lat/Northing: 45.58003	Long/Easting: 122.75742	
Total Water Depth: 34	Sample Depth: 31	
Sample ID: NWN-CS1N-230908 1005	Date: 9/8/23	Time: 1005
Comments[1]: • Sample collected with VanDorn sampler • Collected 2 125 ml amber glass containers • No observations [1]		

Analytical Suite

Analyte	Bottle	Method	Preservative
~~Free Cyanide~~	~~500 mL Amber Poly~~	~~ASTM D4282~~	~~NaOH~~
PAHs	2 X 1L Amber Glass → 125 ml	EPA 8270D SIM	None

[1] Observations of floating/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

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Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG-1N		
Lat/Northing: 45.58033	Long/Easting: 122.75776	
Total Water Depth: 40.8	Sample Depth: 33.6	
Sample ID: NWN-BG1N-230908 1210	Date: 9/8/23	Time: 1210
Comments[1]: • Sample collected with VanDorn sampler • Collected 2 125 ml amber glass containers • No observations [1]		
Compliance Station ID: CS-1S		
Lat/Northing: 45.57890	Long/Easting: 122.75461	
Total Water Depth: 36.6	Sample Depth: 33.6	
Sample ID: NWN-CS1S-230908 1200	Date: 9/8/23	Time: 1200
Comments[1]: • Sample collected with VanDorn sampler • Collected 2 125 ml ambler glass containers • No observations [1]		

Analytical Suite

Analyte	Bottle	Method	Preservative
~~Free Cyanide~~	~~500 mL Amber Poly~~	~~ASTM D4282~~	~~NaOH~~
PAHs	2 X 1L Amber Glass → 125 ml	EPA 8270D SIM	None

[1] Observations of floating/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

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Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG-15		
Lat/Northing: 45.57869	Long/Easting: 122.75397	
Total Water Depth: 37	Sample Depth: 34	
Sample ID: NWN-BG15-091523135 7	Date: 9/15/23	Time: 1357
Comments[1]: • Collected with Van Dorn sampler • Collected 2 125 ml amber glass and 2 125 ml poly containers • No observations [1]		

Compliance Station ID: CS-2N		
Lat/Northing: 45.58001	Long/Easting: 122.75684	
Total Water Depth: 42.2	Sample Depth: 39.2	
Sample ID: NWN-CS2N-091523134 5	Date: 9/15/23	Time: 1345
Comments[1]: • Collected with Van Dorn Sampler • Collected 2 125 ml amber glass and 2 125 ml plastic poly containers • No observations [1]		

Analytical Suite

Analyte	~~2x 125ml~~ Bottle	Method	Preservative
Free Cyanide	~~500 mL~~ Amber Poly	ASTM D4282	NaOH
PAHs	2 X ~~1 L~~ Amber Glass → 125 ml	EPA 8270D SIM	None

[1] Observations ~~of floating~~/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

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Water Quality Sampling Form
Gasco Site Remedial Action

Background Station ID: BG-1N		
Lat/Northing: 45.58029	Long/Easting: 122.75772	
Total Water Depth: 40.0	Sample Depth: 37.0	
Sample ID: NWN-BG-1N-091523 1600	Date: 9/15/23	Time: 1600
Comments[1]: • Collected using Van Dorn sampler • Collected 2 125 ml amber glass and 2 125ml amber poly containers • No observations [1]		
Compliance Station ID: CS-25		
Lat/Northing: 45.57935	Long/Easting: 122.75504	
Total Water Depth: 43.2	Sample Depth: 40.2	
Sample ID: NWN-CS-25-091523 1550	Date: 9/15/23	Time: 1550
Comments[1]: • Collected using Van Dorn sampler • Collected 2 125ml amber glass and 2 125 ml amber poly containers • No observations [1]		

Analytical Suite

~~Analyte~~	2 x 125 ml ~~Bottle~~	Method	Preservative
Free Cyanide	~~500 mL~~ Amber Poly	ASTM D4282	NaOH
PAHs	2 X 1L Amber Glass → 125 ml	EPA 8270D SIM	None

[1] Observations of floating/suspended material, sheens, discoloration, and /or odors will be recorded in the comments

Probe S/N: 5006			Date: 9-7-23
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01	FACTORY CALIBRATED		
DO (% saturation)	CERTIFICATION PROVIDED		
Turbidity (0.02 NTU)	BY VENOR.		
Turbidity (40 NTU)			

Probe S/N:			Date:
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01			
DO (% saturation)			
Turbidity (0.02 NTU)			
Turbidity (40 NTU)			

Probe S/N: 5006			Date: 9-8-23
	Initial	Final	Temp (°C)
pH 7.0	7.22	7.06	11.6
pH 4.01	4.01	4.00	12.7
DO (% saturation)	99.4	100.5	11.6
Turbidity (0.02 NTU)	-0.27	0.0	11.7
Turbidity ~~(40 NTU)~~ 126	153.4	126.1	11.6

Probe S/N:			Date:
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01			
DO (% saturation)			
Turbidity (0.02 NTU)			
Turbidity (40 NTU)			

Probe S/N: 5006			Date: 9-15-23
	Initial	Final	Temp (°C)
pH 7.0	6.83	7.04	16.1
pH 4.01	3,83	4.00	16.3
DO (% saturation)	98.2	100.2	16.5
Turbidity (0.02 NTU)	32.98	0.07	14.9
Turbidity ~~(40 NTU)~~ 126	91.06	126.5	14.9

Probe S/N:			Date:
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01			
DO (% saturation)			
Turbidity (0.02 NTU)			
Turbidity (40 NTU)			

Probe S/N: 22G102376			Date: 9/18/23
	Initial	Final	Temp (°C)
pH 7.0	6.45	7.04	16.7
pH 4.01	3.31	4.00	16.4
DO (% saturation)	102.8	100.2	15.8
Turbidity (0.02 NTU)	31.52	0.04	16.6
Turbidity (40 NTU)			

Probe S/N:			Date:
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01			
DO (% saturation)			
Turbidity (0.02 NTU)			
Turbidity (40 NTU)			

Probe S/N: 21E103678			Date: 9/19/23
	Initial	Final	Temp (°C)
pH 7.0	7.09	7.03	16.7
pH 4.01	4.07	4.00	16.2
DO (% saturation)	114.9	100.3	16.5
Turbidity (0.02 NTU)	31.33	0.03	16.5
Turbidity (40 NTU)			

Probe S/N:			Date:
	Initial	Final	Temp (°C)
pH 7.0			
pH 4.01			
DO (% saturation)			
Turbidity (0.02 NTU)			
Turbidity (40 NTU)			

Turbidimeter model:	Standard type:	Expiration:
Comments:		

Water Quality Field Parameter Measurements – Baseline Survey
Gasco ISS Field Pilot Study

Monitoring Date: 9/7/23

Circuit No.	Time	Flow Direction (Upriver/ Downriver)	Station	N/S	Total Water Depth (ft)	Monitoring Depth (ft)	Depth Zone	Measured Turbidity (NTU)	Background Corrected Turbidity (NTU)[1]	pH	DO (mg/L)	Temperature (deg C)	Chemistry Sample
1	10:32	Upriver	BG	North	40.8	1	Surface	0.89	--	6.96	8.93	20.4	
						20.4	Middle	3.31	--	6.89	8.59	20.3	
						37.8	Deep	4.35	--	6.87	8.51	20.0	
	10:41		EW	South	41.1	1	Surface	1.37	0.48	6.95	8.77	20.4	
						20.6	Middle	2.91	-0.4	6.90	8.52	20.3	
						38.1	Deep	4.05	-0.3	6.85	8.43	20.2	
	10:51		CS-1	South	35.6	1	Surface	1.41	0.52	6.86	8.79	20.4	
						17.5	Middle	3.15	-0.16	6.85	8.62	20.3	
						32.6	Deep	3.52	-0.83	6.81	8.46	20.2	
	10:56		CS-2	South	43.2	1	Surface	0.99	0.1	6.90	8.93	20.4	
						21.5	Middle	2.55	-0.76	6.83	8.58	20.3	
						40.2	Deep	5.47	1.12	6.78	8.46	20.1	
2	11:04	Upriver	BG	North	40.8	1	Surface	0.83	--	6.87	8.98	20.4	
						20.4	Middle	0.89	--	6.83	8.75	20.3	
						37.8	Deep	2.64	--	6.79	8.63	20.0	X
	11:15		EW	South	40.2	1	Surface	1.15	0.32	6.87	8.85	20.4	
						20.1	Middle	1.22	0.33	6.82	8.66	20.3	
						37.5	Deep	3.23	0.59	6.79	8.56	20.1	
	11:19		CS-1	South	38.3	1	Surface	1.75	0.92	6.85	8.82	20.4	
						19.2	Middle	1.84	0.95	6.89	8.66	20.3	
						35.3	Deep	2.65	0.01	6.81	8.53	20.2	
	11:27		CS-2	South	44.0	1	Surface	0.84	0.01	6.89	9.00	20.4	
						22.0	Middle	0.63	-0.26	6.82	8.73	20.3	
						41.0	Deep	1.10	-1.54	6.79	8.61	20.1	X

Notes:
1. The background corrected turbidity is calculated by subtracting the measured turbidity at each of the non-background stations (i.e., EW, CS-1, and CS-2) from the background station (BG).
BG: background
DO: dissolved oxygen
CS: compliance station
EW: early warning
NTU: nephelomatric trubidity unit
ft: feet

Water Quality Field Parameter Measurements – Baseline Survey
Gasco ISS Field Pilot Study

Monitoring Date: 9/8/23

Circuit No.	Time	Flow Direction (Upriver/ Downriver)	Station	N/S	Total Water Depth (ft)	Monitoring Depth (ft)	Depth Zone	Measured Turbidity (NTU)	Background Corrected Turbidity (NTU)[1]	pH	DO (mg/L)	Temperature (deg C)	Chemistry Sample
1	8:20	Downriver	BG	South	35.6	1	Surface	1.35	--	6.76	8.98	20.0	
						17.8	Middle	1.97	--	6.77	8.86	20.0	
						32.6	Deep	4.45	--	6.73	8.77	19.7	X
	8:35		EW	North	32.0	1	Surface	1.26	-0.09	6.78	9.01	20.0	
						16.0	Middle	1.69	-0.28	6.76	8.92	19.9	
						29.0	Deep	3.46	-0.99	6.74	8.77	19.7	
	8:42		CS-1	North	32.6	1	Surface	1.32	-0.03	6.76	8.98	20.0	
						16.3	Middle	1.66	-0.31	6.78	8.92	19.9	
						29.6	Deep	3.86	-0.59	6.74	8.76	19.7	X
	8:49		CS-2	North	41.3	1	Surface	1.29	-0.06	6.74	8.95	20.0	
						20.7	Middle	2.06	0.09	6.70	8.83	19.9	
						38.3	Deep	3.16	-1.29	6.66	8.79	19.6	
2	9:18	Downriver	BG	South	35.0	1	Surface	1.17	--	6.86	9.07	20.0	
						17.5	Middle	1.86	--	6.76	8.84	19.9	
						32	Deep	3.78	--	6.75	8.76	19.7	X
	9:32		EW	North	36.0	1	Surface	1.06	-0.11	6.72	9.07	20	
						18	Middle	1.85	-0.01	6.67	8.88	19.9	
						33	Deep	3.81	0.03	6.63	8.72	19.6	
	9:42		CS-1	North	36.5	1	Surface	1.21	0.04	6.71	9.06	20	
						18.3	Middle	1.86	0.00	6.67	8.90	19.9	
						33.5	Deep	4.32	0.54	6.63	8.72	19.7	X
	9:48		CS-2	North	41.9	1	Surface	0.92	-0.25	6.71	9.13	20	
						21.0	Middle	1.45	-0.41	6.66	8.87	19.9	
						38.9	Deep	3.66	-0.12	6.62	8.77	19.6	
3	11:11	Upriver	BG	North	39.6	1	Surface	1.21	--	6.95	9.18	20.1	
						19.8	Middle	1.93	--	6.84	8.95	20.0	
						36.6	Deep	3.85	--	6.78	8.72	19.7	X
	11:22		EW	South	38.8	1	Surface	0.71	-0.50	6.85	9.42	20.2	
						19.4	Middle	1.73	-0.20	6.77	8.98	20.0	
						35.8	Deep	2.89	-0.96	6.66	8.74	19.7	
	11:35		CS-1	South	37.5	1	Surface	0.70	-0.51	6.79	9.51	20.2	
						18.8	Middle	1.71	-0.22	6.67	8.96	20.0	
						34.5	Deep	2.79	-1.06	6.59	8.75	19.7	X
	11:46		CS-2	South	43.0	1	Surface	0.42	-0.79	6.78	9.63	20.2	
						21.5	Middle	1.52	-0.41	6.63	8.91	19.9	
						40.0	Deep	2.47	-1.38	6.59	8.74	19.7	

Note:

1. The background corrected turbidity is calculated by subtracting the measured turbidity at each of the non-background stations (i.e., EW, CS-1, and CS-2) from the background station.

BG: background

DO: dissolved oxygen

CS: compliance station

EW: early warning

NTU: nephelomatric trubidity unit

ft: feet

Water Quality Field Parameter Measurements
Gasco ISS Field Pilot Study

Monitoring Date: 9/15/23

Circuit No.	Time	Flow Direction (Upriver/ Downriver)	Station	N/S	Total Water Depth (ft)	Monitoring Depth (ft)	Depth Zone	Measured Turbidity (NTU)	Background Corrected Turbidity (NTU)[1]	pH	DO (mg/L)	Temperature (deg C)	Chemistry Sample
1	12:53	Downriver	BG	South	36.0	1	Surface	2.09	--	7.85	10.75	21.0	
						18	Middle	3.68	--	7.19	9.46	20.1	
						33.0	Deep	4.86	--	7.14	9.27	20.0	X
	13:06		EW	North	32.8	1	Surface	2.32	0.23	7.51	10.41	21.1	
						16.4	Middle	3.77	0.09	7.10	9.54	20.1	
						29.8	Deep	4.69	-0.17	7.00	9.23	20.0	
	13:21		CS-1	North	35.6	1	Surface	2.06	-0.03	7.74	10.95	21.1	
						18.4	Middle	3.91	0.23	7.13	9.52	20.1	
						33.8	Deep	4.55	-0.31	6.94	9.20	20.0	
	13:32		CS-2	North	43.2	1	Surface	2.03	-0.06	7.51	10.77	21.3	
						21.0	Middle	2.91	-0.77	7.09	9.67	20.1	
						39.0	Deep	4.81	-0.05	6.87	9.20	20.0	X
2	15:10	Upriver	BG	North	40.0	1	Surface	2.42	--	7.83	11.14	21.9	
						20.0	Middle	3.30	--	7.13	9.50	20.1	
						37.0	Deep	4.23	--	6.90	9.17	20.0	X
	15:20		EW	South	40.0	1	Surface	2.62	0.20	7.69	11.23	21.6	
						20.0	Middle	3.13	-0.17	6.97	9.58	20.1	
						37.0	Deep	4.36	0.13	6.85	9.22	20.0	
	15:31		CS-1	South	37	1	Surface	2.38	-0.04	7.71	11.17	21.3	
						18.5	Middle	3.03	-0.27	6.94	9.60	20.1	
						34.0	Deep	3.93	-0.3	6.85	9.28	20.0	
	15:42		CS-2	South	43.2	1	Surface	2.45	0.03	7.80	11.41	22.0	
						21.6	Middle	2.91	-0.39	6.95	9.61	20.1	
						40.2	Deep	5.30	1.07	6.77	9.25	20.0	X

Note:

1. The background corrected turbidity is calculated by subtracting the measured turbidity at each of the non-background stations (i.e., EW, CS-1, and CS-2) from the background station.

BG: background

DO: dissolved oxygen

CS: compliance station

EW: early warning

NTU: nephelomatric trubidity unit

ft: feet

Water Quality Monitoring Chemical Results
Gasco ISS Field Pilot Study

Analyte	Chronic WQC[1,2]	Acute WQC[1,2]	Sample Date	9/7/2023	9/7/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/15/2023	9/16/2023	9/17/2023	9/18/2023
			Location ID	BG-1N	CS-2S	BG-1S	CS-1N	BG-1S	CS-1N	BG-1N	CS-1S	BG-1S	CS-2N	BG-1N	CS-2S
			Depth (feet)	38.7	41.0	29.2	29.6	31.0	31.0	33.6	33.6	34.0	39.2	37.0	40.2
Polycyclic Aromatic Hydrocarbons (µg/L)															
Benzo(a)anthracene	2.2	9.2	0.010	U	0.010	U	0.008	U	0.008	U	0.008	U	0.008	U	**0.011**	**J**	0.017	U	0.016	U	0.016	U	0.017	U
Benzo(a)pyrene	0.96	4	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U	0.008	U	**0.011**	**J**	0.017	U	0.016	U	0.016	U	0.017	U

Notes:

1. Acute criteria will be the compliance criteria for water quality monitoring during all Pilot Study activities because such activities are intermittent and ephemeral in nature. Chronic criteria will be used to evaluate the effectiveness of construction BMPs, and the potential need for additional or enhanced BMPs, but will not be used for compliance purposes.

2. Acute and chronic PAH criteria are from Procedures for Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures (EPA 2003).

Bold: Detected result

J: Estimated value

U: Compound analyzed but not detected above detection limit

µg/L: micrograms per liter

WQC: water quality criteria

Detected concentration is greater than the acute water quality criteria

Detected concentration is greater than the chronic water quality criteria