Weekly Summary Report

| Project Name: | Gasco Sediments Site ISS Field Pilot Study | | | | |
|---------------|---|------------|---|--|--|
| Project No: | 000029-02.85 Report Date: October 10, 2023 | | | | |
| Week of: | October 2, 2023 | Report No: | 4 | | |

| Weekly Summary | | | | | |
|-------------------------|--|---|-------------------------------------|--|--|
| ltem | Approximate Production This Week | Approximate Total Cumulative Production | Approximate Task Percent Completion | | |
| Mobilization activities | NA | NA | 100% | | |
| Dolphin pile removal | 0 | 0 | 100% | | |
| Debris removal | 0 | 0 | 100% | | |
| ISS auguring | 13 columns | 29 columns | 100% | | |
| Swell material removal | 0 | 0 | 0% | | |

Work Performed This Period

Monday (10/02/2023)

Performed in situ stabilization and solidification (ISS) auguring and ISS quality assurance/quality control (QA/QC) sample collection at columns 3-1, 3-2, 6-1, 6-2, and 6-3. Refusal was encountered at column 3-1.

Tuesday (10/03/2023)

Conducted bathymetric progress survey. Performed ISS auguring and ISS QA/QC sample collection at columns 6-9, 6-10, 7-1, 7-2, and 7-3.

Wednesday (10/04/2023)

Performed ISS auguring and ISS QA/QC sample collection at columns 7-9, 7-10, and 7-11.

Thursday (10/05/2023)

Reconfigured the drill pipe on the ISS drill rig to facilitate drilling at deeper water depths. Performed general housekeeping and equipment maintenance duties.

Friday (10/06/2023)

No work was performed.

Saturday (10/07/2023)

No work was performed.

Water Quality Monitoring

Monday (10/02/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. Four rounds of ebb tide water quality monitoring were performed during ISS auguring activities, with field parameters collected. Performed visual inspection of river inside the containment booms and identified sheen that was generated from a known ebullition area that is not associated with construction activities.

Tuesday (10/03/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring. During the last circuit of water quality monitoring, a minor sheen was observed to be present directly adjacent and outside of the construction containment boom. The sheen appeared related to a large vessel moving through the navigation channel that crested waves over the construction containment booms. One round of water quality monitoring was performed during flood tide during ISS auguring activities, with field and chemical parameters collected at background station NWN-BG1N and compliance station NWN-CS2S. Three rounds of ebb tide and one round of flood tide water quality monitoring were performed during ISS auguring activities with field parameters collected. Performed visual inspection of river inside the containment booms and identified sheen that was generated from a known ebullition area that is not associated with construction activities.

Wednesday (10/04/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. Three rounds of ebb tide and one round of flood tide water quality monitoring were performed during ISS auguring activities with field chemical parameters collected. Chemical parameters were collected at background stations NWN-BG1S and NWN-CS2N. Performed visual inspection of river inside the containment booms and identified sheen that was generated from a known ebullition area that is not associated with construction activities.

Thursday (10/05/2023)

Performed visual inspection of river outside the outer containment, and no turbidity plumes, sheens, or odors were observed. Performed visual inspection of river inside the containment booms and identified sheen that was generated from a known ebullition area that is not associated with construction activities. No water quality monitoring was performed.

Friday (10/06/2023)

No work was performed.

Saturday (10/07/2023)

No work was performed.

Findings:

There was an exceedance of two field parameters at compliance station CS-2N at a single depth during a single monitoring round on Tuesday, October 3, 2023. The readings were collected during the advancement of the last ISS column of the day. Turbidity was measured at 7.76 nephelometric turbidity units (NTU), which is only 0.35 NTU above the standard (based on 5 NTU over background, which was 2.41 NTU). The pH reading was 9.39, slightly above the standard of 8.5. Exceedances were identified in the bottom sample interval only, with no exceedances in the middle or top sample intervals. As discussed with and verbally confirmed by the U.S. Environmental Protection Agency (EPA), the Design Team is implementing the following best management practice refinements:

- 1. Maintain the moon pool curtain perimeter target depth no higher than 2 feet above mudline while preventing the curtain from contacting the mudline.
- 2. Alter the downstroke and upstroke grout injection from 80% down and 20% up to a lower downstroke injection (e.g., 70% down and 30% up).

A compilation of water quality daily field forms from the week (Attachments 1 through 4) and tabulated field parameter data (Attachment 5) are attached.

For Informational Purposes Only

In accordance with EPA's comments on the EPA-approved *Final Revised In Situ Stabilization and Solidification Field Pilot Study Work Plan*, ¹ for informational purposes only, pH and temperature samples were collected from the moon pool prior to initiation of ISS auguring and following completion of ISS auguring and prior to raising the moon pool curtain. These informational moon pool sampling results are included in Attachment 6.

Scheduled Construction Work This Week (Next Reporting Week)

Continue ISS auguring operations, ISS QA/QC sample collection, and swell material surveying, removal (if applicable), and tracking.

Problems Encountered and Contingency Actions Implemented

Due to the presence of encountered subsurface debris during ISS auguring at column 3-1, ISS treatment was extended to 26 feet below mudline, 4 feet short of the target 30-foot depth.

On October 4, 2023, Apex Laboratories informed NW Natural that they would be unable to meet the turnaround time for the samples that were collected on October 3, 2023, and October 4, 2023, due to a staffing issue involving COVID-19 sickness. Therefore, the results for both days will be delayed until Tuesday, October 10, 2023. Results will be tabulated and included in Weekly Summary Report No. 5. In accordance with the Work Plan, EPA was notified of this extended turnaround time that is beyond the control of NW Natural.

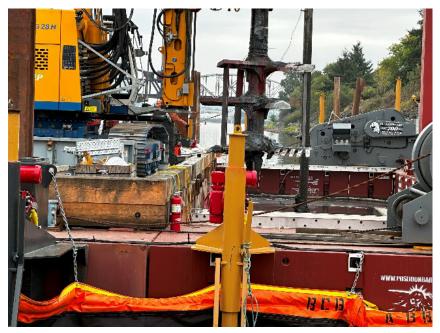
| Prepared by: | Kendra Skellenger | Contact Information: | 503-752-4218 kskellenger@anchorqea.com |
|--------------|---------------------------|----------------------|--|
| сс: | Joe Burke, Rob Ede, Jen N | • | , Taylor Crystal, Gary Rose, ne, Ben Uhl, Billie-Jo Gauley, eene |

¹ Anchor QEA, LLC, 2023. Final Revised In Situ Stabilization and Solidification Field Pilot Study Work Plan. Gasco Sediments Project Area. Prepared for U.S. Environmental Protection Agency, Region 10. September 12, 2023.

| Attachments: | Attachment 1 Attachment 2 Attachment 3 Attachment 4 Attachment 5 Attachment 6 | Daily Monitoring Logs Water Quality Monitoring Calibration Log Water Quality Monitoring Forms – Field Parameters Water Quality Sampling Forms – Chemical Parameters Water Quality Field Parameter Measurements Moon Pool Informational Measurements |
|--------------|---|---|
|--------------|---|---|

Photographs

Photograph 1



Performing ISS auguring at column 3-2 (10/02/2023).

Photograph 2



View of containment booms along south perimeter of the Field Pilot Study area (10/03/2023).

Photograph 3



Performing ISS auguring at column 7-9 (10/04/2023).

Photograph 4



Swell material removal barge No. 7 prior to swell material removal at columns 1-4 and 1-9 (10/04/2023).

Photograph 5



Reconfigured the drill pipe on ISS drill rig to facilitate drilling at deeper water depths (10/05/2023).

Photograph 6



ISS drill barge and crane staged within Field Pilot Study area with environmental controls in place (10/05/2023).

Attachment 1 Daily Monitoring Logs

ANCHOR QEA ****

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

Phone 503.670.1108

PERSONNEL: Simon Dudenhoefes

| | LEKSOMMET: 2: MOU TWARLHOUSE | | | | | | |
|--|---|--|--|--|--|--|--|
| Wind from: N NE E SE S SW W NW NONE LIGHT MEDIUM HEAVY | | | | | | | |
| | SUNNY CLOUDY RAIN Temperature: (*F\$2) . °C | | | | | | |
| | [Circle appropriate units] | | | | | | |
| TIME | COMMENTS | | | | | | |
| 0615 | Arrive @ Gasco - Calibrate YSZ | | | | | | |
| 0730 | Begin ISS Drilling - start Wam Circuit 1 @ 0830 | | | | | | |
| 0745 | 4/5 meeting (wam crew): enter/exit boat wind/waves, | | | | | | |
| | wear PFRS, man overboard action plan communication w/ | | | | | | |
| | dr. 11 crew | | | | | | |
| 0800 | OM water - USGS will amitte River Morrison Bridge Gause | | | | | | |
| | - high tite @ 0730, next low tite @ 1441, will start | | | | | | |
| | wama BG-15 river flow downstroam, ebb tite | | | | | | |
| 0825 | @ BG-15 confirmed 3001 boom dist. W/ range Finter and | | | | | | |
| | Gormin depth reading w/ least line. | | | | | | |
| 0630 | Start wan circuit #2 (ebb tite) @ BG-15 | | | | | | |
| 0850 | CEW-IN, confirmed 100' 609m det, w/ range findes | | | | | | |
| 0915 | @ C5-1N, 11 /1 150'" | | | | | | |
| 0935 | C CS-2N, " " 150"" | | | | | | |
| 0950 | FINISH WOM CICCUIT #1 - STAT #2 @ 1030 | | | | | | |
| 1000 | OFF WATER (2 hows) | | | | | | |
| 1015 | ON WATER'S BG.15' | | | | | | |
| 1030 | QBG-15 CONTINUED 3001 boom dist w/ range finter - start CH2 | | | | | | |
| 1040 | @CS-IN" " 150" " | | | | | | |
| 1055 | (0, C5-7 N \\\ | | | | | | |
| 1120 | C2-5-10/AAA - 1-HO | | | | | | |
| 1220 | DN WATER -> TO BG-15 for WAM Circuit #3(Still ebb tite) | | | | | | |
| 1230 | CBG-15, confirmed 300' boom distance w/ range finder | | | | | | |
| 1248 | @EW-IN" "100"" | | | | | | |
| 1300 | @ CS-IN " 150" " | | | | | | |
| 1310 | @ CS-2N" | | | | | | |
| 1380 | OFF WATER FINISH WOM CH3 - STANT #4@1430 | | | | | | |
| 1415 | ON WATER -> TO, BG-15 (Still going out with 1440) | | | | | | |
| 1430 | @ BG-15, confirmed 300' boom dist. w/ range finder | | | | | | |



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

Phone 503.670.1108

| DATE: | 10 - | 2 | _ | 20 | 23 | 0 | 1430 |
|------------|------|----|---|-------|------|------|------|
| PERSONNEL: | Sim | 20 | F |) ind | enha | 2050 | 2 C |

| | Wind from: N NE E SE S SW W NW NONE FOR MEDIUM |
|------|--|
| | SUNDY OF SUNDY |
| | Temperature: (*FSC |
| TIME | COMMENTS [Circle appropriate units] |
| 1430 | |
| | The state of the s |
| | WI regular motor, locations will be slightly off -> * |
| 1445 | BEW-IN" "100" boom fist. IN/ conse finter |
| 14 | C 200 (10, 100 |
| 1455 | N 1)V |
| 1510 | @ CS-2N" |
| 1525 | Finish wam Circuit #4, sediment disturbing |
| | construction work for the day -OF WATER |
| | |
| | Runable to collect flow velocity measure mults turns |
| | this round the to motor malfunction |
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Anchor QEA, LLC 6720 S Macadam Ave., Suite 300 Portland, OR 97219

Phone 503,670,1108

DATE: 10-3-2023

PERSONNEL: Simon Duden hoefe

Wind from: N NE SE S SW W NW NONE LIGHT MEDIUM SUNNY CLOUDY RAIN Temperature: (° F)S6. TIME COMMENTS Arrive @ Gasco Trailer -> Calibrate YSI #6970 0620 0700 H+5 meeting: Sewage in will amette, evengight, extra careful Santation, Wet dock, slips trips falls 0815 In water - start WOM circuit # 20 . Next tite high @ 0830 become slack around will in start time. ginicula Flip to downstream ell tite flour BG-IN, will swap to Ebb circuit when 0830 confirmed 300' boom distance, w/ range Finder Confirmed Coarmin depth reading w/ lad 0852 @EW-15, confirmed 100' boom distance w/ 0900 @ CS-15 0910 0915 Decon Vian Dorn samples collect NWN-C525-2310030925 and field dup. NWN-CSIO25-2310030925 @ 0925 CS-25 0930 Decon Van Dorn samples C 47' Collected NWN-BGIN-2310030945 @BG-IN @43/MS/MS/ 0945 Finish WQM Circuit#2 -> C#9 1000 OFF WATER ON WATER -> To BG-15/tile now going out with 1015 CBG-15, confirmed 300' boom dist. W/ rance finder 1939 1048 @EW-IN 1 1001 11 1101 CCS-IN 1 150' P.CS-2N 11 Finish wan circuit #2 -> no excedences, Next C#3@1230 OFF WATER 115 ON WATER -> TO BG-15 FOR WOM C#3 (ebb Hote @ BG-15; confirmed 300' boom distance w/ range finte 130



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

Phone 503.670.1108

DATE: 10-3-2023

PERSONNEL: Simon Duden Nopfer

| Wind from: | N | NE | F | SE | 6 | CIAL | W | 1000 | | | | | |
|------------|-----|-------|-----|-----|----|------|---|------|------|--------|-----------|-------|---|
| | | | | | | | W | NW | NONE | LIGHT) | MEDIUM | HEAVY | , |
| | 301 | NNY < | CLO | UDY | R/ | AIN | | | | Tempe | rature: % | • | С |
| | | | | | | | | | • | | | (C) | • |

| | remperature: *F63. °C |
|------|---|
| TIME | COMMENTS [Circle appropriate units] |
| 1255 | @ EW-IN, confirmed 100' 600m distance w/ range finder |
| 1307 | @ CS-IN, " 150" |
| 1316 | @ CS-2N 1 |
| 1325 | Finish wam Circuit #3 -> no exceedances (wan CH40 1430) |
| 1330 | OFF WATER - POLICE DANGE (WANCE 1430) |
| 1445 | OFF WATER - Prilling paused, push back C#4 start time |
| 1451 | ON WATER -> Drilling storted -> Start war &# 4 (eblo tide) CBG-15, confirmed 3001 boom distance w/ range Finder</th></tr><tr><th>1504</th><th>CEW-IN, " 100' "</th></tr><tr><th></th><th>MTU+ PH exceeded threshold @ EW-IN, talill take more time</th></tr><tr><th></th><th>monitoring compliance stations CS-IN and CS-2N</th></tr><tr><th>1527</th><th>ecs-IN, confirmed iso' boom distance wy range finder</th></tr><tr><th></th><th>4 no parameters in exceedance</th></tr><tr><th>1534</th><th>@ CS-2N confirmed iso' 600m distance of range finder</th></tr><tr><th></th><th>4 PH and NTV in exceedance @ 1540, con firmed @ 1545</th></tr><tr><th></th><th>4 WILL return @ 162 5 (45 mg offer remain) a seed of 1545</th></tr><tr><th></th><th>in third parameter reading.</th></tr><tr><th>1625</th><th>CCS-2N confirmed at 5 to a confirmed</th></tr><tr><th>-</th><th></th></tr><tr><th>1651</th><th>Start Wam Circuit #5 (flood tite, flow going upriver)</th></tr><tr><th></th><th>CBG-IN, confirmed 300' boom distance w/ range finder</th></tr><tr><th>1702</th><th></th></tr><tr><th>* Special Company of the Company of</th><th>Sheen observed outside of froms afteriors and</th></tr><tr><th></th><th>work area @ 1690, moving upniver, and created 2-2.5' swells</th></tr><tr><th>1715</th><th>@ CS-15, confirmed 150'600m distance w/ rouse finder</th></tr><tr><th></th><th>1 3 V V 1 V V V V V V V V V V V V V V V</th></tr><tr><th>1728</th><th>@ CS-25, confirmed 150' beam distance w/ range finder</th></tr><tr><th>1740</th><th>Finish WOM Circuit #5 -> No exceedances</th></tr><tr><th>1745</th><th>OFF WATER</th></tr><tr><th></th><th></th></tr><tr><th></th><th></th></tr><tr><th></th><th></th></tr></tbody></table> |



Anchor QEA, LLC

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

Phone 503.670.1108

Personnel: 5 mon Dudenhoefer

Wind from: NE SE s (SW) NW NONE (LIGHT) **MEDIUM HEAVY** W Temperature: (°F S S) ° C (LOUD) **SUNNY RAIN** [Circle appropriate units]

| Time | Comments |
|-------|--|
| 9639 | Arrive C Gasco Trailer -> Calibrate YSIS |
| 0650 | Drilling start -> Start Wam Circuit #2 @ 0750 |
| 0730 | H/S weeting: enter/exit 60at, safely crossing booms on boat, |
| | large wakes, slips trips and falls on ramp, wearing gloves |
| 0740 | OM WATER-TO BG-IN (flood tite) - next high tide |
| | 10 0914 (USGS Willamette River Mortrson Britse Gange) |
| 0750 | 1@BG-IN, confirmed 3001 boom distance w/ had line |
| | Confirmed river flow (upriver) w/ velocimeter + visually |
| | Confirmed Garmin tepth reading w/ las line |
| 0813 | (CEW-15, confirmed 100' boom distance w/ range finder |
| 0822 | @ CS-15, 11 150' " |
| 0833 | CCS-25," |
| 0900 | FINISH WOM CIrcuit #1 -> NO EXCEE PANCES |
| 9199 | QFF WATER -> WOM Circuit #2@ 0950 (eb6 tide) |
| 0945 | ON WATER -> To BG-18 for eb6+11e WOM C#2 |
| 0950 | @BG-15, confirmed 300' boom distance w/ range finder |
| | is confirmed flow direction (downstream) visually + w/ velocimeter |
| 0955 | Iss Prilling complete for the day |
| 1009 | CEW-IN, confirmed 100' boom distance w/ range finder |
| 1020 | @CS-IN " 1501" |
| 1034 | E C ZN |
| 1040 | Finish WOM Circuit #2 -> NO EXCEEDANCES |
| | La maiting until debris removal commences before starting |
| 1046 | Wan Circuit #3 |
| 1045 | OFF WATER |
| 1145 | ONWATER -> TO BG-1s to Start WQM Circuit #3 (E66 +2e) |
| 11 50 | QBG-15, confirmed 300' boom distance w/ range Finder |
| 1206 | (CEW-IN, " 11 100'" |
| 1217 | @CS-IN " "150'" " |
| 1226 | @CS-2N" |



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Phone 503.670.1108

Personnel: Simon Dujenhoefer

| 1 | | | | | | | |
|------|---|--|--|--|--|--|--|
| , | Wind from: N NE E SE S SW W NW NONE (IGHT) MEDIUM HEAVY | | | | | | |
| | SUNNY CLOUDY RAIN Temperature: FX3 °C | | | | | | |
| | [Circle appropriate units] | | | | | | |
| Time | Comments | | | | | | |
| 1235 | Finish WQM Circuit #3 - NO EXCEEDANCES | | | | | | |
| | Wan C#4 Start time 1350 OR @ Start of debris removal | | | | | | |
| 1245 | OFF WATER - waiting for debris removal to start Wamc#4 | | | | | | |
| | * swell removal | | | | | | |
| 1315 | ON WATER > TO BG-15 (Ebb tite) for WQM Circuit #4 | | | | | | |
| 1317 | Start SWELL REMOVAL -> Start wan (#4 w/ samples | | | | | | |
| 1319 | @BG-15, confirmed 300' 600m distance w/ range finder | | | | | | |
| 1334 | @EW-IN, " "100" | | | | | | |
| | 4 waiting to collect parameter measurements until swell | | | | | | |
| | removal Starts. Swell removal start time pushed back | | | | | | |
| | due to improperly placed booms. Decon. Van Dornsampler. | | | | | | |
| | OCS-IN Confirmed 150' 600m distance w/ sange finder | | | | | | |
| 1342 | Swell Romaval Start time - currently @ EW-IN, will | | | | | | |

FMISH WQM CIRCUIT #4 -> NO EXCEEDANCES OFF WATER 1435

1 con Van Dern Sampler @ BG-15

Collect NWN-C525-2310041415@CS-25@43

Collect NWN-BG15-23100414300 BG-15 @ 38.41

Start monitoring water quality @ 1345 @ CS-IN confirmed 150' boom distance 411

Signature:

9

1353 404

415

1420

1430

GASCO0054225

Attachment 2 Water Quality Monitoring Calibration Logs



Water Quality Monitoring - Calibration Log Form Gasco Sediment Site ISS Pilot Study

| Date: 10 - 2 - 23 | Calibrated By: Simon Dutenholfer |
|----------------------|-----------------------------------|
| Probe S/N: 21E103678 | Meter(s) Model: YSI Pro DSS #6970 |

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|-------------|-----------------------|
| pH 7.00 (Standard Units) | 7.06 | 3660021 | 07/25 | 7.05 | 7.06 | 11.9 | Acal. Staded for temp |
| pH 4.00 (Standard Units) | 4.00 | 3GF1085 | 06/25 | 4.02 | 4.00 | 12.1 | |
| Dissolved Oxygen (DO) ¹ | 100.4 | NA | NA | 99.3 | 100.4 | 17.4 | ALR |
| Turbidity (NTU) ¹ | ٥ | NA | NA | -0.20 | 0,00 | 12.3 | DI WATER |
| Turbidity (NTU) ¹ | 124 | 23F24003126 | 06/24 | 121052 | 123.96 | 12.3 | |

| Date: | Calibrated By: |
|------------|-----------------|
| Probe S/N: | Meter(s) Model: |

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|---|----------|
| pH 7.00 (Standard Units) | 7.00 | | | | | | |
| pH 4.00 (Standard Units) | 4.00 | | | | | *************************************** | |
| Dissolved Oxygen (DO) ¹ | | | | | | *************************************** | |
| Turbidity (NTU) ¹ | | DID NOT | CALIBO | RATE/U | E | | \$ |
| Turbidity (NTU) ¹ | | BACK | UP YS | I #50 | 96 | | 1 |

| Topadity (1410) | Pricelop | 477 #2006 | | |
|--------------------------------------|---|------------------------|---|--|
| Notes: | | | | |
| 1: Calibration standards are entered | d by hand depending on the monitoring i | instrument being used. | | |
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Water Quality Monitoring - Calibration Log Form Gasco Sediments Site ISS Pilot Study

| Date: | 10-3-2023 | |
|---------|----------------|--|
| Probe 9 | S/N. 21F103/78 | |

Calibrated By: Simon Dudenhoefer Meter(s) Model: YSI ProDSS #6970

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|-------------|--------------------|
| pH 7.00 (Standard Units) | 7.05 | 3660021 | 07/25 | 7.12 | 7.04 | 146 | Astanlard for Temp |
| pH 4.00 (Standard Units) | 4.00 | 36F1085 | 06/25 | 4.13 | 4.00 | 14.6 | , |
| Dissolved Oxygen (DO) ¹ | 100.3 | NA | NA | 102.5 | 100.3 | 17.1 | AIR |
| Turbidity (NTU) ¹ | ٥,00 | NA | NA | -0,03 | 0.00 | 14.8 | DIWATER |
| Turbidity (NTU) ¹ | 124 | 23F24003426 | 06/24 | 126.36 | 124.01 | 19.8 | |

| Date: | Calibrated By: | |
|------------|-----------------|--|
| Probe S/N: | Meter(s) Model: | |

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|-------------|----------|
| pH 7.00 (Standard Units) | 7.00 | | | | | | |
| pH 4.00 (Standard Units) | 4.00 | | T |) | | | |
| Dissolved Oxygen (DO) ¹ | | | | | | | |
| Turbidity (NTU) ¹ | DIPN | OT USE/CALIBE | ATE BA | CHUP YS | - | | |
| Turbidity (NTU)1 | | | | | | | |

| Notes: | |
|---|--|
| 1: Calibration standards are entered by hand depending on the monitoring instrument being used. | |
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| | |
| | |



Water Quality Monitoring - Calibration Log Form Gasco Sediments Site ISS Pilot Study

Date: 10-4-2023 Probe S/N: 21 E103678 Calibrated By: Simon Dudenhoefer
Meter(s) Model: YSI ProDSS #6970

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|-------------|---------------------|
| pH 7.00 (Standard Units) | 7.06 | 3660021 | 07/25 | 6.97 | 7.05 | 12.2 | a standard for temp |
| pH 4.00 (Standard Units) | 4.00 | 36F1085 | 06/25 | 3.95 | 4.00 | 12.4 | |
| Dissolved Oxygen (DO) ¹ | 101.1 | NA | NA | 101.0 | 101.2 | 17.1 | AIR |
| Turbidity (NTU) ¹ | 0 | NA | NA | 0.01 | 0.00 | 12.6 | DI WATER |
| Turbidity (NTU) ¹ | 124 | 23F24003+26 | 06/24 | 123.95 | 124.0 | 12.6 | |

Date: 10 - 4 - 2023 Probe S/N: 22G102376 Calibrated By: Simon Dudenhoefer
Meter(s) Model: YSI Pro DSS # 5006

| Parameter | Calibration Standard | Standard Lot No. | Expiration Date | Initial Caibration | Final Calibration | Temperature | Comments |
|------------------------------------|-------------------------|------------------|--------------------|-----------------------|----------------------|-------------|---|
| pH 7.00 (Standard Units) | 7.06 | 3660021 | 07/25 | 7.02 | 7.05 | 12.8 | astandard for temp |
| pH 4.00 (Standard Units) | 4.00 | 36F1085 | 06/25 | 4.02 | 4.00 | 12.9 | |
| Dissolved Oxygen (DO) ¹ | 101.2 | NA | NA | 101.2 | 101.2 | 17.1 | AIR |
| Turbidity (NTU) ¹ | 0 | NA | NA | -0.54 | 0.49 | 13.1 | DE WATER |
| Turbidity (NTU) ¹ | 124 | 23F24003426 | 06/24 | 124,88 | 123.95 | 13.1 | \$4000000000000000000000000000000000000 |

| Notes: | |
|---|--|
| 1: Calibration standards are entered by hand depending on the monitoring instrument being used. | |
| | |

Attachment 3 Water Quality Monitoring Forms – Field Parameters



Probe # 21E103678 YSI Propes # 6720 S Macadam Ave
Portland

Probe # 21E103678 YSI Propes # 6970

| | the same of the sa | the second secon | g Form - F | | |
|---------------------------|--|--|----------------------|-------------------|------------------|
| | | | Site ISS P | | |
| Date: i 0 - | | | Circuit Numb | | |
| Station: (E | G EW (| CS-1 CS-2 | N S | Time: 083 | 0 |
| Floor | d (Ebb) | Up River | Down River | Avg. Velocity: | |
| Lat/Northing: 4- | 5.57874 | Long/Easting:) | 22.75406 | Total Water De | |
| | Water Depth [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | 1 | 1.69 | 7.31 | 9.84 | 16.4 |
| Middle | 20 | 2.20 | 7.27 | 9.79 | 16.4 |
| Deep | 37 | 2.38 | 7.26 | 9.76 | 16.4 |
| Construction Ac | | Prilling | 40.0 | T: 020 | |
| | | S-1 CS-2 | N S | Time: 0850 | |
| | (Ebb) | | | Avg. Velocity: () | |
| Lat/Northing: 4 | | | 12.75694 | Total Water Dep | |
| | Water Depth [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | Ì | 1.76 | 7.26 | 9.83 | 16.4 |
| Middle | 23.3 | 1.99 | 7.30 | 9.81 | 16.4 |
| Deep | 43.6 | 4.13 | 8.39 | 9.73 | 16.4 |
| Comments ^[1] : | No shun, | odor, dis | coloration, | or suspent | ed |
| ma | terial obs | erved | · | 1 | |
| Construction Act | ivity: ISS [| Drilling | | | |
| Recorded by: | Simon Di | ndenhoe | fer | | |
| 11 Include observe | ations of floating/ou | spanded material | sheens discoloration | | |



| ANCHOR OF A | | | | 6720 S | Macadam Ave., |
|--|-----------------------|------------------|---|-----------------------|---------------|
| | e#21E10 | 13678 | YSI | Pro DSK + | Portland, 0 |
| | | | g Form - Fi | | |
| Wate | | 1000 Tab | Site ISS P | | ieters |
| Date: 10 - | 2-2023 | cuments | Circuit Numb | | |
| | | CS-1) CS-2 | <n s<="" td=""><td>Time: 0915</td><td><u> </u></td></n> | Time: 0915 | <u> </u> |
| Flood | I (Ebb) | $\overline{}$ | Down River | Avg. Velocity: | |
| Lat/Northing:4 | | , | 22,75744 | Total Water De | |
| | Water Depth | Turbidity | рН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | 1 | 1.60 | 7.36 | 9.84 | 16.4 |
| Middle | 22.7 | 1.92 | 7.19 | 9.83 | 16.4 |
| Deep | 42.4 | 2.61 | 7.36 | 9.75 | 16.4 |
| · No ogor | | tion, pr su | d to constr of grey ebu ispended m | | |
| | | S-1 CS-2 | N s | Time: 093 | 5 |
| Flood | /Ebb | Up River (| Down River | Avg. Velocity: (| |
| Lat/Northing: 4 | 5,58025 | Long/Easting: \ | 22.75675 | Total Water Depth: 48 | |
| | Water Depth | Turbidity | рН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | 1 | 1.52 | 7.29 | 9,87 | 16.4 |
| Middle | 24 | 1.88 | 7.24 | 9.81 | 16.3 |
| Deep | 45 | 2,81 | 7.50 | 9,76 | 16.3 |
| Comments ⁽¹⁾ : ₀ | No shen terial of | odor, dizi | cobration, a | or suspent | ed |
| Construction Act | ivity: ISS D | rilling | | | |
| | Simen S | | fer | | |
| [1] Include observa | ations of floating/su | spended material | sheens, discolorati | | |



| ANCHOR | | | | 6720 S I | Macadam Ave., |
|---|---|--|---|--|---|
| Deal | . HOIF | =10367 | 8 YSI | D. DSS. | Portland, |
| | | | g Form - F | | |
| VVal | _ | | Site ISS P | | |
| Date: 10 - | 2-202 | | Circuit Numb | | |
| | | CS-1 CS-2 | | Time: 103 | 0 |
| Floor | d /Œbb | Up River | Down Rive | Avg. Velocity: (| |
| Lat/Northing: 4 | 5.57876 | | 22.75401 | Total Water De | <u>.</u> |
| | Water Depth | Turbidity | рН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | | 2.09 | 7.30 | 9.89 | 16.3 |
| Middle | 20.3 | 1.90 | 7.23 | 9.87 | 16.3 |
| Deep | 37.6 | 1.94 | 7.27 | 9.84 | 16.3 |
| Comments ^[1] : "No SW OBCM | | uspended to constru | material, o | | |
| | een, odor, so ed related o | uspended to constru Drilling | | | |
| 9 N 9 S W 9 DSL r W Construction Ac | een, odor, so ed related | | material, o | | tion |
| "NO SW OBSCIM Construction Ac Station: E | een, odor, so ed related etivity: ISS BG EW C | Drilling CS-1 CS-2 Up River / | materal, o action action | Time: 10 10 | ntion 0.389 |
| "NO SW OBSCIM Construction Ac Station: E | een, odor, so ed related o etivity: Iss BG EW C | Drilling CS-1 CS-2 Up River / | material, o | Time: 10 10 | 1tion |
| *No SW OBSCOM Construction Ac Station: E | een, odor, so ed related etivity: ISS BG EW C | Drilling CS-1 CS-2 Up River / | materal, o action action | Time: 10 10 | 1tion |
| "NO SW OBSCIM Construction Ac Station: E | een, odor, so ed related o etivity: Iss BG EW C Ebb 5.58015 Water Depth | Up River / Long/Easting: \(\) Turbidity | material, o action actives Down River | Time: 10 10 Avg. Velocity: C Total Water Dep | th'on 0.389 oth: 46 Temp. |
| *No SW OSCOM Construction Ac Station: E Flood Lat/Northing: 4 | een, odor, so ed related o etivity: Iss BG EW C Ebb 5.58015 Water Depth | Up River / Long/Easting: Turbidity [NTU] | material, o nction active NOS Down River 22.75696 pH 1-1 7.26 | Time: [O 40 Avg. Velocity: C Total Water Dep | thisn 0.389 oth: 46 Temp. [deg-C] |
| "No Swan Share Station: B Flood Lat/Northing: 4 Surface Middle Deep | ed related strictly: Iss Sign EW Control S.58015 Water Depth [feet] 1 23 43 | Up River / Long/Easting: Turbidity [NTU] 1, 97 2.04 | materal, o nction active NOS Down River 22.75696 pH 1-1 7.26 7.25 | Time: [0 40 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.89 9.86 | thisn 0.389 oth: 46 Temp. [deg-C] 16.3 16.3 |
| Station: B Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : o | ed related etivity: Iss ctivity: Iss GEN CEN CEN CEN CEN CEN CEN CEN | Up River / Long/Easting: 1 Turbidity [NTU] 1.97 2.04 3.09 related m | Material, o nuction active NOS Down River 22.75696 pH [-] 7.26 7.25 | Time: 10 40 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.89 9.86 9.83 | 16.3 16.3 16.3 |
| Construction Action: B Flood Lat/Northing: 4 Surface Middle Deep Comments[1]: o CONSTRUCT * No odor | ed related etivity: Iss ctivity: Iss GEN CEN CEN CEN CEN CEN CEN CEN | Up River / Long/Easting: 1 Turbidity [NTU] 1.97 2.04 3.09 related m | material, o nection active NOS Down River 22.75696 PH 1-1 7.26 7.25 7.30 inor siven | Time: 10 40 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.89 9.86 9.83 | thion 389 oth: 46 Temp. [deg-C] 16.3 16.3 |



| ANCHOR OEA | 11 0 11 | | 7 V/- | | Macadam Ave Portland |
|--|--|---|---|---|--|
| | | | 3 YSI | | |
| vvate | | | g Form - Fi | | neters |
| Date: 10 | | | Site ISS P | | |
| | - 2-202 | | Circuit Numb | | |
| | | CS-1 CS-2 | | Time: 105 | |
| | (Ebb) | | Down River | | 0.549 |
| Lat/Northing: 45 | | | 22.75746 | Total Water De | pth: 4 4 |
| | Water Depth | Turbidity | pН | D.O. | Temp. |
| Surface | [feet] | [NTU] | 7.07 | [mg/L] | [deg-C] |
| | 0.0 | 2.54 | 7.27 | 9.90 | 16.3 |
| Middle | 22 | 2.41 | 7.28 | 9.87 | 16.3 |
| Deep | 41 | 2.50 | 7.27 | 9.84 | 16.3 |
| 0 0 2000 | | | loration, or | 343pt 10 C4 | majo jaj- |
| O b Service Construction Action: B | tivity: TSS D | orilling CS-1 CS-2 | (N) S | | |
| Construction Ac Station: B | tivity: TSS D | S-1 CS-2 | (N) S | Time: // @ _ | S |
| Construction Ac Station: B | tivity: TSS D G EW C | S-1 (S-2 Up River√ | N S Down River | Time: // O S | 50,487 |
| Construction Ac Station: B | tivity: \(\mathbb{F} \) \(\mat | Up River // Long/Easting: | N S Down River | Time: // @ _ | 50,487 |
| Construction Ac Station: B Flood Lat/Northing: 4- | tivity: TSS D G EW C | Up River (Long/Easting: Turbidity [NTU] | N S Down River 22,75676 pH [-] | Time: // O S Avg. Velocity: 0 Total Water Dep D.O. [mg/L] | S 0 . 487 oth: 47 . 4 |
| Construction Ac Station: B | tivity: \(\mathbb{F} \) \(\mat | Up River (Long/Easting: Turbidity [NTU] | N S Down River 22,75676 pH | Time: // O S Avg. Velocity: 0 Total Water Dep | 5 0 , 487 oth: 47 , 4 Temp. |
| Construction Ac Station: B Flood Lat/Northing: 4- | tivity: \(\mathbb{F} \) \(\mat | Up River (Long/Easting: Turbidity [NTU] | N S Down River 22,75676 pH [-] | Time: // O S Avg. Velocity: 0 Total Water Dep D.O. [mg/L] | 5 0 . 487 oth: 47 . 4 Temp. [deg-C] |
| Construction Ac Station: B Flood Lat/Northing: 4- Surface Middle Deep | tivity: \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mat | Up River (S-2) Long/Easting: [Turbidity [NTU] [. 73 [. 92 2.23 | Down River 22.75676 pH I-1 7.21 7.22 | Time: // O S Avg. Velocity: Total Water Dep D.O. [mg/L] 9.93 9.89 | 5 0,487 oth:47,4 Temp. [deg-C] 16,3 |
| Construction Ac Station: B Flood Lat/Northing: 4- Surface Middle Deep | tivity: \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mat | Up River (S-2) Long/Easting: [Turbidity [NTU] [. 73 [. 92 2.23 | 10 S Down River 22.75676 pH [-] 7.21 | Time: // O S Avg. Velocity: Total Water Dep D.O. [mg/L] 9.93 9.89 | 5 0,487 oth:47,4 Temp. [deg-C] 16,3 |
| Construction Ac Station: B Flood Lat/Northing: 4- Surface Middle Deep Comments ^[1] : o | tivity: \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{E} \) \(\mathbb{D} \) \(\mathbb{E} \) \(\mat | Up River (S-2 Up River (S-2 Long/Easting: Turbidity [NTU] 73 92 2023 Jor, Josco | Down River 22.75676 pH I-1 7.21 7.22 | Time: // O S Avg. Velocity: Total Water Dep D.O. [mg/L] 9.93 9.89 | 5 0,487 oth:47,4 Temp. [deg-C] 16,3 |

ations of floating/suspended material, sheens, discoloration, and odors.



Probe #21E10367 8 YSI ProDS5 #6970

| Wate | | | g Form - Fi Site ISS Pi | | |
|-----------------------------|--|------------------|----------------------------|--|---------|
| Date: O - | The state of the s | ediments | Circuit Numb | | |
| | | CS-1 CS-2 | | Time: 123 | 0 |
| Floor | Ebb | | Down River | 127 | |
| | 5.57874 | | | Avg. Velocity: 0 , 0 5 6 Total Water Depth: 4 0 | |
| , | Water Depth | Turbidity | рН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | 1 | 1.53 | 7.32 | 10.09 | 16.3 |
| Middle | 20 | 2.22 | 7.24 | 9.87 | 16.2 |
| Deep | 37 | 2.76 | 7.25 coloration, o | 9.81 | 16.2 |
| Materix Construction Ac | al observ | rilling | | | |
| | | S-1 CS-2 | N S | Time: 124 | R |
| Flood | Ebb | Up River / | Down River | | 0.121 |
| Lat/Northing: 4 | 5.56003 | Long/Easting: /2 | 2.75699 | Total Water Depth: 43.7 | |
| | Water Depth | Turbidity | рН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | | 1.10 | 7.29 | 9,93 | 16.3 |
| Middle | 21.85 | 2.08 | 7.24 | 7.85 | 16.2 |
| Deep | 40.7 | 2.52 | 7.29 | 7.81 | 16.2 |
| Comments ^[1] : 0 | No sheen, | odor, dis | coloration, | or susp | ented |
| Construction Act | ivity: ISS D | rilling | | | |
| Recorded by: | Simon D | uden hoef | es | | |



| Flood | 2-23 | S-1 CS-2 Up River | Circuit Number N S Down River | Der: 3 | 0 |
|---|------------------------------|---------------------------|-------------------------------|------------------|------------------|
| Station: B Flood -at/Northing: 4-5 Surface Middle | G EW (6) 6.58026 Water Depth | Up River | 20 N S Down River | Time: 30 | 0.317 |
| Flood Lat/Northing: 4-5 Surface Middle | 6.58026 Water Depth | Up River | Down River | Avg. Velocity: (| 0.317 |
| Surface Middle | S. S8026 Water Depth | Long/Easting: Turbidity | 22.75747 | , | |
| Surface Middle | Water Depth | Turbidity | T T | Total Water De | 4 |
| Middle | | | рн | | |
| Middle | Ì | | [-] | D.O. [mg/L] | Temp. [deg-C] |
| | | 1.56 | 7.28 | 9.97 | 16.3 |
| Deep | 21.7 | 2.24 | | 9.87 | 16.2 |
| | 40.4 | 2.45 | | | 16.2 |
| Station: Bo | tivity: ISS F | S-1 CS-2 | N S | Time: 1310 | |
| Flood | Ebb | Up River/ | Down River | Avg. Velocity: (| 0.351 |
| at/Northing:45 | .58022 | Long/Easting: \ | 22.75675 | Total Water De | oth: 46.5 |
| | Water Depth [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | | 1.23 | 7.25 | 10.06 | 16.3 |
| Middle | 23.25 | 1.65 | 7.21 | 9.89 | 16.2 |
| Deep | 43.5 | 2.47 | 8.00 | 9.82 | 16.2 |
| omments[1]: | No sheen, erial obse | rived | is coloration | in, or sus | pended |



Probe # 21E103678 YSI ProDSS#6970

| vvalo | | | g Form - Fi | | |
|---|--|--|------------------------------------|-----------------------------|--------------------|
| | the state of the s | <u>ediments</u> | Site ISS Pi | | |
| Date: 0 -0 | | | Circuit Numb | er: 4 | |
| Station: (E | BG EW (| CS-1 CS-2 | N S | Time: 1430 | |
| Floo | d /Œbb | Up River Down River | | Avg. Velocity: — D | |
| Lat/Northing: 4 | .at/Northing: 45 . 57 § 77 | | Long/Easting: 22,754 9 | | pth: 35 |
| | Water Depth | Turbidity | pН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | 1 | 1.60 | 7.22 | 10.05 | 16.3 |
| Middle | 17,5 | 1,71 | 7.19 | 9.90 | 16.2 |
| Deep | 32 | 2.38 | 7.22 | 9.84 | 16,2 |
| | etivity: ISS \ | | Un discolor | | |
| Station: B | G EW C | S-1 CS-2 | (N) s | Time: 4 4 5 | 5 |
| Flood | Ebb | Up River(| | Avg. Velocity: | - SD |
| Lat/Northing:4 | 5.58011 | | | Total Water Depth: 43 | |
| | | 3 12 | 76/2000 | Total Water Dep | oth: 43 |
| | Water Depth | Turbidity | pH | D.O. | oth: 43 Temp. |
| | | | pH [-] | | |
| Surface | Water Depth | Turbidity | рН | D.O. | Temp. [deg-C] |
| Surface Middle | Water Depth | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Middle Deep | Water Depth [feet] \ 21.5 | Turbidity [NTU] 1.41 1.59 3.38 | 7.29 7.23 7.60 | D.O. [mg/L] 10.10 9.96 9.81 | Temp. [deg-C] 16.3 |
| Middle Deep Comments ^[1] : | Water Depth [feet] \ 21.5 | Turbidity [NTU] 1.41 1.59 3.38 | pH [-] 7,29 7.23 | D.O. [mg/L] 10.10 9.96 9.81 | Temp. [deg-C] 16.3 |
| Middle Deep Comments ^[1] : , Matc | Water Depth [feet] 1 21.5 40 No Shell | Turbidity [NTU] 1.41 1.59 3.38 Odor, dra TWED | 7.29 7.23 7.60 coloration | D.O. [mg/L] 10.10 9.96 9.81 | Temp. [deg-C] 16.3 |



Probe # 21E103678 YSI ProDSS #6970

| ı vvate | r Quality i | Monitoring | g Form - Fi | old Paran | notore |
|---|--|---|-----------------------------------|---|-------------------------|
| | | | Site ISS Pi | | ictel 3 |
| Date: 10 - | 2-2023 | | Circuit Numb | | |
| Station: E | G EW | S-1) CS-2 | N s | Time: 145 | 5 |
| Flood | Ebb | Up River Down River | | Avg. Velocity: | |
| Lat/Northing: 4 | /Northing: 45,5\$033 Long/Easting: 122,7 | | 12,75743 | Total Water Depth: 42,4 | |
| | Water Depth | Turbidity | pН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | ì | 1.46 | 7.32 | 10.07 | 16.3 |
| Middle | 21.2 | 1.78 | 7.29 | 9.92 | 16.2 |
| Deep | 39.4 | 2.25 | 7.91 | 9.78 | 16.2 |
| M | aturalo | bserved | ploration, o | 3000 | <i>-</i> |
| Construction Ac | tivity: ISS | Drilling | | | |
| Station: B | G EW C | S-1 (CS-2) | N S | Time: \SIC |) |
| Flood | (Ebb | Up River (| Down River | Avg. Velocity: | — 9P |
| Lat/Northing:4- | 5.58022 | Long/Easting: أَرُا | 775676 | Total Water Depth: 43.6 | |
| | 101 1 - 11 | | -4.10010 | Total Water Dep | oth: 43.6 |
| | Water Depth | Turbidity | рН | D.O. | Temp. |
| Surface | [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | [feet] | Turbidity [NTU] | рн [-] 7.28 | D.O. [mg/L] | Temp. [deg-C] |
| Middle | [feet] | Turbidity [NTU] | рн [-] 7.28 7.23 | D.O. [mg/L] | Temp. [deg-C] |
| Middle Deep | [feet] 21.8 40.6 | Turbidity [NTU] 1.28 1.84 4.57 | рн [-] 7.28 7.23 7.46 | D.O. [mg/L] 10.10 9.93 9.85 | Temp. [deg-C] 16.2 16.2 |
| Middle Deep Comments ^[1] : | [feet] 21.8 40.6 | Turbidity [NTU] 1.28 1.84 4.57 ador, disc | рн [-] 7.28 7.23 | D.O. [mg/L] 10.10 9.93 9.85 | Temp. [deg-C] 16.2 16.2 |



Probe # 21E103678 YSI PadS\$#6970

| Gasco Sediments Site ISS Pilot Study Date: 0 - 3 - 23 Circuit Number: 1 Station: BG EW CS-1 CS-2 N S Time: 0830 Flood / Ebb | 46.2 |
|--|---------|
| Station: BG EW CS-1 CS-2 N S Time: 0830 Flood / Ebb Up River Down River Avg. Velocity: 0.5 Lat/Northing:45.58039 Long/Easting: 122.75802 Total Water Depth: 4 Water Depth Turbidity pH D.O. | 46.2 |
| Lat/Northing:45.58039 Long/Easting: 122.75802 Total Water Depth: 4 Water Depth Turbidity pH D.O. | 46.2 |
| Water Depth Turbidity pH D.O. | |
| | _ |
| 25 - 17 PAINT IN | Temp. |
| | [deg-C] |
| Surface 1 1.65 7.19 9.71 1 | 6.1 |
| Middle 23.1 1.71 7.23 9.66 1 | 6.1 |
| Deep 43.2 1.69 7.21 9.63 1 | 6.1 |
| Comments[1]: · No sheen, odor, discoloration suspended | |
| material observed | |
| · Collected MS/MSD sample here@ Deep interval (43') | |
| Construction Activity: ISS Drilling | |
| Station: BG EW CS-1 CS-2 N S Time: 0852 | |
| Flood / Ebb Up River / Down River Avg. Velocity: 🔾 . 🤇 | 38 |
| Lat/Northing: +5.57912 Long/Easting: 22,75495 Total Water Depth: 4 | 44 |
| Water Depth Turbidity pH D.O. | Temp. |
| | [deg-C] |
| Surface 1.42 7.26 9.71 16 | 5.1 |
| Middle 22 1.89 7.32 9.66 16 | 6.81 |
| Deep 41 1.82 7.35 9.64 1 | 6.0 |
| Comments 11: No Construction related SMAN absenced Som | 1. |
| comments[1]: No Construction related sheen observed, som ebulition derived sheen observed (minor) | |
| · No odor, discobration, or suspended material oles | served |
| Construction Activity: ISS Drilling | |
| Recorded by: Simon Duden ho efer | |



| CANCHOR OEA | | | | 6720 S N | /lacadam Ave., Su Portland, OR |
|-----------------------------|-----------------------|----------------------|-------------------------------|---|-----------------------------------|
| | 1060 #21E | 103678 | YSIP | 0P55 #60 | |
| | | | Form - Fi | | |
| | Gasco So | ediments | Site ISS Pi | lot Study | |
| Date: O - | 3-2023 | | Circuit Numb | er: 1 | |
| Station: B | G EW (| S-1 CS-2 | N (S) | Time: 090 | 00 |
| Flood |)/ Ebb | Up River | Down River | Avg. Velocity: | .091 |
| Lat/Northing:4 | 5.57895 | Long/Easting: | 2.75460 | Total Water Dep | oth: 40.4 |
| | Water Depth [feet] | Turbidity [NTU] | рН [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | | 1.34 | 7.27 | 9.72 | 16.1 |
| Middle | 20.2 | 1.62 | 7.28 | 9.68 | 16.1 |
| Deep | 37.4 | 1.75 | 7.27 | 9.65 | 16.1 |
| | ctivity: Iss S | Dailing CS-1 CS-2 |) N (S) | Time: 0910 | ` |
| | Ebb | | Down River | | |
| | | | 22.75493 | Avg. Velocity: 0.023 Total Water Depth: 50 | |
| | Water Depth [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | ١ | 1.46 | 7.27 | 9.73 | 16.1 |
| Middle | 25 | 1.64 | 7.27 | 9.67 | 16.1 |
| Deep | 47 | 2.16 | 7.31 | 9.62 | 16.1 |
| Comments ^[1] : 8 | No Shun, | obor, des | coloration, pinterval(47), | or susp | ented 1d duplicate |
| · Collected d | unistry samp | le here @ Lee | pinterval(47) | ducto hish | IST CSNTU. |
| Construction Ac | tivity: ISS D | Palling | • | | |
| Recorded by: 5 | Simon Du | dentro ef | er | | |



| ANCHOR DEA EE | obe #21 E | 103678 | YSI | PaDSS | Portland, #6970 |
|--|---|--|---|--|--|
| | | | g Form - Fi | | |
| | Gasco S | ediments | Site ISS Pi | lot Study | |
| Date: 10 - | 3 - 202 | 3 . | Circuit Numb | er: 2 | |
| Station: B | G EW C | S-1 CS-2 | N S | Time: 1030 | Q |
| Flood | Ebb | Up River / | Down River | Avg. Velocity: (| 0.622 |
| Lat/Northing:4 | S. S7877 | Long/Easting: | 22.75401 | Total Water De | pth: 42.2 |
| | Water Depth | Turbidity | pН | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | 1 | 1.47 | 1.12 | 9.18 | 16.0 |
| Middle | 21.1 | 2.16 | 7.12 | 9.68 | 15.9 |
| Deep | 39.2 | 2.40 | 7.20 | 9.64 | 15.9 |
| Construction Ac | etivity: ISS V | Drilling | | | |
| | etivity: ISS (| | (N) S | Time: 1 4 | 8 |
| Station: B | | CS-1 CS-2 | N S Down River | Time: 0 4 | |
| Station: B | BG EW (| Up River A | Down River | Avg. Velocity: | 0.446 |
| Station: B | BG EW (| CS-1 CS-2 | Down River | 1 | 0.446 |
| Station: B | BG (EW) (H(Ebb) S.S&∞7 | Up River A Long/Easting: (Turbidity [NTU] | Down River 22.75697 | Avg. Velocity: C Total Water Dep D.O. [mg/L] | o. 446 pth: 45.6 |
| Station: B | GEW C | Up River // Long/Easting: (9 | Down River 22.75697 pH | Avg. Velocity: C Total Water Dep | oth: 45.6 Temp. |
| Station: B Flood Lat/Northing: | GEW CEBB S.SS Water Depth [feet] L.2.8 | Up River A Long/Easting: (* Turbidity [NTU] | Down River 22.75697 pH [-] | Avg. Velocity: C Total Water Dep D.O. [mg/L] | o. 446 pth: 45.6 Temp. [deg-C] |
| Station: B Flood Lat/Northing: Surface Middle Deep | Water Depth [feet] | Up River A Long/Easting: [9 Turbidity [NTU] 1.56 1.51 | Down River 22.75697 pH [-] 7.21 7.19 7,21 | Avg. Velocity: Control Water Dept. D.O. [mg/L] 7.76 9.73 | th: 45.6 Temp. [deg-C] 16.0 15.9 |
| Station: B Flood Lat/Northing: Surface Middle Deep | Water Depth [feet] | Up River A Long/Easting: [9 Turbidity [NTU] 1.56 1.51 | Down River 22.75697 pH [-] 7.21 7.19 7,21 | Avg. Velocity: Control Water Dept. D.O. [mg/L] 7.76 9.73 | th: 45.6 Temp. [deg-C] 16.0 15.9 |
| Station: B Flood Lat/Northing: Surface Middle Deep | Water Depth [feet] | Up River A Long/Easting: [9 Turbidity [NTU] 1.56 1.51 | Down River 22.75697 pH [-] 7.21 7.19 | Avg. Velocity: Control Water Dept. D.O. [mg/L] 7.76 9.73 | 7 446 pth: 45.6 Temp. [deg-C] 16.0 16.0 |
| Station: B Flood Lat/Northing: Surface Middle Deep | Water Depth [feet] | Up River A Long/Easting: [9 Turbidity [NTU] 1.56 1.51 | Down River 22.75697 pH [-] 7.21 7.19 7,21 | Avg. Velocity: Control Water Dept. D.O. [mg/L] 7.76 9.73 | 7 446 oth: 45.6 Temp. [deg-C] |
| Station: B Flood Lat/Northing: Surface Middle Deep Comments[1]: 6 | Water Depth [feet] | Up River A Long/Easting: 19 Turbidity [NTU] 1.56 1.51 2.56 | Down River 22.75697 pH [-] 7.21 7.19 7,21 | Avg. Velocity: Control Water Dept. D.O. [mg/L] 7.76 9.73 | th: 45.6 Temp. [deg-C] 16.0 15.9 |



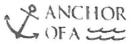
| ANCHOR OEA *** | | | | 6/20 S N | /Jacadam Ave., S Portland, O |
|--|---|---|---|---|--|
| | dae #2 19 | F103678 | 3 YSI | PoDSS | 10 10000 MARKS |
| | | | g Form - Fi | AND THE RESIDENCE OF THE PARTY | |
| | _ | | Site ISS Pi | | |
| Date: | 3-2023 | 3 . | Circuit Numb | er: 2_ | |
| Station: B | G EW C | S-1 CS-2 | N S | Time: O | |
| Flood | (Ebb) | Up River | Down River | Avg. Velocity: C | .303 |
| Lat/Northing:4-9 | 5.58030 | Long/Easting: | 22-75739 | Total Water Dep | oth: 45.4 |
| | Water Depth [feet] | Turbidity [NTU] | рН [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | 1 | 1.65 | 7.17 | 9,74 | 16.0 |
| Middle | 22.7 | 1.87 | 7.15 | 9.69 | 16.0 |
| Deep | 42.4 | 2.71 | 7.19 | 9.64 | 16.0 |
| Comments ^[1] : 6 | | iogolique | nortarello 3 | or suspe | nted |
| Comments ^[1] : o | No sheen cral obs | odor, diz erved Prilling CS-2 | | or Suspe | nted |
| Comments ^[1] : 6 MG Construction Action: B | No sheen cral obs | erved Prilling CS-1 CS-2 | | | |
| Comments [1]: 6 MG Construction Ac Station: B | No sheen cral obs | erved Prilling CS-1 Up River | N S | Time: 7 | 0.768 |
| Comments ^[1] : o MG Construction Ac Station: B | No sheen cral obs | erved Prilling CS-1 Up River | N S Down River | Time: 7 | 0.768 |
| Comments [1]: 6 MG Construction Ac Station: B | No sheen cral obs | Up River / Long/Easting: [| N S Down River 22.75681 pH | Time: | 0.768 oth: 47.4 Temp. |
| Comments ^[1] : o MQ Construction Ac Station: B Flood Lat/Northing: 4 | No sheen cral obs | Up River / Long/Easting: [Turbidity [NTU] | N S Down River 22.75681 pH | Time: | 768 oth: 47.4 Temp. [deg-C] |
| Comments ^[1] : o MG Construction Ac Station: B Flood Lat/Northing: 4 Surface Middle Deep | No sheen trial observations: Iss possible of the control observations: Iss possible observations: Iss | Up River / Long/Easting: [Turbidity [NTU] 1.46 1.75 | Down River 22.75681 pH [-] 7.14 7.12 7.18 | Time: 7 Avg. Velocity: (Total Water Dep D.O. [mg/L] 9.76 9.68 | 7.768 oth: 47.4 Temp. [deg-C] |
| Comments ^[1] : o MG Construction Ac Station: B Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : o | No sheen trial observations: Iss possible of the control observations: Iss possible observations: Iss | Up River / Long/Easting: [Turbidity [NTU] 1.46 1.75 | Down River 22.75681 pH [-] 7.14 7.12 | Time: 7 Avg. Velocity: (Total Water Dep D.O. [mg/L] 9.76 9.68 | 768 oth: 47.4 Temp. [deg-C] |
| Comments [1]: 6 Mat Construction Act Station: B Flood Lat/Northing: 4 Surface Middle Deep Comments [1]: 6 Mat | No sheen cral observativity: ISS F GEN CONTROL S. S8023 Water Depth [feet] 23.7 44.4 | Up River / Long/Easting: [Turbidity [NTU] 1.46 1.75 1.96 | Down River 22.75681 pH [-] 7.14 7.12 7.18 | Time: 7 Avg. Velocity: (Total Water Dep D.O. [mg/L] 9.76 9.68 | 768 oth: 47. 4 Temp. [deg-C] |



| ANCHOR DEA ## | | = | 110 | - 2 546 | Portland, |
|--|---|--|---|--|-------------------------------|
| | Tobe # 21E | -01- | Y5 | | |
| Wate | | | Form - Fi | | eters |
| Data lo | | | Site ISS P | | |
| | 3-2023 | | N S | 1 | |
| | | | | Time: 1230 Avg. Velocity: 0.062 | |
| Flood / (Ebb) | | Up River / Down River | | Total Water Depth: 36 | |
| Lat/Northing: 4 | Water Depth | Turbidity | 22.15416 pH | D.O. | Temp. |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] |
| Surface | ĺ | 1.56 | 7.21 | 9.81 | 16.0 |
| Middle | 18 | 2.23 | 7.18 | 9.72 | 15.9 |
| D | 10 | 0 30 | 7 () 0 | 9 10 | 9 |
| Ma- | terral obs | erned | 7.20 ploration, or | 9.68 suspended | 15.9 |
| Comments ^[1] : o | No sheen, of | erved | ploration, or | suspended | , |
| Comments ^[1] : o M Q - Construction Act Station: B | No sheen, of the stivity: ISS I | perved Drilling CS-1 CS-2 | N s | Time: 1255 | , |
| Comments ^[1] : o MQ- Construction Ac Station: B | No sheen, of the stivity: ISS I | Drilling CS-1 CS-2 Up River | N S Down River | suspended | 0.029 |
| Comments ^[1] : o MQ Construction Ac Station: B | No sheen, of the stivity: ISS I | perved Drilling CS-1 CS-2 | N S Down River | Time: 1255 Avg. Velocity: (| 0.029 |
| Comments ^[1] : o MQ- Construction Ac Station: B | No sheen, of the strictly: ISS I | Drilling CS-1 CS-2 Up Riverd Long/Easting: Turbidity | N S Down River 22,75694 pH | Time: 2 5 5 Avg. Velocity: C Total Water Dep D.O. [mg/L] | 0.029 oth: 43.6 Temp. |
| Comments ^[1] : o M Q Construction Ac Station: B Flood Lat/Northing: 4 | No sheen, of the strictly: ISS I | Up River- | N S Down River 22,75694 pH [-] | Time: 255 Avg. Velocity: C Total Water Dep | oth: 43.6 Temp. [deg-C] |
| Comments ^[1] : o M Q Construction Ac Station: B Flood Lat/Northing: 4 | No sheen, of the strictly: ISS I | Up Riverd Long/Easting: [Turbidity [NTU] | N S Down River 22,75694 pH [-] 7.22 | Time: 1255 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.76 | oth: 43.6 Temp. [deg-C] |
| Comments ^[1] : o M Q Construction Ac Station: B Flood Lat/Northing: 4 Surface Middle Deep | No sheen, of the strictly: Iss Iss Iss Iss Iss Iss Iss Iss Iss Is | Up Riverd Long/Easting: Turbidity [NTU] 1.73 1.95 2.22 | N S Down River 22,75694 pH [-] 7.22 7.20 | Time: 1255 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.76 9.76 9.65 | oth: 43.6 Temp. [deg-C] 15.9 |
| Comments ^[1] : o Construction Ac Station: B Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : o | No sheen, of the strictly: Iss Iss Iss Iss Iss Iss Iss Iss Iss Is | Up Riverd Long/Easting: Turbidity [NTU] 1.73 1.95 2.22 | N S Down River 22,75694 pH [-] 7.22 7.20 7.20 | Time: 1255 Avg. Velocity: C Total Water Dep D.O. [mg/L] 9.76 9.76 9.65 | oth: 43.6 Temp. [deg-C] 15.9 |



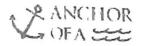
| | Constitution of the Consti | | ysı g Form - Fi | | |
|--|--|--|---|---|---|
| | _ | ediments | Site ISS P | | |
| Date: - | 3-2023 | , | Circuit Numb | | |
| Station: B | G EW (| CS-1 CS-2 | (N) S | Time: 1307 | |
| Flood | /(Ebb | Up River / | Down River | Avg. Velocity: (| |
| Lat/Northing: 45.58022 | | Long/Easting: 122, 75739 | | Total Water Depth: 42. | |
| | Water Depth | Turbidity | pН | D.O. | Temp. [deg-C] |
| Surface | [feet] | [NTU] | 7.13 | [mg/L] | 16. |
| | | 1001 | _ | | |
| Middle | 21.4 | 2.07 | 1.22 | 9.69 | 15. |
| Deep Comments ^[1] : | aterial of | oserved | 7.22 7.18 coloration, o | 9.69 9.64 or suspen | 15.6 15.8 Jed |
| Deep Comments ^[1] : YMC Construction Ac | 39.8 No sheen aterial of | 2.92 odor, dis oserved | 7.18 | 9.64 | 15.8 |
| Deep Comments[1]: (M) Construction Action: B | 39.8 No sheen aterial of | 2.92 odor, dis oserved Orilling CS-1 CS-2 | 7.18 | 9.64 or suspen | 15.8 Jed |
| Deep Comments[1]: (M) Construction Action: B Flood | 39.8 No sheen aterial of stivity: ISS 1 | 2.92 odor, dis oserved Orilling CS-1 CS-2 | 7.18 coloration, o | 9.64 or suspen | 15.8 Jed 2.193 |
| Deep Comments[1]: (M) Construction Action: B | 39.8 No sheen aterial of stivity: ISS 1 | 2.92 odor, dis oserved Orilling CS-1 CS-2 Up River | 7.18 coloration, o | Time: 1316 Avg. Velocity: (| 15.8 Jed 0.193 oth: 45.2 Temp. |
| Deep Comments[1]: (M) Construction Action: B Flood | 39.8 No sheen aterial of the sterial | 2.92 odor, disperved orilling S-1 CS-2 Up Rivery Long/Easting: [CITUTE Condition Co | 7.18 coloration, s Down River) 22.75680 pH | Time: 316 Avg. Velocity: (Total Water Dep | 15.8 Jed 0.193 oth: 45.2 Temp. |
| Deep Comments ^[1] : Construction Action: B Flood Lat/Northing: 4 | 39.8 No sheen aterial of the sterial | 2.92 odor, disperved Drilling SS-1 CS-2 Up River & Long/Easting: [CITU] | 7.18 coloration, 9 Down River 22.75680 pH [-] | Time: 316 Avg. Velocity: (Total Water Dep D.O. [mg/L] | 15.8 Jed 0.193 oth: 45.2 Temp. [deg-C] |
| Deep Comments[1]: Construction Action: B Flood Lat/Northing: 4 Surface | 39.8 No sheen aterial of the state of the sheet of the sh | 2.92 odor, disperved Drilling S-1 CS-2 Up River P Long/Easting: [CITU] 1,93 | 7.18 coloration, s Down River 22.76680 pH [-] 7.21 7.15 | Time: 316 Avg. Velocity: (Total Water Dep D.O. [mg/L] 9,78 | 15.8 Jed 0.193 oth: 45.2 Temp. [deg-C] |



| | 20 # LIEI(| 03678 | YSI | PmDSS # | Portland 6970 |
|--|--|--|---|--|--|
| wate | er Quality I | | | | |
| | Gasco S | ediments | Site ISS P | ilot Study | 1101010 |
| Date: 0 - | 3-2023 | | Circuit Numb | | |
| Station: (E | BG EW (| CS-1 CS-2 | N (S) | Time: 145 | 1 |
| Floo | d /Œbb | Up River | Down River | Avg. Velocity: | 0.358 |
| Lat/Northing: 45.57876 | | Long/Easting: 22.75409 | | Total Water Depth: 37 | |
| | Water Depth [feet] | Turbidity [NTU] | pH [-] | D.O. [mg/L] | Temp. [deg-C] |
| Surface | 1 | 0.94 | 7.32 | 10.07 | 16.3 |
| Middle | 18.7 | 2.04 | 7.24 | 9,78 | 15.8 |
| Deep | 34.4 • No shew | 2.4) | 7.20 | 9.71 | 157 |
| Construction Ad | ctivity: ISS | Drilling | | | |
| Station: E | G EW C | Dailing S-1 CS-2 | (N) s | Time: (5 O | 4 |
| Station: E | G (Ebb) | S-1 CS-2 | Down River | Time: (S O Avg. Velocity: C | 1 |
| Station: E Flood Lat/Northing: 4 | BG (EW) (1/(Ebb) -5,58008 | Up River Long/Easting: | Down River | | 0.201 |
| Station: E Flood Lat/Northing: 4 | G (Ebb) | S-1 CS-2 | Down River | Avg. Velocity: Cotal Water Dep | 7.201 oth: 44.4 |
| Station: E Flood Lat/Northing: 4 | BG EW C d /(Ebb) らいちゃちゃち Water Depth | Up River Long/Easting: | Down River 22.75685 pH | Avg. Velocity: Total Water Dep D.O. [mg/L] | 7.201 oth: 44.4 Temp. [deg-C] |
| Station: E Flood Lat/Northing: 4 | BG EW C d /(Ebb) らいちゃちゃち Water Depth | Up River Long/Easting: 17 Turbidity [NTU] | Down River 22.75685 pH [-] | Avg. Velocity: Cotal Water Deposition D.O. [mg/L] | 7.201 oth: 44.4 Temp. [deg-C] |
| Station: E Flood Lat/Northing: 4 Surface Middle Deep | G (Ebb) S. 58008 Water Depth [feet] 1 22.2 41.4 | Up River (Long/Easting: 1/2 Turbidity [NTU] 1.10 | Down Rives 22.75685 pH [-] 7.31 7.20 9.16 | Avg. Velocity: Control Water Depth D.O. [mg/L] 9.99 9.76 | 7.201 oth: 44.6 Temp. [deg-C] |
| Station: E Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : 2 | G (Ebb) S. 58008 Water Depth [feet] | Up River (Long/Easting: 1/2 Turbidity [NTU] 1.10 2.21 | Down Rives 22.75685 pH [-] 7.31 7.20 9.16 | Avg. Velocity: Control Water Depth D.O. [mg/L] 9.99 9.76 | 7.201 oth: 44.4 Temp. [deg-C] |

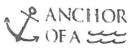


| ANCHOR OF A *********************************** | Falso #21 | E10367 | 8 YSI | Dans H | Portlar | |
|---|--|--|--|---|--|--|
| | The transfer of the same of th | | | | | |
| Water Quality Monitoring Form - Field Parameters Gasco Sediments Site ISS Pilot Study | | | | | | |
| Date: 10-3-2023 Circuit Number: 4 | | | | | | |
| Station: E | BG EW (| CS-1) CS-2 | | Time: \ 5 2 | _7 | |
| Floo | d (Ebb) | Up River | Down River | Avg. Velocity: | | |
| Lat/Northing: 4 | 5.58032 | | 22.75754 | + | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C | |
| Surface | 1 | 0.92 | 7.28 | 10.04 | 16.5 | |
| Middle | 21.4 | 1.83 | 7.18 | 9.77 | 15.8 | |
| | | | | | | |
| MO | terral ob | served | 7.27 discolorati | 9.70 tion, or su | | |
| Comments ^[1] . M () Construction Ac | ·No shed terral ob | N odor | docoloras | tion, or su | ispende | |
| Comments ^[1] . M (A Construction Ac Station: E | ·No shed terral ob | N odor | d no colorati | Time: 1534 | ispende | |
| Comments ^[1] M (A Construction Ac Station: E | teral ob | Served Cilling CS-1 CS-2 Up River | N S Down River | Time: 1534 | t 0.335 | |
| Comments ^[1] M (A Construction Ac Station: E | terral ob terral ob ctivity: ISS \$ BG EW C (Ebb) S.58021 Water Depth | Served Cilling CS-1 CS-2 Up River | d no colorati | Time: 1534 | t 0.335 | |
| Comments ^[1] : M() Construction Action: E Flood Lat/Northing: 4 | terral objectivity: ISS & | Up River / | N S Down River | Time: 1534 Avg. Velocity: (Total Water Dep | 1 1 0.335 oth: 45 | |
| Comments ^[1] M (A Construction Ac Station: E | teral of ter | Up River / Long/Easting:) | N S Down River 22,75675 pH | Time: 1534 Avg. Velocity: (Total Water Dep | toth: 45 | |
| Comments ^[1] : M() Construction Action: E Flood Lat/Northing: 4 | terral ob terral ob ctivity: ISS \$ BG EW C (Ebb) S.58021 Water Depth | Up River / Long/Easting:) Turbidity [NTU] | N S Down River 22.75675 pH [-] | Time: 534 Avg. Velocity: (Total Water Dep | th: 45 Temp. [deg-C] | |
| Comments ^[1] : M (A Construction Ac Station: E Flood Lat/Northing: 4 Surface Middle Deep | terral observations and observations of the control observ | Up River / Long/Easting:) Turbidity [NTU] 0.95 1.76 | (N) S Down River 22.75675 pH [-] 7.27 7.16 9.39 | Time: 1534 Avg. Velocity: (Total Water Dep D.O. [mg/L] 10,12 9,79 | 15pende 15pende 15.335 16.3 15.8 | |
| Comments ^[1] : Construction Ad Station: E Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : o | terral of terral | Up River / Long/Easting:) Turbidity [NTU] 0.95 1.76 7.76 | (N) S Down River 22.75675 pH [-] 7.27 7.16 9.39 | Time: 1534 Avg. Velocity: (Total Water Dep D.O. [mg/L] 10,12 9,79 | 15pende 15pende 15.335 Temp. [deg-C] 16.3 15.8 | |
| Comments ^[1] : Construction Action: E Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : o | terral of terral of terral of terral of BG EW C (Ebb) S.58021 Water Depth [feet] | Up River / Long/Easting:) Turbidity [NTU] 0.95 1.76 7.76 | (N) S (N) S (Qown River) 22.75675 pH [-] 7.27 7.16 9.39 No ration, or | Time: 1532 Avg. Velocity: (Total Water Dep D.O. [mg/L] 10.12 9.79 9.60 5uspend | 15pende 15pende 15.335 16.3 15.8 | |
| Comments ^[1] : Construction Action: E Flood Lat/Northing: A Surface Middle Deep Comments ^[1] : o Multiple NTV and | terral of terral | Up River / Long/Easting:) Turbidity [NTU] 0.95 1.76 7.76 7.76 200, disceeding exceeding exceeding | (N) S Down River 22.75675 pH [-] 7.27 7.16 9.39 | Time: 1534 Avg. Velocity: (Total Water Dep D.O. [mg/L] 10.12 9.79 9.60 505 pend | 15pende 15pende 15.335 Temp. [deg-C] 16.3 15.8 15.8 | |

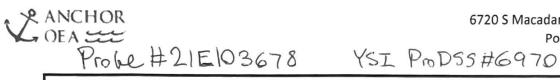


Probe #21E103678 YSIProDSS#6970

| Met | | | 100-110 | | | _ | | |
|--|---|------------------|----------------------|---|-----------|------|--|--|
| Water Quality Monitoring Form - Field Parameters | | | | | | | | |
| Gasco Sediments Site ISS Pilot Study | | | | | | | | |
| Date: 10 - 3 - 2023 Circuit Number: 4 | | | | | | | | |
| Station: BG EW CS-1 CS-2 N S Time: 1625 | | | | | | | | |
| | Flood (Ebb) Up River Down River Avg. Velocity: 0.329 | | | | | | | |
| Lat/Northing: 4 | Lat/Northing: 45.5802 Long/Easting: 22.75675 Total Water Depth: 45 | | | | | 1 | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | - | | |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] | | | |
| Surface | | 1.18 | 7.34 | 10.03 | 16.3 | 1 | | |
| Middle | 22.5 | 1.99 | 7.23 | 9.77 | 15.8 | | | |
| Deep | 42 | 3.39 | 8.99 | 9/9 | 100 | 1 | | |
| Comments ^[1] : o | Returned - | O CS-2N | affer 45 | minutec 1 | 12.0 | - | | |
| Confirm | Ph + NTU | exceeta | nes | 111111111111111111111111111111111111111 | 5 | | | |
| ONTI) de | Liclary Product | there last | and ph stat | and in mer | .) | | | |
| Construction | "" = CO | 1 4162012 19 | wio pri stat | geo in excer | esance of | fer | | |
| Station: B | ctivity: ISS T | rilling | | 171114 | 1 ewang @ | 1625 | | |
| _ | | S-1 CS-2 | N S | Time: | | | | |
| _ | I / Ebb | Up River / | Down River | Avg. Velocity: | | | | |
| _at/Northing: | | Long/Easting: | | Total Water Dep | th: | | | |
| | Water Depth | Turbidity | pН | D.O. | Temp. | | | |
| 0.1 | [feet] | [NTU] | [-] | [mg/L] | [deg-C] | | | |
| Surface | | | | | | | | |
| Middle | | | | | | | | |
| Deep | | | | - | | | | |
| comments ^[1] : | | 1 | | | | | | |
| | | 1 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| onstruction Activity: | | | | | | | | |
| ecorded by: Simon Dudenhalfer | | | | | | | | |
| Include observat | tions of floating/sus | pended material. | sheens, discoloratio | D and ad- | | | | |
| | | | algoriolatio | ii, and odors. | | | | |



| | the same of the sa | the first of the contract of t | 8 YSI | | | |
|--|--|--|--|---|---|--|
| Wate | | | g Form - F | | | |
| Date: 10 - 3 - 2 - 2 - 3 Circuit Number: 5 | | | | | | |
| 7 | | CS-1 CS-2 | | Time: 165 | ì | |
| | d / Ebb | | Down River | Avg. Velocity: | | |
| | 15.58039 | | 122.75809 | Total Water De | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] | |
| Surface | 1 | 1.03 | 7.37 | 10.13 | 16.6 | |
| Middle | 007 | 192 | 7.32 | 9.78 | 15.8 | |
| Wilduic | 20.7 | 100 | 1002 | 1 0 10 | 10.0 | |
| Deep Comments ^[1] | 38.4 | s bserved | 8.21 scoloration | 9.70 | 15.8 | |
| Deep Comments ^[1] . | 38.4 No sheen aterial a | s bserved | 8.21 scoloration | 9.70 | 15.8 | |
| Deep Comments ^[1] . W Construction Action: B | 38.4 No sheen aternal a | Drilling CS-1 CS-2 | 8.21 scoloration | 9.70 n, or susp | 15.8 pended | |
| Deep Comments ^[1] Construction Action: B | 38.4 No sheen aternal a | Drilling S-1 CS-2 Up River | 8.21 s 6 location N S Down River | 7.70 7,00 Sugg Time: 1702 Avg. Velocity: (| 15.8 pended | |
| Deep Comments ^[1] : W Construction Ac Station: B | 38.4 No sheen Aterial of Citivity: ISS I BY Ebb S.57916 Water Depth | Dr. Iling S-1 CS-2 Up River Long/Easting: I' | N S Down River | Time: 1702 Avg. Velocity: (Total Water Dep | 15.8 Dented 0.372 oth: 43 Temp. | |
| Deep Comments ^[1] : W Construction Ac Station: B | 38.4 No sheen laterial continuity: ISS I | Up River Long/Easting: ['Turbidity [NTU] | N S Down River 22,75478 pH [-] | Time: 1702 Avg. Velocity: (Total Water Dep D.O. [mg/L] | 15.8 Dented 0.372 oth: 43 Temp. [deg-C] | |
| Deep Comments ^[1] : W Construction Ac Station: B Lat/Northing: 4 | 38.4 No sheen Aterial of Citivity: ISS I BY Ebb S.57916 Water Depth | Drilling CS-1 CS-2 Up River Long/Easting: [Turbidity [NTU] O.82 | N S Down River | 7.70 7.00 Sugg | 15.8 Dented 0.372 oth: 43 Temp. [deg-C] | |
| Deep Comments ^[1] : W Construction Act Station: B Flood Lat/Northing: 4 | 38.4 No sheen aterial continuity: ISS [BY Ebb S.57916 Water Depth [feet] | Drilling CS-1 CS-2 Up River Long/Easting: If Turbidity [NTU] O.82 | N S Down River 22,75478 pH [-] 7,28 7,29 | Time: 1702 Avg. Velocity: (1701) Total Water Dep D.O. [mg/L] 10.17 | 15.8 Dented 0.372 oth: 43 Temp. [deg-C] 16.5 | |
| Deep Comments ^[1] : W Construction Act Station: B Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : | 38.4 No sheen aterial a civity: ISS I BY Ebb S.57916 Water Depth [feet] 21.5 40 | Drilling CS-1 CS-2 UprRiver Long/Easting: 1 Turbidity [NTU] 0.82 1.80 3.35 | N S Down River 22,75478 pH [-] 7,28 7,28 | Time: 1702 Avg. Velocity: (1702) Total Water Dep D.O. [mg/L] 10.17 9.81 9.68 | 15.8 Dented 0.372 oth: 43 Temp. [deg-C] 16.5 | |
| Deep Comments ^[1] : W Construction Action: B Flood Lat/Northing: 4 Surface Middle Deep Comments ^[1] : Navy Uess | 38.4 No sheen aterial of the sheet of the s | Drilling S-1 CS-2 UprRiver Long/Easting: 1 Turbidity [NTU] 0.82 1.80 3.35 Erved outs the work | N S Down River 22,75478 pH [-] 7,28 7,29 | Time: 1702 Avg. Velocity: 6 Total Water Dep D.O. [mg/L] 10.17 9.81 9.68 MS a Fles | 15.8 Dented 0.372 oth: 43 Temp. [deg-C] 16.5 15.7 a large | |



| Water Quality Monitoring Form - Field Parameters Gasco Sediments Site ISS Pilot Study | | | | | | | | |
|---|--|-----------------|--|--------------------------------------|----------------|--|--|--|
| Date: 10 - 3 - 2023 | | | | | | | | |
| Station: E | Station: BG EW CS-1 CS-2 N S Time: 1715 | | | | | | | |
| Floor | Flood/ Ebb Up River/ Down River Avg. Velocity: () 45) | | | | | | | |
| Lat/Northing: 4 | 5.57891 | Long/Easting:) | 22.75436 | Total Water De | pth: 40 | | | |
| | Water Depth | Turbidity | pН | D.O. | Temp. | | | |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] | | | |
| Surface | Ì | 1.61 | 7.38 | 9.93 | 16.1 | | | |
| Middle | 20 | 2.41 | 7.59 | 9.80 | 15.8 | | | |
| Deep | 37 | 6.98 | 8.32 | 9.68 | 15.8 | | | |
| Swells a | assed the individual to the comments of the co | 13 to have | e of 600ms in (0.1650,5 vessel) cre passel over | heen had ated 2-2. The looping | been S'tall | | | |
| | | S-1 (CS-2) | N S | Time: 172 | 8 | | | |
| Floor | / Ebb | Up River / | Down River | Avg. Velocity: (| | | | |
| Lat/Northing: 4 | 5.57944 | Long/Easting: [| 22.75500 | Total Water Dep | | | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | | | |
| | [feet] | [NTU] | [-] | [mg/L] | [deg-C] | | | |
| Surface | | 1.05 | 7.29 | 10.05 | 16.3 | | | |
| Middle | 22.2 | 2.26 | 7.38 | 9.77 | 15.8 | | | |
| Deep | 41.4 | 2.77 | 8.28 | | 15.8 | | | |
| comments 11: o No shen, odor, discoloration, or suspended material observed | | | | | | | | |
| Construction Ac | tivity: ISS S | Drilling | | | | | | |
| Recorded by: | Simon 7 | _udenha | sefer | | | | | |

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



Probe # 21E103678 YSI ProDSS#6970

Water Quality Monitoring Form - Field Parameters **Gasco Sediments Site ISS Pilot Study**

| Date: 0 - 4 | 4-2023 | : 1 | | | |
|-----------------|-------------|------------------|------------|--------------------|-------|
| Station: BG | EW CS-1 | CS-2 N S | | Time: 0750 |) |
| Floo | DO / Ebb | Up Rive / [| Down River | Avg. Velocity: 🔘 . | 428 |
| Lat/Northing: 4 | 15.58040 | Long/Easting: 12 | 2.75808 | Total Water Depth: | 43 |
| | Water Depth | Turbidity | pН | D.O. | Temp. |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) |
| Surface | | 1.48 | 7.22 | 9.83 | 15.7 |
| Middle | 21.5 | 1.84 7.24 | | 9.77 | 15.7 |
| Deep | 40 | 2.15 | 7.23 | 9.71 | 15.7 |

comments: . No shen odor, discoloration, or suspended material observed

Construction Activity: ISS Drilling

| Station: BG | €W CS-1 | CS-2 N § | | Time: 0813 | |
|---------------|-------------|---------------------|--------|----------------------|-------|
| (Floo | od/ Ebb | Up River Down River | | Avg. Velocity: 0.549 | |
| Lat/Northing: | 45.57910 | Long/Easting: 122 | .75487 | Total Water Depth: | 42.4 |
| | Water Depth | Turbidity | pH | DO | Temp. |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) |
| Surface | l | 1.51 | 7.18 | 9.85 | 15.7 |
| Middle | 21.2 | 1.98 | 7.29 | 9.77 | 15.7 |
| Deep | 39.4 | 5.51 | 7.74 | 9.72 | 15.7 |

Comments: . Ebulition related minor sively observed, no construction redated sheen, odor, discoloration, or suspended material observed · Construction related sheen contained inside boom

Construction Activity: ISS Drilling

Recorded by: Simon Dudenhoefer

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



Probe # 21E103678

YSI ProDS5 #6970

Water Quality Monitoring Form – Field Parameters Gasco Sediments Site ISS Pilot Study

| • | | | | | | | |
|---|-----------------------------------|------------------|------------|--------------------|-------|--|--|
| Date: 0 - | Date: 10-4-2023 Circuit Number: 1 | | | | | | |
| Station: BG EW CS-7 CS-2 N S Time: 0822 | | | | | | | |
| Floo | od) Ebb | Up River [| Down River | Avg. Velocity: 🔘 , | 574 | | |
| Lat/Northing: 4 | 15.57893 | Long/Easting: 12 | 2.75461 | Total Water Depth | :39.6 | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | 1 | 1.55 | 7.28 | 9.80 | 15.7 | | |
| Middle | 19.8 | 3.08 | 7.39 | 9,75 | 15.7 | | |
| Deep | 36.6 | 2.74 | 7.39 | 9.73 | 15.7 | | |

comments: . No sheen observed sutside of boom, all construction related sheen contained inside boom

· No odor, discoloration, or suspended material observed

Construction Activity: ISS Drilling

| Station: BG | EW CS-1 | CS-2 N (5) | Time: 083 | 3 | |
|---------------|-----------------------|-----------------------|-----------|----------------------|---------------|
| Flood / Ebb | | Up River / Down River | | Avg. Velocity: 0,593 | |
| Lat/Northing: | 45.57942 | Long/Easting: 12 | 2.75494 | Total Water Depth | 45.8 |
| | Water Depth (feet) | Turbidity (NTU) | pH (-) | DO (mg/L) | Temp. (°C) |
| Surface | 1 | 1.47 | 7.23 | 9.85 | 15.7 |
| Middle | 22.9 | 1.58 | 7.22 | 9.78 | 15.7 |
| Deep | 42.8 | 1.76 | 7.36 | 9.69 | 15.7 |

Comments: . Hit riverbottom w/ probe causing elevated NTU, had to wart ~15 minutes for NTU to stabilize

· No sheen, odor, discoloration, or suspended material observed

Construction Activity: ISS Drilling

Recorded by: Simon Duden hoefer

^{1.} Include observations of floating/suspended material, sheens, discoloration, and odors.



Probe #21E103678

YSI ProDSS #6970

Water Quality Monitoring Form – Field Parameters Gasco Sediments Site ISS Pilot Study

| Date: 10 - 4 - 2023 Circuit Number: 2 | | | | | | | |
|--|-------------|------------------|------------|--------------------|-------|--|--|
| Station: (8G) EW CS-1 CS-2 N (\$) Time: 0950 | | | | | | | |
| Floo | od (PSD) | Up River 🗐 | Down River | Avg. Velocity: 🔘 , | .002 | | |
| Lat/Northing: | 45.57870 | Long/Easting: 12 | 2.75396 | Total Water Depth | :39 | | |
| | Water Depth | Turbidity | pН | D.O. | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | 1 | 1.20 | 7.37 | 9.98 | 15.8 | | |
| Middle | 19.5 | 1.46 | | | 15.7 | | |
| Deep | 36 | 1.68 | 7.36 | 9.80 | 15.7 | | |
| 1 | | | 4 | | 1 | | |

comments: o No sheen, odor, discoloration, or suspended material observed

Construction Activity: ISS Dailing

| Station: BG | EW CS-1 | CS-2 N S | | Time: 1005 | |
|-----------------|-------------|---------------------|---------|----------------------|-------|
| Floo | od /Ebb | Up River Down River | | Avg. Velocity: 0,072 | |
| Lat/Northing: 4 | 45.58002 | Long/Easting: 12 | 1.75702 | Total Water Depth | 43.4 |
| | Water Depth | Turbidity | рН | DO | Temp. |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) |
| Surface | 1 | 1.35 | 7.35 | 9.87 | 15.8 |
| Middle | 21.7 | 1.62 | 7.33 | 9.77 | 15.8 |
| Deep | 40. | 1.84 | 7.56 | 9.76 | 15.7 |

comments: No Sheen, odor, discoloration, or suspended material

Construction Activity: ISS Drilling

Recorded by: Simon Dudenhoefer

^{1.} Include observations of floating/suspended material, sheens, discoloration, and odors.



Probe #21E103678

YSI PODS9 #6970

Water Quality Monitoring Form – Field Parameters Gasco Sediments Site ISS Pilot Study

| Date: 10 - 4 - 2023 Circuit Number: 2 | | | | | | | |
|---------------------------------------|-------------|------------------|-----------|-------------------------|-------|--|--|
| 4 | | | | Time: 1020 | | | |
| Floo | od Ebb | Up River 🖊 | own River | Avg. Velocity: | .295 | | |
| Lat/Northing: 4 | 15.58022 | Long/Easting: 12 | 2.75747 | Total Water Depth: 43.6 | | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | 1 | 1.12 | 7.32 | 9.93 | 15.8 | | |
| Middle | 21.8 | 1.66 | 7.29 | 9.81 | 15.7 | | |
| Deep | 40.6 | 1,98 | 7.70 | 9.77 | 15.8 | | |

comments!: No sheen, odor, discoloration, or suspended material observed

Construction Activity: ISS Prilling

| Station: BG | EW CS-1 | CS-2 (N) S | | Time: 1034 | | |
|-----------------|-------------|------------------------------|---------|----------------------|-------|--|
| Floo | od (Ebb | Up River ⊄ Down River | | Avg. Velocity: 0.282 | | |
| Lat/Northing: 4 | 15.58019 | Long/Easting: 129 | 1.75678 | Total Water Depth: | 46.4 | |
| | Water Depth | Turbidity | рН | DO | Temp. | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | |
| Surface | 1 | 1.28 | 7.27 | 9.94 | 15.8 | |
| Middle | 23.2 | 1.80 | 7.28 | 9.80 | 15.7 | |
| Deep | 43.4 | 1.96 | 7.34 | 9.76 | 15.7 | |

· No odor, discoloration, or suspended material absenced

Construction Activity: ISS Drilling

Recorded by: Siman Dudenhoefer

^{1.} Include observations of floating/suspended material, sheens, discoloration, and odors.



| L ANCH | IOR | | | 6720 South Mac | adam Avenue, Suite 30 | |
|---------------|-------------------------|---|----------------|---------------------------------|-----------------------|--|
| | | 103678 | VST | Pro DSS #6 | Portland, OR 9721 | |
| 110 | | | | | | |
| | | o Sediments | _ | eld Parameter | S | |
| Date: 10 - / | 1-2023 | .o seamlents | Circuit Number | | | |
| Station: BG | | CS-2 N (S) | Circuit Number | Time: 1150 | | |
| | od (Ebb) | | Down River | Avg. Velocity: () | 561 | |
| | 15.57873 | 4 | | Total Water Depth: | | |
| | Water Depth | Turbidity | pH | D.O. | Temp. | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | |
| Surface | 1 | 1.42 | 7.30 | 10.00 | 15.9 | |
| Middle | 20.3 | 1.64 | 7.30 | 9.89 | 15.8 | |
| Deep | 37.6 | 1.74 | 7.28 | 9.84 Smonitoring, elated) | 15.8 | |
| Station: BG | | CS-2 (N) S | Divers | Time: 1206 | 716 | |
| | od (Ebb) | Up River /(I | | Avg. Velocity: 0.7 6 | | |
| Lat/Northing. | 45.58013 Water Depth | Long/Easting: [2 | Z. 15697 | Total Water Depth: | | |
| | (feet) | (NTU) | (-) | (mg/L) | Temp. (°C) | |
| Surface | 1 | 1.36 | 7.32 | 10.03 | 15.9 | |
| Middle | 22.9 | 1.56 | 7.28 | 9,88 | 15.8 | |
| Deep | 42.8 | 1 77 | 7 00 | 0 22 | | |
| | | \ | 7.29 | 9.83 n, or suspe | 15.8 | |



Probe #21E103678 YSI ProDSS #6970

Water Quality Monitoring Form - Field Parameters **Gasco Sediments Site ISS Pilot Study**

| Date: 10 - 4 | 1-2023 | | Circuit Number: 3 | | | | | |
|-----------------|---------------|------------------|-------------------|--------------------|-------|--|--|--|
| Station: BG | EW CS-1 | CS-2 N S | | Time: 1217 | | | | |
| Floo | od / 6 | Up River_([| Down River | Avg. Velocity: 🔘 | .355 | | | |
| Lat/Northing: 4 | 45.58029 | Long/Easting: 12 | 2.75759 | Total Water Depth: | : 43 | | | |
| | Water Depth | Turbidity | pН | D.O. | Temp. | | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | | |
| Surface | 1 | 1.51 | 7.28 | 9.95 | 15.8 | | | |
| Middle | 21.5 | 1.73 | 7.29 | 9.87 | 15.8 | | | |
| Deep | 40 | 1.85 | 7.27 | 9.83 | 15.8 | | | |

comments: . No sheen, odor, discoloration, or suspended material

Construction Activity: ISS Drilling

| Station: BG | EW CS-1 (| CS-⊅ (N) s | | Time: 1226 | | | | |
|-----------------|-----------------------|--------------------|-----------|----------------------|---------------|--|--|--|
| Floo | od Æbb | Up River 🔼 | | Avg. Velocity: 0,254 | | | | |
| Lat/Northing: 4 | 45.58029 | Long/Easting: 12 | 2.75683 | Total Water Depth | 46.8 | | | |
| | Water Depth (feet) | Turbidity (NTU) | pH (-) | DO (mg/L) | Temp. (°C) | | | |
| Surface | 1 | 1.53 | 7.28 | 9.95 | 15.8 | | | |
| Middle | 23.4 | 2.05 | 7.28 | 9.83 | 15.8 | | | |
| Deep | 43.8 | 2.03 | 7.30 | 9.80 | 15.8 | | | |

Comments: . No sheer, odor, discoloration, or suspended material observed

Construction Activity: ISS Dailling

Recorded by: Simon Dudenhoefer

^{1.} Include observations of floating/suspended material, sheens, discoloration, and odors.



Robe #21E103678 YSIPMDSS #6970

Water Quality Monitoring Form – Field Parameters **Gasco Sediments Site ISS Pilot Study**

| Date: 10 - 4 | 4-2023 | | Circuit Number | : 4 | | | |
|-----------------|-------------|------------------|----------------|--------------------------|-------|--|--|
| Station: BG | | CS-2 N S | | Time: [3]9 | | | |
| Floo | od Ebb | Up River 🗸 | Down River | Avg. Velocity: 0,239 | | | |
| Lat/Northing: 4 | 15.57874 | Long/Easting: 12 | 2.75405 | Total Water Depth: 4 4 | | | |
| | Water Depth | Turbidity | рН | D.O. | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | l | 1.73 | 7.34 | 9.92 | 15.8 | | |
| Middle | 20.7 | 1.98 | 7.33 | 9.89 | 15.8 | | |
| Deep | 38.4 | 2.11 | 7.31 | 9.83 | 15.8 | | |

comments: No sween, odor, discoloration, or suspended material

Construction Activity: ISS Drilling, Swell removal

| Station: BG | €W CS-1 | CS-2 N S | | Time: 1345 | | | |
|-----------------|-------------|------------------|------------|--------------------|-------|--|--|
| Floo | od /Ebb | Up River / [| Down River | Avg. Velocity: 🔘 | .220 | | |
| Lat/Northing: 4 | +5.58005 | Long/Easting: 12 | 2.75689 | Total Water Depth: | 45.4 | | |
| | Water Depth | Turbidity | рН | DO | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | İ | 1.64 | 7.32 | 9.97 | 15.8 | | |
| Middle | 22.7 | 1.87 | 7.31 | 9.85 | 15.8 | | |
| Deep | 42.4 | 2.39 | 7.35 | 7.79 | 15.7 | | |

comments!: «No sheen, odor, discoloration, or suspended material observed

Construction Activity: ISS Prilling, Swell removal

Recorded by: Simon Dudenhoefer

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



Probe # 21 E 103678 YSI ProDSS # 6970

Water Quality Monitoring Form – Field Parameters **Gasco Sediments Site ISS Pilot Study**

| | - | | | | | | | | | | | | |
|-----------------|-------------|------------------|-------------------|-------------------------|-------|--|--|--|--|--|--|--|--|
| Date: 10 - 4 | 1-2023 | | Circuit Number: 4 | | | | | | | | | | |
| Station: BG | EW CS-1 | CS-2 N S | | Time: 1353 | | | | | | | | | |
| Floo | od /ŒDD | Up River [| Down River | Avg. Velocity: 🔾 . 197 | | | | | | | | | |
| Lat/Northing: 4 | 45.58029 | Long/Easting: 12 | 2.75752 | Total Water Depth: 44,2 | | | | | | | | | |
| | Water Depth | Turbidity | pН | D.O. | Temp. | | | | | | | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | | | | | | | |
| Surface | l | 1.66 | 7.31 | 9.96 | 15.8 | | | | | | | | |
| Middle 22.1 | | 2.03 | 7.28 | 9.86 | 15.8 | | | | | | | | |
| Deep | 41.2 | 2.07 | 7.31 | 9.79 | 15.7 | | | | | | | | |

comments!: . No sheen, odor, discoloration, or suspended material observed

Construction Activity: ISS Drilling, Swell removal

| Station: BG | EW CS-1 | CS-2> N S | | Time: 404 | | | |
|----------------|-------------|------------------|------------|--------------------|-------|--|--|
| Floo | od (EBB) | Up River 🕰 | Down River | Avg. Velocity: 🔘 🍃 | 232 | | |
| Lat/Northing:4 | 5.58015 | Long/Easting: 12 | 2.75686 | Total Water Depth | 46.6 | | |
| | Water Depth | Turbidity | рН | DO | Temp. | | |
| | (feet) | (NTU) | (-) | (mg/L) | (°C) | | |
| Surface | Ì | 1.58 | 7.30 | 9.97 | 15.8 | | |
| Middle | 23.3 | 1.75 | 7.24 | 9.86 | 15.7 | | |
| Deep | 43.6 | 2.18 | 7.32 | 9.80 | 15.7 | | |

comments!: «No sheen odor, discoloration, or suspended material observed

· Collecting Chunistry Sample here @ 43.6' (highest CS NTU)

Construction Activity: IS3 Drilliag, Swell removal

Recorded by: <

^{1.} Include observations of floating/suspended material, sheens, discoloration, and odors.

Attachment 4 Water Quality Sampling Forms – Chemical Parameters



Circuit #2 - Flood Tite - Iss Prilling

| Water Quality Sampling Form - Chemical Parameters | | | | | | | | | | | |
|---|---|-----------------------------------|------------------------|--|--|--|--|--|--|--|--|
| | Gasco Sediment S | ite ISS Pilot Stu | dy | | | | | | | | |
| Background Station ID: | BG-IN | | | | | | | | | | |
| Lat/Northing: 45_e 58 | 040 | Long/Easting: 122 | .75804 | | | | | | | | |
| Total Water Depth: 46 | | Sample Depth: 4 | 3 | | | | | | | | |
| Sample ID: NWN-B | 51N-231003094 | S Date: -3-2 | 3 Time: 0945 | | | | | | | | |
| · Collected × 6 12 | ASD Sample (x3 Van Dorn sample LSml ambergiass and discoloration, er | 1 × 6 amber poly con | | | | | | | | | |
| Compliance Station ID: | | | observed | | | | | | | | |
| Lat/Northing: 45 . 579 | 52 | Long/Easting: \22 | .75493 | | | | | | | | |
| Total Water Depth: 50 | | Sample Depth: 4-7 | | | | | | | | | |
| Sample ID: NWN - CS | 25-2310030925 | Date: 10-3-23 | 3 Time() 9 2 5 | | | | | | | | |
| · Collected ×212 | Comments .: Collecting regular chun and field duplicate sample here . Collected using van Dorn sampler GNWN-CS1025-2310030925 . Collected x2 125ml amberglass and x2 ander poly containers for each sample . No other, o for, discoloration, or suspended material observed | | | | | | | | | | |
| | Analytica | | | | | | | | | | |
| Analyte | Bottle | Method | Preservative | | | | | | | | |
| Free Cyanide | 125-mL Amber Poly) 125-mL Amber Poly | ASTM D4282 | NaOH None | | | | | | | | |
| PAHs | 2 X 125-mL Amber Glass | EPA 8270D SIM | None | | | | | | | | |
| I] Observations of floating/su | spended material, sheens, discolor | ration, and /or odors will be rec | corded in the comments | | | | | | | | |



Circuit #4 - Ebb Tide - ISS Swell Removal

| Water Qua | ality Sampling F | orm - Chemical F | Parameters | | | | | | |
|--|--------------------|----------------------|-----------------------|--|--|--|--|--|--|
| Background Station ID: | | Site ISS Pilot Stu | ay | | | | | | |
| Lat/Northing: 45.578 | | Long/Easting: 2 2 | .75405 | | | | | | |
| Total Water Depth: 4 | + | Sample Depth: 3 | | | | | | | |
| | | Date: 10-4-2 | 3 Time: 1430 | | | | | | |
| Comments[1]: a Collect | ed using van | Dorn Sampler | | | | | | | |
| | | | unber poly containers | | | | | | |
| · No shun, ndo | or, discoloration | , or suspended | material observed | | | | | | |
| Compliance Station ID: | 15-2N | | * | | | | | | |
| Lat/Northing: 4ら。58のI | S | Long/Easting: 12.2 | .,75686 | | | | | | |
| Total Water Depth: 46 . (| Ô | Sample Depth: 43 | Sample Depth: 43.6 | | | | | | |
| Sample ID: NWN -CS | 2N-23100414 | H 5 Date: 10 - 4 - 2 | 3 Time: [415 | | | | | | |
| Comments[1]: Collete | I using Van Do | on sampler | | | | | | | |
| · Collected x2 125 n | nl amber glass and | 1 x2 125ml amber & | oly containers | | | | | | |
| · No sheer, ador | r, discoloration | , or suspended | material | | | | | | |
| Analys | | cal Suite | | | | | | | |
| Analyte | Bottle | Method | Preservative | | | | | | |
| Free Cyanide 125-mL Amber Poly ASTM D4282 NaOH | | | | | | | | | |
| PAHs | 125-mL Amber Poly | A311VI D4282 | None | | | | | | |

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

Attachment 5 Water Quality Field Parameter Measurements

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | | | | | 1 | Surface | 1.69 | | 7.31 | 9.84 | 16.4 | _ |
| | | 8:30 | | BG-1S | South | 40.0 | 20 | Middle | 2.2 | | 7.27 | 9.79 | 16.4 | |
| | | | | | | | 37.0 | Deep | 2.38 | | 7.26 | 9.76 | 16.4 | |
| | | |] | | | | 1 | Surface | 1.76 | 0.07 | 7.26 | 9.83 | 16.4 | |
| | | 8:50 | | EW-1N | North | 46.6 | 23.3 | Middle | 1.99 | -0.21 | 7.30 | 9.81 | 16.4 | |
| 1 | 10/2/2023 | | Downriver | | | | 43.6 | Deep | 4.13 | 1.75 | 8.39 | 9.73 | 16.4 | |
| ! | 10/2/2023 | | Downinei | | | | 1 | Surface | 1.6 | -0.09 | 7.36 | 9.84 | 16.4 | |
| | 9:15 | | CS-1N | North | 45.4 | 22.7 | Middle | 1.92 | -0.28 | 7.19 | 9.83 | 16.4 | | |
| | | | | | | | 42.4 | Deep | 2.61 | 0.23 | 7.36 | 9.75 | 16.4 | |
| | | | | | | orth 48.0 | 1 | Surface | 1.52 | -0.17 | 7.29 | 9.87 | 16.4 | |
| | | 9:35 | 5 | CS-2N | North | | 24.0 | Middle | 1.88 | -0.32 | 7.24 | 9.81 | 16.3 | |
| | | | | | | | 45.0 | Deep | 2.81 | 0.43 | 7.50 | 9.76 | 16.3 | |
| | | | :30 | BG-1S | | 40.6 | 1 | Surface | 2.09 | | 7.3 | 9.89 | 16.3 | |
| | | 10:30 | | | South | | 20.3 | Middle | 1.9 | | 7.23 | 9.87 | 16.3 | |
| | | | | | | | 37.6 | Deep | 1.94 | | 7.27 | 9.84 | 16.3 | |
| | | | | | | | 1 | Surface | 1.97 | -0.12 | 7.26 | 9.89 | 16.3 | |
| | | 10:40 | | EW-1N | North | 46.0 | 23 | Middle | 2.04 | 0.14 | 7.25 | 9.86 | 16.3 | |
| 2 | 10/2/2023 | | Downriver | | | | 43 | Deep | 3.09 | 1.15 | 7.30 | 9.83 | 16.3 | |
| | 10/2/2023 | | Downine | | | | 1 | Surface | 2.54 | 0.45 | 7.27 | 9.9 | 16.3 | |
| | | 10:55 | | CS-1N | North | 44.0 | 22 | Middle | 2.41 | 0.37 | 7.28 | 9.87 | 16.3 | |
| | | |] | | | | 41 | Deep | 2.50 | 0.56 | 7.27 | 9.84 | 16.3 | |
| | | | | | | | 1 | Surface | 1.73 | -0.36 | 7.21 | 9.93 | 16.3 | |
| | | 11:05 | | CS-2N | North | 47.4 | 23.7 | Middle | 1.92 | 0.02 | 7.22 | 9.89 | 16.3 | |
| | | | | | | | 44.4 | Deep | 2.23 | 0.29 | 7.25 | 9.85 | 16.3 | |

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | | | | | 1 | Surface | 1.53 | | 7.32 | 10.04 | 16.3 | - |
| | | 12:30 | | BG-1S | South | 40.0 | 20 | Middle | 2.22 | | 7.24 | 9.87 | 16.2 | |
| | | | | | | | 37.0 | Deep | 2.76 | | 7.25 | 9.81 | 16.2 | |
| | | | | | | | 1 | Surface | 1.7 | 0.17 | 7.29 | 9.93 | 16.3 | |
| | | 12:48 | | EW-1N | North | 43.7 | 21.85 | Middle | 2.08 | -0.14 | 7.24 | 9.85 | 16.2 | |
| 3 | 10/2/2023 | | Downriver | | | | 40.7 | Deep | 2.52 | -0.24 | 7.29 | 9.81 | 16.2 | |
| | 10/2/2023 | | Downinei | | | | 1 | Surface | 1.56 | 0.03 | 7.28 | 9.97 | 16.3 | |
| | 13:00 | CS | CS-1N | North | 43.4 | 21.7 | Middle | 2.24 | 0.02 | 7.26 | 9.87 | 16.2 | | |
| | | | | | | | 40.4 | Deep | 2.45 | -0.31 | 7.25 | 9.82 | 16.2 | |
| | | | | | | 46.5 | 1 | Surface | 1.23 | -0.3 | 7.25 | 10.06 | 16.3 | |
| | | 13:10 | | CS-2N | North | | 23.25 | Middle | 1.65 | -0.57 | 7.21 | 9.89 | 16.2 | |
| | | | | | | | 43.5 | Deep | 2.47 | -0.29 | 8 | 9.82 | 16.2 | |
| | | | | | | | 1 | Surface | 1.6 | | 7.22 | 10.05 | 16.3 | |
| | | 14:30 | :30 | BG-1S | South | 35.0 | 17.5 | Middle | 1.71 | | 7.19 | 9.9 | 16.2 | |
| | | | | | | | 32.0 | Deep | 2.38 | | 7.22 | 9.84 | 16.2 | |
| | | | | | | | 1 | Surface | 1.41 | -0.19 | 7.29 | 10.1 | 16.3 | |
| | | 14:45 | | EW-1N | North | 43.0 | 21.5 | Middle | 1.59 | -0.12 | 7.23 | 9.96 | 16.2 | |
| 4 | 10/2/2023 | | Downriver | | | | 40 | Deep | 3.38 | 1.00 | 7.60 | 9.81 | 16.2 | |
| - | 10/2/2023 | | Bowillivei | | | | 1 | Surface | 1.46 | -0.14 | 7.32 | 10.07 | 16.3 | |
| | | 14:55 | | CS-1N | North | 42.4 | 21.2 | Middle | 1.78 | 0.07 | 7.29 | 9.92 | 16.2 | |
| | | |] | | | | 39.4 | Deep | 2.25 | -0.13 | 7.91 | 9.78 | 16.2 | |
| | | | | | | | 1 | Surface | 1.28 | -0.32 | 7.28 | 10.1 | 16.2 | |
| | | 15:10 | | CS-2N | North | 43.6 | 21.8 | Middle | 1.84 | 0.13 | 7.23 | 9.93 | 16.2 | |
| | | | | | | | 40.6 | Deep | 4.57 | 2.19 | 7.46 | 9.85 | 16.2 | |

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | | | | | 1 | Surface | 1.65 | | 7.19 | 9.71 | 16.1 | _ |
| | | 8:30 | | BG-1N | North | 46.2 | 23.1 | Middle | 1.71 | | 7.23 | 9.66 | 16.1 | |
| | | | | | | | 43.2 | Deep | 1.69 | | 7.21 | 9.63 | 16.1 | Х |
| | | | | | | | 1 | Surface | 1.42 | -0.23 | 7.26 | 9.71 | 16.1 | |
| | | 8:52 | | EW-1S | South | 44 | 22 | Middle | 1.89 | 0.18 | 7.32 | 9.66 | 16.1 | |
| 1 | 10/3/2023 | | Upriver | | | | 41 | Deep | 1.82 | 0.13 | 7.35 | 9.64 | 16.0 | |
| ļ. | 10/3/2023 | | Opriver | | | | 1 | Surface | 1.34 | -0.31 | 7.27 | 9.72 | 16.1 | |
| | | 9:00 | | CS-1S | South | 40.4 | 20.2 | Middle | 1.62 | -0.09 | 7.28 | 9.68 | 16.1 | |
| | | | | | | | 37.4 | Deep | 1.75 | 0.06 | 7.27 | 9.65 | 16.1 | |
| | | | | | | 50.0 | 1 | Surface | 1.46 | -0.19 | 7.27 | 9.73 | 16.1 | |
| | | 9:10 | 0 | CS-2S | South | | 25.00 | Middle | 1.64 | -0.07 | 7.27 | 9.67 | 16.1 | |
| | | | | | | | 47.0 | Deep | 2.16 | 0.47 | 7.31 | 9.62 | 16.1 | Х |
| | | | | | | | 1 | Surface | 1.47 | | 7.12 | 9.78 | 16.0 | |
| | | 10:30 | | BG-1S | South | 42.2 | 21.1 | Middle | 2.16 | | 7.12 | 9.68 | 15.9 | |
| | | | | | | | 39.2 | Deep | 2.40 | | 7.20 | 9.64 | 15.9 | |
| | | | | | | | 1 | Surface | 1.56 | 0.09 | 7.21 | 9.76 | 16.0 | |
| | | 10:48 | | EW-1N | North | 45.6 | 22.8 | Middle | 1.51 | -0.65 | 7.19 | 9.73 | 16.0 | |
| 2 | 10/3/2023 | | Downriver | | | | 42.6 | Deep | 2.56 | 0.16 | 7.21 | 9.65 | 15.9 | |
| | 10/3/2023 | | Downinei | | | | 1 | Surface | 1.65 | 0.18 | 7.17 | 9.74 | 16.0 | |
| | | 11:01 | | CS-1N | North | 45.4 | 22.7 | Middle | 1.87 | -0.29 | 7.15 | 9.69 | 16.0 | |
| | | | | | | | 42.4 | Deep | 2.71 | 0.31 | 7.19 | 9.64 | 16.0 | |
| | | | | | | | 1 | Surface | 1.46 | -0.01 | 7.14 | 9.76 | 16.0 | |
| | | 11:17 | | CS-2N | North | 47.4 | 23.7 | Middle | 1.75 | -0.41 | 7.12 | 9.68 | 15.9 | |
| | | | | | | | 44.4 | Deep | 1.96 | -0.44 | 7.18 | 9.65 | 15.9 | |

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | Í | | | | 1 | Surface | 1.56 | | 7.21 | 9.81 | 16.0 | |
| | | 12:30 | | BG-1S | South | 36.0 | 18 | Middle | 2.23 | | 7.18 | 9.72 | 15.9 | |
| | | | | | | | 33.0 | Deep | 2.39 | | 7.20 | 9.68 | 15.9 | |
| | | | | | | | 1 | Surface | 1.73 | 0.17 | 7.22 | 9.76 | 15.9 | |
| | | 12:55 | | EW-1N | North | 43.6 | 21.8 | Middle | 1.95 | -0.28 | 7.20 | 9.70 | 15.9 | |
| 3 | 10/3/2023 | | Downriver | | | | 40.6 | Deep | 2.22 | -0.17 | 7.20 | 9.65 | 15.9 | |
| 3 | | | Downinei | | | | 1 | Surface | 1.54 | -0.02 | 7.23 | 9.80 | 16.0 | |
| | | 13:07 | | CS-1N | North | 42.8 | 21.4 | Middle | 2.07 | -0.16 | 7.22 | 9.69 | 15.9 | |
| | | | | | | | 39.8 | Deep | 2.92 | 0.53 | 7.18 | 9.64 | 15.8 | |
| | | | | CS-2N | North | 45.2 | 1 | Surface | 1.93 | 0.37 | 7.21 | 9.78 | 16.0 | |
| | | 13:16 | | | | | 22.6 | Middle | 2.95 | 0.72 | 7.15 | 9.67 | 15.8 | |
| | | | | | | | 42.2 | Deep | 3.05 | 0.66 | 7.15 | 9.65 | 15.8 | |
| | | 14:51 | | BG-1S | | n 37.4 | 1 | Surface | 0.94 | | 7.32 | 10.07 | 16.3 | |
| | | | | | South | | 18.7 | Middle | 2.04 | | 7.24 | 9.78 | 15.8 | |
| | | | | | | | 34.4 | Deep | 2.41 | | 7.2 | 9.71 | 15.7 | |
| | | | | | | 44.4 | 1 | Surface | 1.1 | 0.16 | 7.31 | 9.99 | 16.3 | |
| | | 15:04 | | EW-1N | North | | 22.2 | Middle | 2.21 | 0.17 | 7.20 | 9.76 | 15.8 | |
| | | | | | | | 41.4 | Deep | 10.11 | 7.70 | 9.16 | 9.63 | 15.8 | |
| | | | | | | | 1 | Surface | 0.92 | -0.02 | 7.28 | 10.04 | 16.5 | |
| 4 | 10/3/2023 | 15:27 | Downriver | CS-1N | North | 42.8 | 21.4 | Middle | 1.83 | -0.21 | 7.18 | 9.77 | 15.8 | |
| | | | | | | | 39.8 | Deep | 2.73 | 0.32 | 7.27 | 9.70 | 15.8 | |
| | | | | | | | 1 | Surface | 0.95 | 0.01 | 7.27 | 10.12 | 16.3 | |
| | | 15:34 | | CS-2N | North | 45.0 | 22.5 | Middle | 1.76 | -0.28 | 7.16 | 9.79 | 15.8 | |
| | | | | | | | 42.0 | Deep | 7.76 | 5.35 | 9.39 | 9.60 | 15.8 | |
| | | | | | | | 1 | Surface | 1.18 | 0.24 | 7.34 | 10.03 | 16.3 | |
| | | 16:25 | | CS-2N | North | 45.0 | 22.5 | Middle | 1.99 | -0.05 | 7.23 | 9.77 | 15.8 | |
| | | | | | | | 42.0 | Deep | 3.39 | 0.98 | 8.99 | 9.68 | 15.8 | |

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | | | | | 1 | Surface | 1.03 | | 7.37 | 10.13 | 16.6 | _ |
| | | 16:51 | | BG-1N | North | 41.4 | 20.7 | Middle | 1.93 | | 7.32 | 9.78 | 15.8 | |
| | | | | | | | 38.4 | Deep | 2.79 | | 8.21 | 9.7 | 15.8 | |
| | | | | | | | 1 | Surface | 0.82 | -0.21 | 7.28 | 10.17 | 16.5 | |
| | | 17:02 | | EW-1S | South | 43.0 | 21.5 | Middle | 1.8 | -0.13 | 7.29 | 9.81 | 15.8 | |
| 5 | 10/3/2023 | | Upriver | | | | 40 | Deep | 3.35 | 0.56 | 8.05 | 9.68 | 15.7 | |
| | 10/3/2023 | | Орпуст | | | | 1 | Surface | 1.61 | 0.58 | 7.38 | 9.93 | 16.1 | |
| | | 17:15 | - | CS-1S | South | 40.0 | 20 | Middle | 2.41 | 0.48 | 7.59 | 9.8 | 15.8 | |
| | | | | | | | 37 | Deep | 6.98 | 4.19 | 8.32 | 9.68 | 15.8 | |
| | | 17:28 | | | South | 44.4 | 1 | Surface | 1.05 | 0.02 | 7.29 | 10.05 | 16.3 | |
| | | | | CS-2S | | | 22.2 | Middle | 2.26 | 0.33 | 7.38 | 9.77 | 15.8 | |
| | | | | | | | 41.4 | Deep | 2.77 | -0.02 | 8.28 | 9.67 | 15.8 | |
| | | 7:50 | | BG-1N | North | 43.0 | 1 | Surface | 1.48 | | 7.22 | 9.83 | 15.7 | |
| | | | | | | | 21.5 | Middle | 1.84 | | 7.24 | 9.77 | 15.7 | |
| | | | | | | | 40.0 | Deep | 2.15 | | 7.23 | 9.71 | 15.7 | |
| | | | | | | | 1 | Surface | 1.51 | 0.03 | 7.18 | 9.85 | 15.7 | |
| | | 8:13 | | EW-1S | South | 42.4 | 21.2 | Middle | 1.98 | 0.14 | 7.29 | 9.77 | 15.7 | |
| 1 | 10/4/2023 | | Upriver | | | | 39.4 | Deep | 5.51 | 3.36 | 7.74 | 9.72 | 15.7 | |
| | 10/4/2023 | | оричен | | | | 1 | Surface | 1.55 | 0.07 | 7.28 | 9.8 | 15.7 | |
| | | 8:22 | | CS-1S | South | 39.6 | 19.8 | Middle | 3.08 | 1.24 | 7.39 | 9.75 | 15.7 | |
| | | | | | | | 36.6 | Deep | 2.74 | 0.59 | 7.39 | 9.73 | 15.7 | |
| | | | | | | | 1 | Surface | 1.47 | -0.01 | 7.23 | 9.85 | 15.7 | |
| | | 8:33 | | CS-2S | South | 45.8 | 22.9 | Middle | 1.58 | -0.26 | 7.22 | 9.78 | 15.7 | |
| | | | | | | | 42.8 | Deep | 1.76 | -0.39 | 7.36 | 9.69 | 15.7 | |

| Circuit No. | Monitoring Date | Time | Flow Direction (Upriver/ Downriver) | Station | North/ | Total Water Depth (feet) | Monitoring Depth (feet) | Depth Zone | Measured Turbidity (NTU) | Background Corrected Turbidity (NTU) ¹ | рН | DO (mg/L) | Temperature (C°) | Chemistry Sample |
|----------------|--------------------|-------|---|---------|--------|-----------------------------------|-------------------------|---------------|--------------------------------|--|------|--------------|---------------------|---------------------|
| | | | | | | | 1 | Surface | 1.2 | | 7.37 | 9.98 | 15.8 | _ |
| | | 9:50 | | BG-1S | South | 39.0 | 19.5 | Middle | 1.46 | | 7.34 | 9.85 | 15.7 | |
| | | | | | | | 36.0 | Deep | 1.68 | | 7.36 | 9.8 | 15.7 | |
| | | | | | | | 1 | Surface | 1.35 | 0.15 | 7.35 | 9.87 | 15.8 | |
| | | 10:05 | | EW-1N | North | 43.4 | 21.7 | Middle | 1.62 | 0.16 | 7.33 | 9.77 | 15.8 | |
| 2 | 10/4/2023 | | Downriver | | | | 40.4 | Deep | 1.84 | 0.16 | 7.56 | 9.76 | 15.7 | |
| 2 | 10/4/2023 | | Downinei | | | | 1 | Surface | 1.12 | -0.08 | 7.32 | 9.93 | 15.8 | |
| | | 10:20 | | CS-1N | North | 43.6 | 21.8 | Middle | 1.66 | 0.20 | 7.29 | 9.81 | 15.7 | |
| | | | | | | | 40.6 | Deep | 1.98 | 0.30 | 7.7 | 9.77 | 15.8 | |
| | | 10:34 | | | North | 46.4 | 1 | Surface | 1.28 | 0.08 | 7.27 | 9.94 | 15.8 | |
| | | | | CS-2N | | | 23.2 | Middle | 1.80 | 0.34 | 7.28 | 9.8 | 15.7 | |
| | | | | | | | 43.4 | Deep | 1.96 | 0.28 | 7.34 | 9.76 | 15.7 | |
| | | 11:50 | | BG-1S | South | 40.6 | 1 | Surface | 1.42 | | 7.3 | 10.00 | 15.9 | |
| | | | | | | | 20.3 | Middle | 1.64 | | 7.3 | 9.89 | 15.8 | |
| | | | | | | | 37.6 | Deep | 1.74 | | 7.28 | 9.84 | 15.8 | |
| | | | | | | | 1 | Surface | 1.36 | -0.06 | 7.32 | 10.03 | 15.9 | |
| | | 12:06 | | EW-1N | North | 45.8 | 22.9 | Middle | 1.56 | -0.08 | 7.28 | 9.88 | 15.8 | |
| 3 | 10/4/2023 | | Downriver | | | | 42.8 | Deep | 1.77 | 0.03 | 7.29 | 9.83 | 15.8 | |
| | 10/4/2023 | | Downine | | | | 1 | Surface | 1.51 | 0.09 | 7.28 | 9.95 | 15.8 | |
| | | 12:17 | | CS-1N | North | 43.0 | 21.5 | Middle | 1.73 | 0.09 | 7.29 | 9.87 | 15.8 | |
| | | |] | | | | 40 | Deep | 1.85 | 0.11 | 7.27 | 9.83 | 15.8 | |
| | | | | | | | 1 | Surface | 1.53 | 0.11 | 7.28 | 9.95 | 15.8 | |
| | | 12:26 | | CS-2N | North | 46.8 | 23.4 | Middle | 2.05 | 0.41 | 7.28 | 9.83 | 15.8 | |
| | | | | | | | 43.8 | Deep | 2.03 | 0.29 | 7.3 | 9.80 | 15.8 | |

| Circuit | Monitoring | | Flow Direction (Upriver/ | | North/ | Total Water Depth | Monitoring Depth | Depth | Measured Turbidity | Background Corrected Turbidity | | DO | Temperature | Chemistry |
|---------|------------|-------|-----------------------------|---------|--------|-------------------------|---------------------|---------|-----------------------|--------------------------------------|------|--------|-------------|-----------|
| No. | Date | Time | Downriver) | Station | South | (feet) | (feet) | Zone | (NTU) | (NTU) ¹ | рН | (mg/L) | (C°) | Sample |
| | 13: | | | | | | 1 | Surface | 1.73 | | 7.34 | 9.92 | 15.8 | |
| | | 13:19 | | BG-1S | South | 41.4 | 20.7 | Middle | 1.98 | - | 7.33 | 9.89 | 15.8 | |
| | | | | | | | 38.4 | Deep | 2.11 | | 7.31 | 9.83 | 15.8 | Х |
| | | 13:45 | - Downriver | EW-1N | North | 45.4 | 1 | Surface | 1.64 | -0.09 | 7.32 | 9.97 | 15.8 | |
| | | | | | | | 22.7 | Middle | 1.87 | -0.11 | 7.31 | 9.85 | 15.8 | |
| 4 | 10/4/2023 | | | | | | 42.4 | Deep | 2.39 | 0.28 | 7.35 | 9.79 | 15.7 | |
| 4 | 10/4/2023 | | | | | | 1 | Surface | 1.66 | -0.07 | 7.31 | 9.96 | 15.8 | |
| | | 13:53 | | CS-1N | North | 44.2 | 22.1 | Middle | 2.03 | 0.05 | 7.28 | 9.86 | 15.8 | |
| | | | | | | | 41.2 | Deep | 2.07 | -0.04 | 7.31 | 9.79 | 15.7 | |
| | | |] | | North | 46.6 | 1 | Surface | 1.58 | -0.15 | 7.30 | 9.97 | 15.8 | |
| | | 14:04 | | CS-2N | | | 23.3 | Middle | 1.75 | -0.23 | 7.24 | 9.86 | 15.7 | |
| | | | | | | | 43.6 | Deep | 2.18 | 0.07 | 7.32 | 9.80 | 15.7 | Х |

Notes:

--: not applicable

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

mg/L: milligram per liter

NTU: nephelometric turbidity unit

Attachment 6 Moon Pool Informational Measurements



Moonpool Informational Measurements **Gasco Sediments Site ISS Field Pilot Study**

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

| ISS Column Location | Date | Time | Pre-/Post- Measurement | Water Column Thickness (feet) | Measurement Depth (feet below surface) | рН | Temperature (°C) |
|---------------------|----------|-------|---------------------------|-------------------------------------|--|------|---------------------|
| # 1-1 | 9-23-23 | 7:34 | PRE | 13.6 | 9.6 | 7.25 | 19.5 |
| 1-2 | 9-25-23 | 7:15 | PRE | 12. | 1 | 7.14 | 19-1 |
| 1-2 | | 7:17 | | 1 | 6 | 7.10 | 19.1 |
| 1-2 | 1 | 7:19 | 1 | 4 | 8 | 7.10 | 19.1 |
| 1-2 | | 9:45 | POST | 12 | - | 6.93 | 19.3 |
| 1-2 | | 9:47 | 1 | 1 | 6 | 7.23 | 19.3 |
| 1-2 | 1 | 9:49 | T V | 7 | 8 | 7.73 | 19,2 |
| 1-4 | 9-26-23 | 14:50 | PRE | 13 | 1 | 7.12 | 18.8 |
| 1-4 | | 14:52 | | 1 | 6 | 7.31 | 18.4 |
| 1-4 | | 14:55 | | | 10 | 7.30 | 18.4 |
| 1-4 | | 18:30 | Post | 13 | 1 | 7.16 | 18.3 |
| 1-4 | | 18:32 | | l i | 5 | 7.54 | 18.3 |
| 1-4 | 4 | 18:35 | 4 | 4 | 10 | 7.50 | 18.2 |
| 1-6 | 9-27-23 | 06:51 | PRE | 14 | 1 | 7.12 | 16.9 |
| 1-6 | | 06:83 | | | 7 | 7.23 | 16.2 |
| 1-6 | | 06:55 | 4 | 4 | 11 | 7.44 | 16.5 |
| 1-6 | 9-27-23 | 09:38 | POST | BUX 13 | 1 | 7.11 | 17.8 |
| 1-6 | | 09:40 | | | 7 | 7.24 | 17.5 |
| 1-6 | | 09:42 | 4 | 4 | 10 | 7.25 | 16.6 |
| 2-1 | 9-28-23 | 10:38 | PRE | 13 | | 6.95 | 20.8 |
| 2-1 | 1 | 10:41 | * | 1 | 6 | 7.16 | 21. |

| Notes: | | | |
|---------------------|----------------|------------|--|
| * = Parameters call | es a beginning | of mixing. | |
| | | 7 | |
| | | | |
| | | | |
| | | | |
| | | | |

Moonpool Informational Measurements Gasco Sediments Site ISS Field Pilot Study

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

| ISS Column Location | Date | Time | Pre-/Post- Measurement | Water Column Thickness (feet) | Measurement Depth (feet below surface) | рН | Temperature (°C) |
|---------------------|-----------|--------------|---------------------------|-------------------------------------|--|------|---------------------|
| 2-1 | 9-28-23 | 10:43 | PRE | 13 | 10 | 7.37 | 21. |
| 2-1 | 9-28-23 | 12:00 | POST | 13 | 1 | 7.04 | 19.8 |
| 2-1 | | 12:03 | 1 | | | 7.16 | 19.9 |
| 2-1 | - | 12:06 | J | | 10 | 7.51 | 19.5 |
| 2-6 | 9-29-23 | 07:45 | PRE | 14 | 1 | 7.03 | 17. |
| 2-6 | 1 | 07:47 | | | 7 | 7.36 | 16.2 |
| 2-6 | 4 | 07:49 | | 4 | | 7.78 | 16.1 |
| 2-6 | 9-29-23 | 09:12 | POST | 14 | 1 | 7.20 | 16.7 |
| 2-6 | | 09:20 | | 1 | 7 | 7.56 | 17. |
| 2-6 | 1 | 09:25 | 1 | 1 | 11 | 7.65 | 17. |
| 3-1 | 10-2-2023 | D7:17 | PRE | 15 | 1 | 7.06 | 16.5 |
| 3-1 | | 07:19 | | i | 7 | 7.27 | |
| 3-1 | 4 | 07:22 | V | 1 | 12 | 7.36 | 15.5 |
| 3-1 | 10-2-2023 | 08:10 | POST | 14.0 | 1 | 7.17 | 15.5 |
| 3-1 | | 08:12 | 1 | | 6 | 7.17 | 15.5 |
| 3-1 | 4 | 08:15 | 4 | 4 | 11 | 7.56 | 15.5 |
| 6-9 | 10-3-2023 | 06: 17:07:11 | PRE | 16 | 1 | | 15.8 |
| 6-9 | | 07:14 | | i | 6 | 6.98 | 16.5 |
| 6-9 | 4 | 07:19 | 4 | N. | 13 | 7.22 | 14-2 |
| 6-9 | 10-3-2023 | 08:01 | MIDI | 16 | | | 16.0 |
| 6-9 | 7 | 08205 | 4 | V | 6 | 7.26 | 16.0 |

| 1 = Measuronats collected drill depth was achieved | after drik vad retracted from setiment before find. Collected " Past" driking/mixing mecovernet as well. |
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Moonpool Informational Measurements Gasco Sediments Site ISS Field Pilot Study

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

| ISS Column Location | Date | Time | Pre-/Post- Measurement | Water Column Thickness (feet) | Measurement Depth (feet below surface) | рН | Temperature (°C) |
|---------------------|--|-------|---------------------------|-------------------------------------|---|------|---------------------|
| 6-9 | 10-3-2023 | 08:09 | MID | 16 | 13 | 7.72 | 16.0 |
| 6-9 | 10-3-2023 | 09:08 | POST | 67 | | 7.26 | 15.6 |
| 6-9 | 1 | 09:11 | 1 | 17 | 7 | 7.58 | 15.6 |
| 6-9 | 4 | 09:14 | 1 | 17 | 14 | 7.64 | 15.8 |
| 7-9 | 10-4-2023 | 06:38 | PRE | iU | i | 6.95 | 15.4 |
| 7-9 | 1 | 06:42 | i | | 7 | 7,28 | 15.4 |
| 7-9 | | 08:45 | | 4 | (1 | 7.46 | 15.5 |
| 7-9 | | 07:39 | POST | 14 | 1 | 7.64 | 15.1 |
| 7-9 | | 07:42 | 1 | 1 | 7 | 7.66 | 15.4 |
| 7-9 | 1 | 07:46 | | 1. | () | 7.61 | 15.5 |
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| Notes: | | | |
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