

Weekly Summary Report

Project Name:	Gasco Sediments Site ISS Field Pilot Study		
Project No:	000029-02.85	Report Date:	October 17, 2023
Week of:	October 9, 2023	Report No:	5

Weekly Summary					
ltem	Approximate Production This Week	Approximate Total Cumulative Production	Approximate Task Percent Completion		
Mobilization activities	NA	NA	100%		
Dolphin pile removal	NA	NA	100%		
Debris removal	6 cy	16 cy	100%		
ISS auguring	26 columns	42 columns	>100% ¹		
Swell material removal	0	0	0%		

Note:

1. The task percent complete for ISS auguring is based on the Work Plan-identified goal of 29 columns.

Work Performed This Period

Monday (10/09/2023)

Performed in situ stabilization and solidification (ISS) auguring and ISS quality assurance/quality control (QA/QC) sample collection at columns 8-1 and 8-3. Refusal was encountered at column 8-3.

Tuesday (10/10/2023)

Performed ISS auguring and ISS QA/QC sample collection at column 8-2.

Wednesday (10/11/2023)

Performed maintenance on fuel systems for Bauer BG 28 H drill rig. Performed targeted debris removal near column 4-1.

Thursday (10/12/2023)

Continued and completed maintenance on Bauer BG 28 H drill rig. Performed ISS auguring and ISS QA/QC sample collection at column 8-10. Refusal was encountered.

Friday (10/13/2023)

Performed ISS auguring and ISS QA/QC sample collection at columns 8-9, 8-11, 3-10, 1-11, and 2-11. Refusal was encountered at columns 8-9 and 8-11.

Saturday (10/14/2023)

Performed ISS auguring and ISS QA/QC sample collection at columns 6-11, 7-4, 1-5, and 1-12. Refusal was encountered at columns 7-4 and 1-5.

Water Quality Monitoring

Monday (10/09/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. Two rounds of flood tide water quality monitoring were performed during ISS auguring activities, with field and chemical parameters collected at background station NWN-BG1N and compliance station NWN-CS1S. 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 (10/10/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. One round of water quality monitoring was performed during ebb tide 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 (10/11/2023)

Performed visual inspection of river outside the outer containment barriers during debris removal activities, and no turbidity plumes, sheens, or odors were observed. One round of water quality monitoring was performed during ebb tide during debris removal activities, with field and chemical parameters collected at background station NWN-BG1S and compliance station NWN-CS1N. 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 (10/12/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. One round of water quality monitoring was performed during ebb tide during ISS auguring activities, with field and chemical parameters collected at background station NWN-BG1S and compliance station 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.

Friday (10/13/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. Five rounds of water quality monitoring were performed (three during ebb tide and two during flood tide) 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.

Saturday (10/14/2023)

Performed visual inspection of river outside the outer containment barriers during ISS auguring, and no turbidity plumes, sheens, or odors were observed. Two rounds of water quality monitoring were performed during ebb tide during ISS auguring activities, with field and chemical parameters collected at background station NWN-BG1S and compliance station NWN-CS2N during the second round. 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.

Findings:

There was an exceedance of two field parameters at compliance station CS-2N at a single depth during the first round of monitoring on Friday, October 13, 2023 (out of five rounds of monitoring). Confirmed turbidity was measured at 10.40 nephelometric turbidity units (NTU), which was 7.94 NTU above the standard (based on 5 NTU over background, which was 2.46 NTU). The pH reading was 9.22, 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 the U.S. Environmental Protection Agency (EPA), best management practice adjustments during ISS auguring will include consideration of pause time between ISS column locations and the proportion of the total grout dose injected in the downstroke and upstroke (e.g., 60% down and 40% up). Monitoring will continue under the intensive chemistry monitoring routine.

The result for benzo(a)pyrene was slightly higher than the chronic water quality criterion at both the background and compliance stations during round 1 on Tuesday, October 3, 2023. The 2-day average (October 3 and October 4) concentrations for both the background and compliance stations were below the chronic criterion. The result for benzo(a)pyrene was higher than the chronic water quality criterion at the compliance station during round 1 on Monday, October 9, 2023. The 1-day average concentration for the compliance station calculated across rounds 1 and 2 was below the chronic criterion.

A compilation of water quality daily field forms from the week (Attachments 1 through 4), tabulated field parameter data (Attachment 5), and tabulated chemistry data (Attachment 6) 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 moonpool prior to initiation of ISS auguring and following completion of ISS auguring and prior to raising the moonpool curtain. These informational moonpool measurements are included in Attachment 7.

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.

Scheduled Construction Work This Week (Next Reporting Week)

Continue ISS auguring operations, ISS QA/QC sample collection, and swell material surveying and focused removal to facilitate installation of the long-term monitoring ports (if applicable), and tracking.

Problems Encountered and Contingency Actions Implemented

Due to the presence of encountered subsurface debris during ISS auguring at columns 1-5, 7-4, 8-3, 8-9, 8-10, and 8-11, ISS treatment was extended to 20.3, 5.2, 21.3, 24.0, 24.7, and 12.4 feet below mudline, respectively, relative to the target 30-foot depth of contamination.

NW Natural submitted Field Change Request Form #3 on October 9, 2023, requesting EPA approval associated with placement of clean cover material within the field pilot study footprint and management of swell material downslope from the field pilot study footprint.

Due to some uncertainty about how to interpret the applicability of a running intensive monitoring period following a field parameter exceedance, the first round of water quality monitoring on Saturday, October 14, 2023, did not include collection of samples for chemical analysis. After further discussion, samples for chemical analysis were collected during the second round and will be collected every other day until a week has passed without any additional triggering event for intensive monitoring (or until cessation of activities requiring water quality monitoring). EPA was notified of this issue on Saturday, October 14, 2023, and NW Natural requested EPA's clarification on the interpretation of the 404 ARARs Memorandum.

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сс:	Bob Wyatt, Patty Dost, Mike Crystal, Tim Donegan, Taylor Crystal, Gary Rose, Joe Burke, Rob Ede, Jen Mott, Ryan Barth, Tim Stone, Ben Uhl, Billie-Jo Gauley, Joe Smith, Ross Pickering, Louisa Orr, Elizabeth Greene		
Attachments:	Attachment 1DailyAttachment 2WateAttachment 3WateAttachment 4WateAttachment 5WateAttachment 6WateAttachment 7Moo	Monitoring Logs er Quality Monitoring Calik er Quality Monitoring Forn er Quality Sampling Forms er Quality Field Parameter er Quality Chemical Param npool Informational Meas	pration Log ns – Field Parameters – Chemical Parameters Measurements eter Measurements urements

Photographs





Overhead view of the ISS Field Pilot Study. Environmental controls in-place (10/10/2023).

Photograph 3



Overhead view of the ISS Field Pilot Study (10/10/2023).



Excavator on swell material barge removing debris near column 4-1 (10/11/2023).





Moving discrete-depth sampler around Bauer BG 28 H drill rig (10/13/2023).

Attachment 1 Daily Monitoring Logs

-	Daily Monitoring Log Gasco Sediments Site ISS Pilot Study
V20	NCHOR Anchor QEA, LLC Phone 503.670.1108 EA Of the state of the
	Date: 10-9-2023
	Personnel: Simon Dudenhoetes
	Wind from: N NE E SE S SW W NW NONE UGHT MEDIUM HEAVY SUNNY CLOUDY RAIN Temperature: FS9 * C
Time	Comments
0745	Arrive C Gasco Trailer -> print Field forms / Calibrate VSIS
0850	Drive boat from Gasco - Cathedral Park boat rame
0930	H/S Meeting: Humber protocol while working og water, slips
	trips +falls entering/exiting boat, evacuation plan, PPE always.
i	Today's tides: Low @ 1029, High @ 1538, Low @ 2118
	Todaug Will. River Water Quality (USGS): Temp: 16.4°C, pH: 7.4, DO: 9.9 7 Turb: 1.45
0949	Light rain began
1010	Jim (auswater) arrive & Gases Trailer (escorted by me)
1020	ON WATER - Set SOO' BG stations in Garmin GPS
1100	OFF WATER
1103	Start ISS Drilling -> WQM Circuit #2 (Flood tide) start @ 1203
1155	ON WATER - TO BG-IN (500' NW Incation) to start WRM (#2
	4 unable to access BG-IN first due to Centerline bootings
	moving into doch, wated to EW-15 to Start Warnetz
1203	@ EW-15, confirmed 100' boom distance w/ range Finder
	Confirmed Garmin depth reading w/ lead line
	Confirmed river flow direction Visually + w/ velocimeter and
	USGE Willamete River Monrison Bridge gauge.
1221	QCS-15, confirmed 150' bonn dist. w/ range finter
1232	@ CS-25 \\
1240	PLCON VON DORN -> Collecting Chun Somple @ CS-15 (highestesnite
12.50	COMILHO NWN-COIS-2300091250 @ CS-15 @ 37.9'
1255	Pleon van pom sampler,
12.57	@ BG-IN, confirmed New locations soo' dist. w/ range finder
	constant the barge movement in channel to day
1315	COLLEHA NWN-BGAV-2310091315 C DG-IN @ 42.6
	FINISH WOMCHI > NO EXCEEDANCES -> CH2 @ 1403
1320	OF WATER
1355	ONWATER
1403	COG-IN, continued soo boom dist new location when the

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	Daily Monitoring Log Gasco Sediments Site ISS Pilot Study
Za	NCHOR Anchor QEA, LLC Phone 503.670.1108 6720 South Macadam Avenue, Suite 300 Portland, OR 97219
	Date: 10 - 9 - 2023 Personnel: Simon Duden heefer Wind from: N NE E SE S SW W NW NONE LIGHT (MEDIUM) HEA SUNNY CLOUDP RAIN Temperature: 58 ICircle appropriate
Time	Comments
1414	@ FW-15 CONSTMED 100' hours distance wil range Finder
425	@ CS-15, " " 150' " "
1432	@CS-25 "
1440	Demo van Dorn sompler
1445	Collected 10007 NWN-CS15-2310091445 @ CS-15 @ 18.4
1450	Decon var Dorn sampler
1500	Collected NWN-BGIN-2310091500 @ BG-IN@23.7'
1510	FINISH WOM CH2 -1 NO EXCERNANCES - DONE DRILLIN
1212	OFFWHIER
-	
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	Daily Monitoring Log Gasco Sediments Site ISS Pilot Study			
Anchor QEA, LLC Phone 503.670.1108 Anchor QEA, LLC Phone 503.670.1108 6720 South Macadam Avenue, Suite 300 Portland, OR 97219				
	Date: 0 - 10 - 2023 Personnel: Simon Dudenhaber Wind from: N NE E SE S SW NW NONE LIGHT MEDIUM HEAVY SUNNY CLOUDY RAIN Temperature: (F53 °C			
Time	(Circle appropriate dirits)			
0605	Accine a Capital calibrate VETS UNload COCS			
~005	DAV 3 E intra and moitaing - NO CINEMISTER SANNE FORM			
0715	H/S Muting: High vinds projected in forerast + potential thruder Storms: Likely training w/ large waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves while on the wQM boat -> off water if thruder is waves will entry the pose risk to safety of wQM team, PFDS, wet swface SI'ps TIDES (NOAA): Low @ 1104, High @ 1604, Low @ 2238 Willamute River WQ (USGS): Temp: 16.5° L pt: 7.4, DO: 9.8°%/, Turb: 1.7FA - Once drilling starts, will start wQM Circuit #2 @ Ebb tide - locations, one hour after drill start time. - Bachground monitoring stations will remain @ 300' from boom @ GPS coordinates provided @ beginning of project. Iss Drill Start time> WQM Circuit #2 (Ebbtide) start @ 0939 ON WATER -> TO BG-15 (river flowing downstrean, (onfirmed uisually + w/ velocing ter + USGS Morrison Gauge) @ BG-15, confirmed 300' boom distance w/ range finder Confirmed Gamin depth reading w/ lead line @ EW-1N confirmed 100' boom distance w/ range finder			
0950	@ CS-IN " 1 150" "			
1002	CCS-2N 11 //			
1015	Trinish WOM CITCHIT #2-NO EXCEEDANCES			
	NO MORE WAR MATE TRILLING STARTS 40 AVAID			
1030	OFF WATER			
1.12317				

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Daily Monitoring Log Gasco Sediments Site ISS Pilot Study Anchor QEA, LLC Phone 503.670.1108 6720 South Macadam Avenue, Suite 300 Portland, OR 97219 Phone 503.670.1108				
0545	Acrive at site			
0832	Kacener call from Simon Dudenbouter, involved in Auto Ascident an Hury 30. He is one but miller late of may come in today. I tak over W2m duties. Calibrate & Will take chamistry samples today. No column installation today, drilling rig is in need of repour. Suntching out harges to clean up, flatter, area to chark even shoren for rip rap fronts Dabris remaral with bucket start time, w2m bast at Bantanoval station BG 1.S Completed Circuit #1 and collected Chamical Parameter scample, taken to APEX why, forms scanned to Fuji. Off water until further works (drill ag in need of reprint). Off water until further works (drill ag in need of reprint).	not ISIS		

Signature: SCA

	Daily Monitoring Log Gasco Sediments Site ISS Pilot Study
V2C	NCHOR Anchor QEA, LLC Phone 503,670,1108 DEA 6720 South Macadam Avenue, Suite 300 Portland, OR 97219
Time	Date: 10-12-2023 Personnel: Simon Dudenhoefer Wind from: N N NE SUNNY CLOUDY RAIN Temperature: SUNNY SUNNY Comments
loos	Comments
1005	HIGHLE Casco Trailer -> prep field forms -> Calibrate YSI
10.20	HIS WUTING W/ boat Crew: PFPs, throwables, man a verboard
	response actions, slipstripsfalls on tock + enterns/excting 6001
	Lides (NOAA): LOW @ 1200 (0.27Ft), High @ 1645 (2.84 ft)
	Water Quality (USGS Willamute River Morrison Bridge Gauge - 1000)
1140	1emp: 16.1 C, pH: 1. T, 10: 9.4 mg/L, 14rbidity: 2.0 FNU
12:6	UN WATER > To Freds Marina to get gas for boat
1720	Clast TSC Dulles NUMBER
TILL	Start LSS Drilling -> WQM Circuit #1 Start earlyer
	TODAY (SO MIN) due to TIME -> STATE TISE C 13G-15
1	when circuit #1 awing edo the liver Howing downstream,
1730	ON WATED => TO BC 15
1740	CRG-15 COPECIAL ZOOL Have destance and some Code
11.0	Configured Coopering dooth provide the line in the line
	Waiting until 1750 to begin accounting will lead line
1750	STACE WAN Piccult # 1 John Lide
	Decontaning Van Doch samples W/ alcono + DT water
1800	CEW-IN confirmed 100' boom distance which come
1809	CS-IN " " ISO' "
1816	@ (S-2N "
1825	Collected NWN-(59N-2310121825@ (5-71) 10 17-1
1830	Dereg Van Dero Samolis
1835	Collected NWN-BG15-2310171835@RA-16 1241 21
	FINISH WOM #Z - NO FYCEEDANCES
	With OP CS-2N DOLD FULLING
1845	OF WATER -> ISS Drilling activities amount for and
	A THE AND A THE PARTIES COMPANY FOR THE ONE

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	Daily Monitoring Log Gasco Sediments Site ISS Pilot Study				
V20	NCHOR EA ####	Anchor QEA, LLC 6720 South Macadam Avenue, Suite 3 Portland, OR 97219	Phone 503.670.1108		
		Date: 10 - Personnel: 5 jw	13-2023 on Dudenhoefer		
	Wind from: N N SUNN	E E S SW W NW	NONE LIGHT MEDIUM HEAVY Temperature: 057 ° C [Circle appropriate units]		
Time	Comments				
0630 0700	Arrive C print fic ISS Driv NO WAM TIPES: OF Water Quality WAM Circu H/S WINTIN WALLIE, F ON WATE CONFIRMED VELOCIMENT CONFIRMED CONFIRMED CONFIRMED	Gasco Trailer → 13 forms, prep po 13 forms, prep po 11 ng starttime → 3 5AMPLES TODAY FOR 150 High(2.58'), 1221- (USGS): Temp: 16.6°C, pH Lit #2 will start durin 1 boat safety gear locatm inst aid, backup motor R → TO BG-15 confirmed 300' boom o river flow direction (do Pr. and USGS willamuth Garmin depth reading onfirmed 100' boom " 150' "	(alibrate VSI #6970, vameter spreadsheet otart Wam circuit#200800 ISS DRILLING ACTIVITY LOW (0.28), 1710-High (3.08) ;7.4, DO:9.8"9/L, Turb : 2.0 FW gebb the @ BG-15 Ins: throwable, AED, horn, - slips trips falls on dock wistand w/ vange finder whiteam) vis willy, w/ e River Morrison Bridge Gauge w/ lead line distance w/ range finder "		
0838	CCS-2NC43 LipH: 9.2 Called Janus, Finish WQM	1 .8'-pHand turbidity para .5 4 Turbidity: 12.36 collected 2nd measureme #2 → reported exce	Meters in exception ce. Ats @0852 to confirm exceeded edance to Ryan Barth		
0900	OFF WATE	ER -> wa'm circuit # IR -> start WQM Ci confirmed 300' 600m	2 (ebb) start @ 1000 ircuit #2 (ebb tite) distance w/ rangefinder		
1016	QCS-IN,	1/ 150' ~ + again SD	What is a second the tar		
10:25	Start drill	next hole -> Fini Circuit #2 -> No FXC	EEPANCES A#3@1200		

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V20	NCHOR EA 🚟	Anchor QEA, LLC 6720 South Macadam Avenue, Suit Portland, OR 97219	Phone 503.670.1108 te 300
	Wind from: N NE	Date: 10 Personnel: 5/1 E (SE) S SW W NW ELOUDY RAIN	NONE LIGHT MEDIUM HEAVY
Time	Comments		
251100	OFF MATE	R - Start WOM r.	(ult #3(eb) @ 1200
1145	ON WATER	-> To BG-15 f	WOM C#3
1200	C.BG-15	confirmed 300' 600	am distance wi ranse finde
i 7 10	OFF WATE	R - LUNIH BREAD	4
240	ONIMATE	R - TO EWI-IN	Triver Flow still to unstream
	CODETEMAND	UIS Malla + MI VRIDC	impter
150	PEIN-IN C	in figure 1 100 more	distance w/ range fater
300	QCG-IN N	11 160' 1	Visiwide of the get find
310	Q CS - 2N 1	tisp	11
315	Complete INIAI	NCINHE H3 NO EXC	CEEDANCES - WOM CHE QIADO
300	DEC WATER	7	ereparery wancarenoo
3 50	ON MATER	TO BG-IN/tite	man as in molen of ways line
550	VIU WHIEK	HIGE BUILDE	soming in continues vederigt
	B B C IN	WUTEL + USGS MOTH	ison Bridge Gauge
00	C DU-110, C	001F,11Med 300 00000	UISTAIL W/ I Mye FINDE
415	CCE ICH	100	"
120	CO-DI	150 0	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -
T 23	60-02	A Cian the HA the A	1
4 45	FINISH WOR	LITCUIT #4, NO E	XCEEPHILLES
150	UTF WATER	WONT CATCUT #5	STOUT +IMY (0º 1600
222	UN WATE	K-1 10 DG-IN to	STATE WOLD CITCUIT #5
500	C 156-1N,	LVINTITUNE 300' DOON	mastance w/ range tinter
613	E FW-15,	1 100 4	11
622	CS-IN "	" 150 "	"
631	CCS-2N		4
645	FINISH WG	M Circuit #S $\rightarrow N$	VO EYCEEDAWCES
	ISS Drillin	19 activities comp	plete, no turthin was
655	OFF WA	TER	-1
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	Gasco Sediments Site ISS Pile) ot Study
V ANCH QEA S	OR Anchor QEA, LLC 6720 South Macadam Avenue, Suite 300 Portland, OR 97219	Phone 503.670.1108
	Date: 0 -	14-2023 D Dudenhoefer
Wind from	N NE E SE S SW W NW I SUNNY (LOUDY) RAIN	NONE LIGHT MEDIUM HEAVY Temperature: FS3 °C [Circle appropriate units]
Time Comm	ents ~	
0625 Arriv	e C GascoTrailor -> Drenco	olers, print forms.
- cali	brate YSI #6970	
0700 H/S:	entering/exiting boat, PFD	s overhead hazards on
- worl	L barge safely collecting sa	mples over site of wan logat
0730 ISS	Prill Start time - WQM (Circuit#1 starte0830
0745 TIPE	5:0528- High (2.52), 12+2-	LOW (0.31), 1738-High (3.31)
- Ly W	QM Circuit # Start @ BG-	15 (ebb tide), downstream flow
- USGSI	10mison Gauge Wates Quality: Temp	: 16.1%, pH: 7.4 DO: 10.2"% Tub52
- NO CH	EMISTRY SAMPLES TODAY -> Due	to pH + Turbidit's exceptione
- yeste	stow, intensive popitaring Scher	dillo resots. Today is day 1
- Will C	oller childresty 450000107 same	USON Day 2 of FSS
- Doillis	19 (most likely Monday, Oct.)	6
0800 ON W	ATER -> Chick stations acce	iss due to swell barse relocation
0830 CBG	-15 -> Start WQM Circuit	#Z (ebb tide)
- Rives	Flow direction (downstream)	confirmed w/ visual
- observi	ations, velocimeter, and us	65 Merrison gause data
- Gonfi	ruled Garmin depth reading i	w/ lead line
Confic	mid BG-15 300' boom "	distance w/ range finder
0850 @EW-	IN "1 "100' "	/ 0 //
0902 @CS-	IN 11 // 150/ 11	11
0911 @CS-	2NV	11
0918 Finish	WQM CIrcuit #1 - NO EXCEED	DANCES OBSERVED
Start	WQM Circuit #2 (ebb)@ 10	030
0920 OFF W	IATER	
1020 ON W	ATER -> TOBG-15 to sturt U	NQM Circuit #2 (pt.)@ 1030
1030 @BG	-15, confirmed 300' boom	Jistona w/ range finder
1037 CEW	-IN, 1 // 100'11	in the second second
1052 @CS-	IN 11 1/ 1501 1	//
1103 @CS-	2N **	<i>b</i>
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Daily Monitoring Log Gasco Sediments Site ISS Pilot Study				
V2	NCHOR Anchor QEA, LLC Phone 503.670.1108 DEA 6720 South Macadam Avenue, Suite 300 Portland, OR 97219			
	Date: 10-14-2023 Personnel: Simon Dudenhefer			
	Wind from: N NE E SE S SW NW NONE LIGHT MEDIUM HEAVY SUNNY CLOUDY RAIN Temperature: ° F	Y * C ts]		
Time	Comments			
CONT-	@ the CS w/ highest NTV + BG station @ all HpM interva	als		
1140	Deron Van Dern Sampler			
1145	Collinged NWN-CS2N-2310141145 @ CS-2N @ 1'			
	Deron um Dern			
1150	COLUCHO NINN-(52N-2310141150 @ CS-2N@23.5'			
-	Daran Una Dora			
1155	Collarted AUNINI- CS2N-221014/155 @CS-2N @ 44'			
()	Decan Van Dam			
10.05	Collected BSD NINN-BC15-231014/205 @BG-15@ 1'	-		
1645	Demo Van Dem			
1210	Collected NWN-RKK-2210 141210@BG-15@ 195'	-		
1210	Dango Van Dorn	-		
1215	COLULA NWN-BG15-9310141215 @ BG-15@ 36 and			
1615	Collected CC Field Indicate cample NUN- ECOLOS 2310/47	15		
	FIDISH WAM CICLUIT #2 - NO EXCEEDANCES	10		
1230	IS9 Prillim activities complete - No further with M			
1405	DOD SANDLES @ APEX LARS			
	and student of them show	-		
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Attachment 2 Water Quality Monitoring Calibration Logs

	Water	r Quality Monif Gasco Sedime	toring - C ents Site	alibration	n Log For Study	m	
Date: 10-9-20	23			Calibrated By:	Simo	n Du	tenhoefer
Probe S/N: 21E103	678			Meter(s) Mode	I: YSI	Propss	#6970
Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Caibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.0	3660021	07/25	7.08	7.05	14.7	A standard for tamp
pH 4.00 (Standard Units)	4.00	36F1085	06/25	3.97	4.00	15.0	
Dissolved Oxygen (DO) ¹	99.0	NA	NA	99.3	99.0	18.2	AIR
Turbidity (NTU) ¹	0	NA	NA	0.43	0.00	15.9	PIWATER
Turbidity (NTU) ¹	124	23F24093426	06/24	122020	124.01	15.9	

10-9-2023 Date:

Probe S/N:

Calibrated By: Sitmon Pudenhoefer Meter(s) Model: YSI PropSS # SORG

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Caibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.0	366002	07/25	6.97	7.04	15.1	Astandard fortenp
pH 4.00 (Standard Units)	4.00	36F1085	06/25	3.81	4.00	15.6	
Dissolved Oxygen (DO) ¹	99.0	NA	NA	98.8	99.0	18.3	ALR
Turbidity (NTU) ¹	Q	NA	NA	0.63	0.00	16.1	DI WATER
Turbidity (NTU) ¹	124	23F24003426	06/24	123.60	124.00	16.1	

Notes:

Water Quality Monitoring - Calibration Log Form

Gasco Sediments Site ISS Pilot Study

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

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.06	3660021	07/25	7.03	7.06	12.5	A standard value for temp
pH 4.00 (Standard Units)	4.00	36F1085	06/25	4.00	4.00	13.0	
Dissolved Oxygen (DO) ¹	98.5	NA	NA	98.4	98.5	18.7	AER
Turbidity (NTU) ¹	0	NA	NA	0.03	0.00	12.9	DZ WATER
Turbidity (NTU) ¹	124	23F24003426	06/29	122.89	123.95	12.9	

Date:

Probe S/N:

Calibrated by:	
Meter(s) Model:	Ī

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.00						
pH 4.00 (Standard Units)	4.00				R		
Dissolved Oxygen (DO) ¹		YST #	5006	NOT			
Turbidity (NTU) ¹		CALIBRAT	ED OR	USED			
Turbidity (NTU)1		en e		· ····································	****		

Note:



Date: 10-11-2023

Dova hà foon Calibrated by: # 6970 Meter(s) Model: YSI 10

Probe S/N: 21E 103678

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.00	3660021	7/25	7.06	7.06	12.4	A stone los value for temp
pH 4.00 (Standard Units)	4.00	36F 1085	6/25	3.99	4.00	12.5	
Dissolved Oxygen (DO) ¹	99.6	NA	NA	99.6	99.6	19.5	Air
Turbidity (NTU) ¹	0	NA	NA	0.22	0.00	12.5	DI water
Turbidity (NTU) ¹	124	23F24003426	5/24	127.07	124.03	12.9	

Date: Probe S/N: N

Calibrated by: Meter(s) Model: N

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.00						
pH 4.00 (Standard Units)	4.00				A		
Dissolved Oxygen (DO) ¹				N			
Turbidity (NTU) ¹							
Turbidity (NTU) ¹							

Note:

Date: 10-12-2023 Probe S/N: 21 E 103678

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

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.05	3660021	07/25	7.07	7.05	13.8	a cal standard for temp.
pH 4.00 (Standard Units)	4.00	36F1085	06/25	3.94	4.00	13.5	and the second
Dissolved Oxygen (DO) ¹	100.3	NA	NA	100.6	100.3	17.1	AIR
Turbidity (NTU) ¹	Q	NA	NA	-0.30	0.00	14.1	DI WATER
Turbidity (NTU) ¹	124	23F24003426	06/24	123.78	123.98	14.1	

Date:

Probe S/N:

Calibrated by: Meter(s) Model:

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	- Comments
pH 7.00 (Standard Units)	7.00						
pH 4.00 (Standard Units)	4.00				Laboren (harristic)	kuutuutysessa 1999 ja saaraa ka kuutuu ka	
Dissolved Oxygen (DO) ¹	· · · · · · · · · · · · · · · · · · ·		DTD N	OT CALT	DDDD		on on the second se
Turbidity (NTU) ¹		and the contract product of the contract of th	OR (19	F VST	DEATE		2.1199.1001
Turbidity (NTU) ¹				اکمل دور این	6		

Note:

Date: 10-13-2023 Probe S/N: 21 E103678 Calibrated by: Simon Dufenhoefer Meter(s) Model: YSI ProD95 #6972

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.05	3660021	07/25	7.08	7.05	13.0	A standard for temp.
pH 4.00 (Standard Units)	4.00	36F1085	06/25	4.06	4.00	13.3	1
Dissolved Oxygen (DO) ¹	99.3	MA	NA	99.7	99.3	17.6	AIR
Turbidity (NTU) ¹	0	NA	NA -	0.10	0.00	13.5	DI WATER
Turbidity (NTU) ¹	124	23F24003635	06/24	124.18	123.91	13,5	

Date:

Calibrated by:

Probe S/N:

Meter(s) Model:

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.00						
pH 4.00 (Standard Units)	4.00				- CAMPANIA		
Dissolved Oxygen (DO) ¹	***************************************						
Turbidity (NTU) ¹		DID NOT	CALIDE	ATE OR	USE VG	T # 500	1
Turbidity (NTU) ¹					10.0 10		30

Note:

Date: 10-14-2023 Probe S/N: 21E103678 Calibrated by: Simon Dudenheefer Meter(s) Model: YSI Propos #6970

Parameter	Calibration Standard	Standard Lot No.	Expiration Date	Initial Calibration	Final Calibration	Temperature	Comments
pH 7.00 (Standard Units)	7.06	3660021	07/25	7.03	7.06	12.1	sstandard for temp.
pH 4.00 (Standard Units)	4.00	36F1085	06/25	3.99	4.00	12.2	
Dissolved Oxygen (DO) ¹	100.0	NA	NA	99.8	100.0	17.4	AIR
Turbidity (NTU) ¹	0	NA	NA	-0.28	0.00	12.7	DI WATER
Turbidity (NTU) ¹	124	23F24003635	06/29	120.53	124.01	12.7	

Date:

Probe S/N:

Calibrated by: Meter(s) Model:

Initial Final Calibration Expiration Standard Lot No. Calibration Standard Date Calibration Temperature Comments Parameter 7.00 pH 7.00 (Standard Units) pH 4.00 (Standard Units) 4.00 Dissolved Oxygen (DO)¹ DIDNOT USE/CALIBRATE YSI HSODG Turbidity (NTU)¹ Turbidity (NTU)1

Note:

Attachment 3 Water Quality Monitoring Forms – Field Parameters COEA

Date: 0 -	9-2023		Circuit Numbe	r: 1	
Station: BG	EW CS-1	CS-2 (N) S		Time: 1203	P 1257
Elo	od / Ebb	Up River / Down River		Avg. Velocity: 0.386	
_at/Northing:	45.58076	Long/Easting: 122. 758.4.8		Total Water Depth: 45.6	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	1.16	7.03	9.88	16.2
Middle	22.8	1.21	7.10	9.87	16.1
Deep	42.6	1.64	7.11	9,79	16.1
Construction A Station: BG	Activity: ISS pr	Illing CS-2 N S Up River	Down River	Suspended ma at Time: 1203 Avg. Velocity: O	terral served
Construction A Station: BG Flo .at/Northing:	Activity: ISS pr (EW) CS-1 od Ebb 45.57926	CS-2 N S Up River/ Long/Easting: 12	Down River	Time: 1203 Avg. Velocity: O Total Water Depth	terral served
Construction A Station: BG Flo .at/Northing:	Activity: ISS Pr EW CS-1 od Ebb 45-57926 Water Depth (feet)	CS-2 N S Up River/ Long/Easting: (2 Turbidity (NTU)	Down River 2 + 75498 PH (-)	Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L)	o 63 43 (°C)
Construction A Station: BG Flo .at/Northing: Surface	Activity: ISS Pr EW CS-1 od Ebb 45-57926 Water Depth (feet) 1	CS-2 N S Long/Easting: (2 Turbidity (NTU) 1.43	Down River 2 • 75498 PH (-) 7 • 21	Suspended ma ab Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L) 9.94	063 43 16:1
Construction A Station: BG Elo .at/Northing: Surface Middle	Activity: ISS Pr (EW) CS-1 od) Ebb 45.57926 Water Depth (feet) 1 21.5	CS-2 N S Up River/ Long/Easting: (2 Turbidity (NTU) 1.43 1.37	Down River 2.75498 PH (-) 7.21 7.15	Suspended ma ab Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L) 9.94 9.82	. 0 63 . 0 63 . 43 . (°C) . 16.1 . 16.1
Construction / Station: BG Elo .at/Northing: Surface Middle Deep	Activity: ISS Pr EW CS-1 od Ebb 45-57926 Water Depth (feet) 1 21.5 4-0	CS-2 N S Up. River/ Long/Easting: (2 Turbidity (NTU) 1.43 1.37 3.75	Down River 2.75498 pH (-) 7.21 7.21 7.15 7.98	Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L) 9.94 9.82 9.75	terral served . 0 63 . 43 . Temp. (°C) . 16.1 . 16.1 . 16.1
Construction / Station: BG Flo Lat/Northing: Surface Middle Deep Comments ¹ :	No shell, a Activity: ISS pr (EW) CS-1 od) Ebb 45.57926 Water Depth (feet) 1 21.5 40 No shelen, o observed	CS-2 N S Up River/ Long/Easting: (2 Turbidity (NTU) 1.43 1.37 3.75 dor, discolo	Down River 2.75498 pH (-) 7.21 7.21 7.15 7.98 ration, or s	Suspended ma ab Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L) 9.94 9.82 9.75 Hispended ma	terral served . 0 63 . 43 . (°C) . 16.1 . 16.1 . 16.1 . 16.1 . 16.1 . 16.1
Construction / Station: BG Elo at/Northing: Surface Middle Deep Comments ¹ :	No shell, a Activity: ISS pr (EW) CS-1 od) Ebb 45.57926 Water Depth (feet) 1 21.5 40 No shelen, o observed Activity: ISS pr	Illing CS-2 N S Up River/ Long/Easting: (2 Turbidity (NTU) 1.43 1.37 3.75 dor, discolo	Down River 2.75498 PH (-) 7.21 7.21 7.15 7.98 ration, or s	Suspended ma ab Time: 1203 Avg. Velocity: O Total Water Depth DO (mg/L) 9.94 9.82 9.75 Hispended ma	terral served . 0 63 . 43 Temp. (°C) 16.1 16.1 16.1 16.1 teria)

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Date: 10-9	-2023		Circuit Numbe	er: 1	
Station: BG	EW CS-1	CS-2 N (S)		Time: 1221	
Flo	Flood/Ebb Up River		Down River	Avg. Velocity: 0.398	
Lat/Northing:	45.57898	Long/Easting: 122 75457		Total Water Depth: 40.6	
(<u> </u>	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	1.23	7.11	9.86	16.2
Middle	20.3	1.49	7.18	9.84	16.1
Deep	37.6	3.65	7,78	9.77	16.1
Station: BG	EW CS-1	CS-2 N S	Down River	Time: 1232 Avg. Velocity: 0	430
Station: BG	EW CS-1	CS-2 N S Up River/I	Down River	Time: 1232 Avg. Velocity: O	. 43S
Station: BG	EW CS-1 od/Ebb 45, S7957 Water Depth (feet)	CS-2 N S Up River/I Long/Easting: 12' Turbidity (NTU)	Down River 2:75512 pH (-)	Time: 1232 Avg. Velocity: O Total Water Depth DO (mg/L)	. 435 1: 46.4 Temp. (°C)
Station: BG	EW CS-1 od/Ebb 45, 57957 Water Depth (feet)	CS-2 N S Up River/I Long/Easting: 12 Turbidity (NTU) 1 . 2 6	Down River 2:75512 pH (-) 7.04	Time: 1232 Avg. Velocity: O Total Water Depth DO (mg/L) 9,88	. 435 1: 46.4 Temp. (°C) 16.1
Station: BG Flo Lat/Northing: Surface Middle	EW CS-1 od/Ebb 45, 57957 Water Depth (feet) 1 23.2	CS-2 . N (S) Up River / E Long/Easting: 12' Turbidity (NTU) 1.26 1.33	Down River 2:75512 pH (-) 7.08	Time: 1232 Avg. Velocity: O Total Water Depth DO (mg/L) 9.88 9.83	. 435 1: 46.4 Temp. (°C) 16.1 16.1
Station: BG Flo Lat/Northing: Surface Middle Deep Comments ¹ :	EW CS-1 od DEbb 45, S7957 Water Depth (feet) 1 23 - 2 43.4 Minor Shua	CS-2 N S Up River/E Long/Easting: 12 Turbidity (NTU) 1.26 1.33 2.17	Down River 2:75512 pH (-) 7.08 7.08 7.14	Time: 1232 Avg. Velocity: O Total Water Depth DO (mg/L) 9.88 9.83 9.83 9.80	. 435 : 46.4 Temp. (°C) 16.1 16.1 Wedsp

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Date: 10 - 0	9-2023		Circuit Numbe	r: 1_	
Station: BG	EW CS-1	CS-2 (N) S		Time: 1403	
Flo	od / Ebb	Up River / I	Down River	Avg. Velocity: ()	.655
at/Northing:	45.58077	Long/Easting: 122.75846		Total Water Depth: 47.2	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	0.87	7.17	9,94	16.2
Middle	23.6	1.42	7.15	9.88	16.2
Deep	44.2	1.49	7.16	9.84	16.2
Construction A Station: BG	EW CS-1	CS-2 N S	Down River	Time: 414 Avg. Velocity: 0	.183
Construction A Station: BG Flo Lat/Northing:	Activity: ISS ((EW) CS-1 od) Ebb 45, S79 17	CS-2 N S Up River / I Long/Easting: 12	Down River	Time: 444 Avg. Velocity: 0 Total Water Depth	.183
Construction A Station: BG Plo Lat/Northing:	Activity: ISS (EW) CS-1 od) Ebb 45. S79 17 Water Depth (feet)	CS-2 N S P Rive / I Long/Easting: 12 Turbidity (NTU)	Down River 2 .75500 pH (-)	Time: 444 Avg. Velocity: 0 Total Water Depth DO (mg/L)	.183 42.4 Temp. (°C)
Construction A Station: BG Plo Lat/Northing: Surface	Activity: ISS (EW) CS-1 od) Ebb 45. S7917 Water Depth (feet) 1	CS-2 N S PRive / I Long/Easting: [2 Turbidity (NTU) 2.16	Down River 2 .75500 pH (-) 7.32	Time: 444 Avg. Velocity: 0 Total Water Depth DO (mg/L) 7.90	.183 42.4 Temp. (°C) 16.2
Surface Middle	Activity: ISS (EW) CS-1 od) Ebb 45, S7917 Water Depth (feet) 1 21, 2	CS-2 N S (p Rive) / I Long/Easting: 12 Turbidity (NTU) 2.16 2.35	Down River 2 .75500 pH (-) 7 .32 7 .38	Time: 1414 Avg. Velocity: 0 Total Water Depth DO (mg/L) 7.90 9.86	.183 42.4 Temp. (°C) 16.2 16.2
Construction A Station: BG Plo Lat/Northing: Surface Middle Deep Comments ¹ ;	EW CS-1 (EW CS-1 (EW CS-1 (Feet) (feet) 1 21.2 39.4 No sheen,	CS-2 N S (p Rive) / I Long/Easting: 12 Turbidity (NTU) 2.16 2.35 2.49 odor, disco	Down River 2.75500 pH (-) 7.32 7.38 7.52 Joration,	Time: 414 Avg. Velocity: D Total Water Depth DO (mg/L) 7.90 9.86 9.83 or suspende	.183 .42.4 Temp. (°C) 16.2 16.2 16.2 16.2 16.2

CANCHOR DEA

	Water Qua Gas	lity Monitori co Sediments	ng Form – F s Site ISS Pil	ield Parameter ot Study	s
Date: 10 - 0	1-2023		Circuit Numbe	er: 2	
Station: BG	EW CS-1	CS-2 N (S)		Time: 1425	
Floo	pd / Ebb	Ap River/	Down River	Avg. Velocity: O	266
Lat/Northing: 4	+5,57889	Long/Easting: 122.75462		Total Water Depth: 32	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface		1,56	7.30	9.91	16.2
Middle	16	1.94	7.28	9.88	16.2
Deep	20	1.75	7.30	9.86	16.2
• (a) Construction A Station: BG	EW CS-1	istry samp rilling (CS-2) N (S)	le here Q_1	Middle depth (Time: 1432	hishest ON
• Co Construction A Station: BG	EW CS-1	stry samp rilling (S-2) N (S)	le here Q 1 Down River	Middle depth (Time: 1432 Avg. Velocity: ().	hisheston
Construction A Station: BG (Flow Lat/Northing: 4	EW CS-1 Water Depth (feet)	Stry samp rilling (S-2) N (S) (Up River) Long/Easting: 12 Turbidity (NTU)	Down River 2,75510 PH (-)	Middle depth (Time: 1432 Avg. Velocity: () Total Water Depth: DO (mg(1))	hisheston SOO 47 Temp.
Construction A Station: BG (Flow Lat/Northing: A Surface	EW CS-1 Water Depth (feet)	Stry samp rilling (S-2) N (S) (Dp River) Long/Easting: 12 Turbidity (NTU) Q.94	Down River 2,75510 PH (-) 7.19	Middle depth (Time: 1432 Avg. Velocity: () Total Water Depth: DO (mg/L) 9.96	hrshest (3 N 500 47 Temp. (°C)
Construction A Station: BG (Flow Lat/Northing: A Surface Middle	EW CS-1 Water Depth (feet) 23.5	Stry samp illing (S-2) N (S) (Dp River) Long/Easting: 12 Turbidity (NTU) Q.94 1.18	Le here (2) Down River 2,75510 PH (-) 7.19 7.19	Middle depth (Time: 1432 Avg. Velocity: () Total Water Depth: DO (mg/L) 9,96 9,89	hrshestON 500 47 Temp. (°C) 16.2
Construction A Station: BG (Flow Lat/Northing: d Surface Middle Deep Comments ¹ :	EW CS-1 EW CS-1 EW CS-1 Od/Ebb HS. S7957 Water Depth (feet) 1 23.5 44 No.5	Stry samp stry samp rilling (S-2) N (S) (Dp River) Long/Easting: 12 Turbidity (NTU) Q.94 1.18 1.17	Le here Q 1 Down River 2,75510 PH (-) 7.19 7.19 7.19 7.17	Middle depth (Time: 1432 Avg. Velocity: (). Total Water Depth: DO (mg/L) 9.96 9.89 7.84	hishest C3 N 500 47 Temp. (°C) 16.2 16.2 16.2

R ANCHOR

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	Gas	co Sediments	Site ISS Pile	ot Study		
Date: 10 - 1	0-2023		Circuit Numbe	r. 1		
Station: BG	EW CS-1	CS-2 N S Up River / Down River		Time: 0930 Avg. Velocity: 0.405		
Floo	od / Ebb					
Lat/Northing:	at/Northing: 45.57875		Long/Easting: 122.75400		Total Water Depth: 39.4	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)	
Surface	1	1.25	7.17	9.89	16.0	
Middle	19.7	1.13	7.21	9.86	16.0	
Deep	36.4	1.32	7.22	9.83	16.0	
Construction A Station: BG	Ctivity: ISS D	cs-2 N s		Time: 0940		
Construction A Station: BG Floo	ctivity: ISS D EV CS-1 od (Ebb)	CS-2 (N) S Up River	Down River	Time: 0 9 4 D Avg. Velocity: O	.270	
Construction A Station: BG Floo Lat/Northing: 4	ctivity: ISS D EW CS-1 od (Ebb) S.S8007 Water Depth (feet)	CS-2 V S Up River Long/Easting: j2 Turbidity (NTU)	Down River 2,75695 pH (-)	Time: 0940 Avg. Velocity: 0 Total Water Depth DO (mg/l)	.270 h:42.8 Temp.	
Construction A Station: BG Floc Lat/Northing: 4 Surface	ctivity: ISS D EW CS-1 od (Ebb) S.S8007 Water Depth (feet)	CS-2 (N) S Up River (Long/Easting: j2 Turbidity (NTU)	2.75695 pH (-) 7.23	Time: 0 9 4 0 Avg. Velocity: 0 Total Water Depti D0 (mg/L)	.270 n: 42.8 Temp. (°C)	
Construction A Station: BG Floc Lat/Northing: 4 Surface Middle	ctivity: ISS P EV CS-1 od (Ebb) +S.S8007 Water Depth (feet) 1 21.4	CS-2 (N) S Up River (L Long/Easting: j2) Turbidity (NTU) 1.05 1.22	2.75695 pH (-) 7.23 7.25	Time: 0940 Avg. Velocity: 0 Total Water Depth D0 (mg/L) 9.91 9.87	.270 n: 42.8 Temp. (°C) 16.0	
Construction A Station: BG Floc Lat/Northing: 4 Surface Middle Deep Comments ¹ :	ctivity: ISS D EW CS-1 Dd (Ebb) HS.S8007 Water Depth (feet) 1 21.4 39.8 No SWLEA.	rilling CS-2 (N) S Up River (A) Long/Easting: 12 Turbidity (NTU) 1.05 1.05 1.22 5.93 odor, discol	2.75695 pH (-) 7.23 7.25 7.62 pration, 0	Time: 0940 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9.91 9.87 9.82	.270 n: 42.8 Temp. (°C) 16.0 16.0 16.0 Materia	

V OEA E

Date: 10 - 10 - 2 Station: BG EM Flood Et Lat/Northing: 45, 5 Wa Surface Wa Surface Middle Middle Model Comments ¹ : No © 0500 Construction Activity Station: BG EW Flood //Et Lat/Northing: 4-5, 5 Surface Wa Surface Wa Station: BG EW Flood Et Lat/Northing: 4-5, 5 Wa Surface Wa	Gas 2023 EW CS-D Ebb S&026 Water Depth (feet) 1 20.6 38.2 Skeen erved ity: ISS D EW CS-1	co Sediments CS-2 (N) S Up Rive(1) Long/Easting: 12 Turbidity (NTU) 1,10 1,75 1,59 0 dor, disco	Site ISS Pile Circuit Number 2.75763 pH (-) 7.24 7.27 7.35 10ration, state	Time: 0950 Avg. Velocity: 0 Total Water Depth D.O. (mg/L) 9.90 9.89 9.89) . 449 : 41.2 Temp. (°C) 16.9 16.9 16.9 material
Date: 10 - 10 - 2 Station: BG EW Flood Et Lat/Northing: 45, 5 Wa Surface Wa Surface Wa Deep Wa Comments ¹ : No No Construction Activity Station: BG EW Flood //Et Lat/Northing: 4-5, 5 Wa Surface Wa Surface Wa Station: BG EW Flood //Et Wa Surface Wa Surface Surface	2023 EW CS-D Ebb S&026 Water Depth (feet) 1 20.6 38.2 Skeen, erved ity: ISS D EW CS-1 Ebb	CS-2 N S Up River Long/Easting: 12 Turbidity (NTU) 1,10 1,75 1,59 0 dor, disco	Circuit Number Down River 2,75763 PH (-) 7.24 7.24 7.27 7.35 Dor at 100, 5	Time: 0950 Avg. Velocity: 0 Total Water Depth D.O. (mg/L) 9.90 9.89 9.89) . 449 : 41.2 Temp. (°C) 16.9 16.9 16.9 material
Station: BG EM Flood Et Lat/Northing: 4,5,5 Wa Surface Middle Deep Comments ¹ : No OSUF Construction Activity Station: BG EM Flood Lat/Northing: Surface Wa	EW CS-D Ebb S&026 Water Depth (feet) 1 20.6 38.2 Skeen, erved ity: ISS D EW CS-1	CS-2 N S Up River Long/Easting: 12 Turbidity (NTU) 1,10 1,75 1,59 0 dor, disco rilling CS-2 N S	Down River 2,75763 PH (-) 7.24 7.27 7.35 Doration, 5	Time: 0950 Avg. Velocity: 0 Total Water Depth D.O. (mg/L) 9.90 9.87 9.89) . 449 : 41.2 Temp. (°C) 16.9 16.9 16.9 material
Flood (Et Lat/Northing: 4 \$, 5 Wa Surface Middle Deep Comments ¹ : • No © 0 Str Construction Activity Station: BG EW Flood / Et Lat/Northing: 4 5 , 5 Wa Surface	Ebb SEO26 Water Depth (feet) 1 20.6 38.2 Sheen, erved ity: ISS D EW CS-1	Up River Long/Easting: 12 Turbidity (NTU) 1,10 1,75 1,59 0 dor, disco rilling (S-2) (N) S	Down River 2,75763 PH (-) 7.24 7.27 7.27 7.35	Avg. Velocity: O Total Water Depth D.O. (mg/L) 9.90 9.87 9.89 9.84 9.84	. 449 : 41.2 Temp. (°C) 16.0 16.0 16.0 material
Lat/Northing: 4 \$, 5 Wa Surface Middle Deep Comments ¹ : • No © 0 SUC Construction Activity Station: BG EW Flood / Et Lat/Northing: 4 5 , 5 Wa Surface	SEO26 Water Depth (feet) 1 20.6 38.2 Sheen, erved ity: ISS D EW CS-1	Long/Easting: 12 Turbidity (NTU) 1.10 1.75 1.59 0 dor, disco rilling (S-2) N S	2,75763 PH (-) 7.24 7.27 7.35 Noration, 5	Total Water Depth D.O. (mg/L) 9.90 9.87 9.89 9.84	: 41.2 Temp. (°C) 16.0 16.0 16.9 material
Surface Middle Deep Comments ¹ : No OSU Construction Activity Station: BG EW Flood / Et Lat/Northing: 4-5, S Wa Surface	Water Depth (feet) 1 20.6 38.2 38.2 s Sheen, erved tity: ISS D EW CS-1	Turbidity (NTU) 1.10 1.75 1.59 0 dor, disco	рн (-) 7.24 7.27 7.35	D.O. (mg/L) 9.90 9.87 9.84 pr. Suspended	Temp. (°C) 16.9 16.9 material
Surface Middle Deep Comments ¹ : No OSU Construction Activity Station: BG EW Flood / Et Lat/Northing: 4-5, S Wa Surface	1 20.6 38.2 sheen, erved ity: ISS D EW CS-1	1.10 1.75 1.59 0 dor, disco rilling (S-2) (N) S	7.24 7.27 7.35	9.90 9.87 9.89 pr. Suspended	16.0 16.0 16.9 material
Middle Deep Comments ¹ : Mo OSU Construction Activity Station: BG EW Flood / Et Lat/Northing: 4-5, S Wa Surface	20.6 38.2 sheen, erved ity: ISS D EW CS-1	1.75 1.59 odor, disco rilling (S-2) (N) s	7.27 7.35	9.87 9.89 pr. Suspended	16.0 16.9 material
Deep Comments ¹ : No OSU Construction Activity Station: BG EW Flood / Et Lat/Northing: 4-5, S Wa Surface	38.2 o sheen, erved ity: ISS D EW CS-1	1.59 odor, disco rilling (S-2 (N) s	7,35 ploration, s	9.89 pr. Suspended	16.9 material
Comments ¹ : No Obser Construction Activity Station: BG EW Flood / Et Lat/Northing: 4-5, S Wa Surface	erved ity: ISS D EW CS-1	rilling	ploration, s	or. Suspended	material
Surface	68000	Up River	Bown River	Avg. Velocity: 0	.535
Surface	58017	Long/Easting:)?	75180	Total Water Depth	. 44 (
Surface	Water Depth (feet)	Turbidity (NTU)	рН (-)	DO (mg/L)	Temp. (°C)
	1	1.01	7.21	9.90	16.0
Middle 2	22.3	1.47	7.24	9,85	16.0
Deep 4	41.6	4.35	7.31	9.81	16.0
Comments': NO O USEC	er ved	Doilling	pration, or	suspended	materia
Recorded by:	. N	- In land	/		
OI	I MARAN		F		



Date: 10-11	-2023		Circuit Numbe	er: 1	
Station: (BG	SEW CS-1	CS-2 N S		Time: 0	832
Floo	od (Ebb)	Up River I	Down River	Avg. Velocity: 0.382	
Lat/Northing:	45,57875	Long/Easting: 122.75405		Total Water Depth: 39.4	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	-1	0.82	7.11	9.83	15.9
Middle	19.7	1.09	7.21	2.75	15.9
Deep	36.4	1.20	7.23	9.74	15.9
Construction A Station: BG Floc	tivity: Debris EWINCS-1	Removal W/6 CS-2 N S Up River / I	Down River	Time: 073	145 0479
Construction A Station: BG Floc Lat/Northing:	4 octors) ctivity: Debris EWINCS-1 od/Ebb	Personal W/6 CS-2 N S Up River / [Long/Easting:	pown River	Time: 03 Avg. Velocity:	145 0.429
Construction A Station: BG Floc Lat/Northing:	4 o do ro) ctivity: Debris EWIN CS-1 od/Ebb 46.58035 Water Depth (feet)	CS-2 N S Up River / (Long/Easting: ;; Turbidity (NTU)	pown River 22,75751 pH (-)	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L)	145 0.429 : 43.4 Temp. (°C)
Construction A Station: BG Floc Lat/Northing: Surface	4 odors) ctivity: Debris EW2N CS-1 od/Ebb 45.58035 Water Depth (feet)	Removal W/6 CS-2 N S Up River / [Long/Easting: ;; Turbidity (NTU) /.03	Down River 22,7575/ PH (-) 7.20	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9, 5/	145 0.429 : 43.4 Temp. (°C) 15.9
Construction A Station: BG Floc Lat/Northing: Surface Middle	4 octors) ctivity: Debris EW2NCS-1 od/Ebb 45.58035 Water Depth (feet) 1 21.8	Removal W/6 CS-2 N S Up River / [Long/Easting: ;; Turbidity (NTU) 1.03 1.15	Down River 22,75751 PH (-) 7.20 7.24	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9, 87 9, 77	145 0.429 : 43.4 Temp. (°C) 15.9 iS.9
Construction A Station: BG Floc Lat/Northing: Surface Middle Deep	4 odors) ctivity: Debris EW2NCS-1 od/Ebb 45.58035 Water Depth (feet) 1 21.8 HD 1	removal w/6 CS-2 N S Up River / [Long/Easting: ;; Turbidity (NTU) 1.03 1./5 1.21	22.75751 POWN River 22.75751 PH (-) 7.20 7.24 7.24	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9.87 9.77 9.77	145 0.429 : 43.6 Temp (°C) 15.9 i5.9
Construction A Station: BG Floc Lat/Northing: Surface Middle Deep Comments ¹ :	4 oclors) ctivity: Debris EW2NCS-1 od/Ebb 45.58035 Water Depth (feet) 1 21.8 40.6 No visible fodors)	<u>removad W/6</u> CS-2 N S Up River / [Long/Easting: :: Turbidity (NTU) 1.03 1.15 1.15 1.211 Sheen obser	Down River 22,75751 pH (-) 7.20 7.24 7.22 rued (w	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9.87 9.77 9.73 cludes 5.5., d	145 0.429 : 43.6 Temp (°C) 15.9 15.9 15.9 15.9
Construction A Station: BG Floc Lat/Northing: Surface Middle Deep Comments ¹ : Construction A	4 oclors) ctivity: Debris EW2NCS-1 od/Ebb 45.58035 Water Depth (feet) 1 21.8 40.6 No visible foclors) ctivity: Debris	Removed W/6 CS-2 N S Up River / [Long/Easting: :: Turbidity (NTU) 1.03 1.15 1.15 1.21 . sheen observed . sheen observed	Down River 22,7575/ PH (-) 7.20 7.24 7.26 rued (w	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9.77 9.73 cludes 5.5., el	145 0.429 : 43.6 Temp. (°C) 15.9 15.9 15.9 15.9
Construction A Station: BG Floc Lat/Northing: Surface Middle Deep Comments ¹ : Construction A Recorded by:	4 oclors) ctivity: Debris EW2NCS-1 od/Ebb 45.58035 Water Depth (feet) 1 21.8 40.6 No visible foclors) ctivity: Dabris D. Laffoz	Removed W/6 CS-2 N S Up River / [Long/Easting: :: Turbidity (NTU) 1.03 1.15 1.15 1.21 . sheen observed . sheen observed . sheen observed . sheen observed	Down River 22,7575/ PH (-) 7.20 7.24 7.26 rued (w	Time: 03 Avg. Velocity: Total Water Depth DO (mg/L) 9.77 9.73 cludes 5.5., el	145 0.429 : 43.6 Temp. (°C) 15.9 15.9 15.9 15.9

Date:	10-11-2023		Circuit Numbe	r: (
Station: BG	EW ES-1N	CS-2 N S		Time: 085	1	
Floo	od Ebb	Up River / I	Up River / Down River		Avg. Velocity: 0.402	
Lat/Northing:	45,58631	Long/Easting: 122.75770		Total Water Depth: 42.6		
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)	
Surface	1	0.12	7.22	2.81	15.9	
Middle	21.3	1.08	7.23	9.77	15.9	
Deep	39.6	1.34	7.26	9.74	15.9	
Construction A Station: BG	ctivity: Dalo FLS EW CS-1	(S-21) N S	Sucket	Time:	1982 525	
Construction A Station: BG Floo	EW CS-1	(S-2A) N S Up River /	Sucket	Time:	902 525	
Construction A Station: BG Floc Lat/Northing: 4	ectivity: Dalo FLS EW CS-1 od (Ebb) 45.580:25	(S-2A) N S Up River / Long/Easting: /2	500ket Down River) 22,75676	Time: a Avg. Velocity: 0, Total Water Depth	902 525 : 46.6	
Construction A Station: BG Floc Lat/Northing: 4	EW CS-1 EW CS-1 d (Ebb) 45.580725 Water Depth (feet)	CS-2A) N S Up River / Long/Easting: /2 Turbidity (NTU)	500ket Down River 22,75676 PH (-)	Time: a Avg. Velocity: 0, Total Water Depth DO (mg/L)	982 .525 : 46.6 Temp. (°C)	
Construction A Station: BG Floc Lat/Northing: 4 Surface	Ctivity: Daloris EW CS-1 od (Ebb) 45.58025 Water Depth (feet)	CS-2/) N S Up River /(Long/Easting: /2 Turbidity (NTU) 1.09	5ucket Down River 22,75676 PH (-) 7,21	Time: a Avg. Velocity: <i>b</i> Total Water Depth DO (mg/L) 9_ & D	982 525 : 46.6 Temp. (°C) 15.9	
Construction A Station: BG Floc Lat/Northing: 4 Surface Middle	ctivity: <u>Daloris</u> EW CS-1 od (Ebb) 45.58025 Water Depth (feet) / 23.3	<u>remonial</u> w/ (S-2/) N S Up River /(Long/Easting: /2 Turbidity (NTU) 1.09 1.14	5ucket Down River 22,75676 PH (-) 7,21 7,24	Time: a Avg. Velocity: 0, Total Water Depth DO (mg/L) 9-8D 9.74	902 525 : 46.6 Temp. (°C) 15.9 15.9	
Construction A Station: BG Floc Lat/Northing: 4 Surface Middle Deep Comments ¹ :	ctivity: <u>Doloris</u> EW CS-1 od (Ebb) 45.580:25 Water Depth (feet) 1 23.3 43.6 No VIS16/e 5.5	1 1 1 1 (S-2A) N S Up River //1 Long/Easting: 1 1 Turbidity (NTU) 1 0 1 1.09 1 14 1 1 1.14 1 24 1 1	5ucket Down River 22,75676 PH (-) 7.21 7.24 7.24 7.2 00-01-01 or	Time: a Avg. Velocity: d Total Water Depth DO (mg/L) 9.8D 9.72 9.73 0.4015 665714	902 525 : 46.6 Temp (°C) 15.9 15.9 15.9	

C OEA :

6720 South Macadam Avenue, Suite 300 Portland, OR 97219 4

Date: 10 - 1 Station: BG		co Sediments	ng Form – F Site ISS Pile	ield Paramete ot Study	rs
Station: (BG)	2-23		Circuit Numbe	r: <u>1</u>	
	EW CS-1	CS-2 N (S)		Time: 1750	1000
Flood / Ebb		Up River / I	Down River	Avg. Velocity: 0.345	
Lat/Northing: 45, 57878		Long/Easting: 122 .75401		Total Water Depth: 42.8	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	0.73	7.29	9.80	16.6
Middle	21.4	1.25	7.23	9.64	16.3
Deep	39.8	1.70	7.28	9.58	16.3
Floo Lat/Northing: 4	5.58008	Up River Down River		Avg. Velocity: 0.367 Total Water Depth: 47.7	
	Water Depth (feet)	Turbidity (NTU)	рН (-)	DO (mg/L)	Temp. (°C)
		0.69	7.26	9.77	16.6
Surface		1.29	7.26	9.66	16.4
Surface Middle	23.8	1.1.1.1.1		1	10.
Surface Middle Deep Comments ¹ ;	23.8 44.6 No siven, a	l.65 dor, discolori	7.29 ation, or s	9.57 35 observed	16.3
Surface Middle Deep Comments ¹ ;	23.8 44.6 No swan, a	dor, discolori	7.29 ation, or s	9.57 35 observed	16.3
Surface Middle Deep Comments ¹ ;	23.8 44.6 No shen, a tivity: ISS D	dor, discolori dor, discolori donhoefer	7.29 ation, or s	9.57 35 observed	16.3
CEA SEE

	Gas	co Sediments	Site ISS Pil	ot Study	
Date: 10 - 1	2-2023		Circuit Numbe	r: 1	
Station: BG	EW CS-1	CS-2 N 5	\frown	Time: 1809	_
Floo	od (Ebb	Up River 🤄	Down River	Avg. Velocity: 🕖	- 366
Lat/Northing:4	5.58031	Long/Easting: j2	2.75752	Total Water Depth	46.8
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	0.73	7.26	9.77	16.6
Middle	23.4	1.07	7.25	9.65	16 - 4
Deep	43.8	1.71	7.27	9.58	16.3
Construction A Station: BG	EW CS-1	111:07) (S-2) (N) S	Saura Bina	Time: [8]6	7/5
Construction A Station: BG Floo	EW CS-1 (CS-2 N S Up River / 1	Rown River	Time: 866 Avg. Velocity: 0	.765
Construction A Station: BG Floo Lat/Northing: 4	Ctivity: IS Dr EW CS-1 (bd (Ebb) 5.58028 Water Depth (feet)	CS-2 N S Up River / 1 Long/Easting: 10 Turbidity (NTU)	Rown Rive) 2 . 75672 pH (-)	Time: 866 Avg. Velocity: O Total Water Depth DO (mg/L)	• 765 : 50.6 Temp. (°C)
Construction A Station: BG Floo Lat/Northing: 4 Surface	ctivity: IS Dr EW CS-1 (od Ebb 5.58028 Water Depth (feet)	Up River / 1 Long/Easting: 12 Turbidity (NTU) O ~ 7 2	Rown Rive) 2.075672 pH (-) 7.2 2	Time: [8]6 Avg. Velocity: () Total Water Depth DO (mg/L) 9.75	• 765 50.6 Temp. (°C) 16.6
Surface Middle	ctivity: IS Dr EW CS-1 (od (Ebb) 5.58028 Water Depth (feet) 1 25.3	CS-2 N S Up River / 1 Long/Easting: 12 Turbidity (NTU) 0.72 1.017	Rown Rive) 2.75672 pH (-) 7.2 1 7.29	Time: [8]6 Avg. Velocity: () Total Water Depth DO (mg/L) 9.75 9.65	• 765 50.6 Temp. (°C) 16.6 16.4
Construction A Station: BG Floo Lat/Northing: 4 Surface Middle Deep Comments ¹ :	ctivity: IS Dr EW CS-1 (od (Ebb) 5.58028 Water Depth (feet) 1 25.3 47.6	CS-2 N S Up River /1 Long/Easting: 12 Turbidity (NTU) 0.72 1.017 4.06	Rown Rive) 2.75672 рн (-) 7.2 1 7.2 1 8.44	Time: [8]6 Avg. Velocity: () Total Water Depth DO (mg/L) 9.75 9.65 9.65	.765 :50.6 Temp. (°C) 16.6 16.4 16.3

CANCHOR QEA :

HOR	Water Qua	lity Monitori	na Form - Fi	old Parameter	rc
	Gas	co Sediments	s Site ISS Pilo	ot Study	5
Date: 10 - 1	3-2023		Circuit Number	r: 1	
Station: BG	EW CS-1	CS-2 N (S)		Time: 0800	
Floc	od (Ebb)	Up River	Down River	Avg. Velocity: 🔿	SII
Lat/Northing: 4	15.57871	Long/Easting: 12	2,75400	Total Water Depth	: 37.6
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	1.83	7.15	9.51	16.4
Middle	18.8	2.55	7.14	9.47	16.5
Deep	34.6	2.46	7.20	9.45	16.85
Construction A Station: BG	ctivity: ⊥S5 ₽ ŒW) CS-1	cs-2 (N) s		Time: 0814	
Construction A Station: BG	ctivity: ISS P	cs-2 N s		Time: 08 14	
Construction A Station: BG Floc	ctivity: ISS P CS-1 od (Ebb)	CS-2 N S Up River A	Rown River	Time: 08 14 Avg. Velocity: 0	.108
Construction A Station: BG Floc Lat/Northing: 4	ctivity: ISS P (EW) CS-1 od (Ebb) +S. S80 27 Water Depth	CS-2 N S Up River A Long/Easting: j2	2.75710	Time: 08 4 Avg. Velocity: 0 Total Water Depth	. 108 : 46 Temp.
Construction A Station: BG Floc Lat/Northing: 4	ctivity: ISS P (EW) CS-1 od (Ebb) +S. S 80 27 Water Depth (feet)	CS-2 N S Up River A Long/Easting: j2 Turbidity (NTU)	2.75710 pH (-)	Time: 08 4 Avg. Velocity: 0 Total Water Depth DO (mg/L)	• 108 : 46 Temp. (°C)
Construction A Station: BG Floc Lat/Northing: 4 Surface	ctivity: ISS P (EW) CS-1 od (Ebb) +S. S 8 0 2.7 Water Depth (feet) I	CS-2 N S Up River A Long/Easting: j2 Turbidity (NTU)	2.75710 pH (-) 7.17	Time: 08 14 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9 5 1	• 108 : 46 Temp. (°C) 16 • 4
Surface Middle	ctivity: ISS P (EW) CS-1 od (Ebb) 45, S80 27 Water Depth (feet) 1 23	CS-2 N S Up River A Long/Easting: j2 Turbidity (NTU) 1.76 2.723	2.75710 pH (-) 7.17 7.19	Time: 08 14 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9,51 9,47	. 108 : 46 Temp. (°C) 16.4 16.4
Surface Middle Deep	ctivity: ISS P (EW) CS-1 od (EDD) 45. S80 27 Water Depth (feet) 1 23 43 No Sheen	rilling CS-2 N S Up River A Long/Easting: 12 Turbidity (NTU) 1.76 2.73 3.45 .0000,015	2.75710 2.75710 PH (-) 7.17 7.17 7.19 7.57 coloration	Time: 08 14 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9,51 9,47 9,44 9,44	. 108 : 46 Temp. (°C) 16.4 16.4 .16.4 served

COEA COEA HOLEVO3678

6720 South Macadam Avenue, Suite 300 Pro DSS Portland, OR 97219 HL C970

Station: BG EW CS-1 CS-2 N S Time: O S Flood / EbB Up River (Down River) Avg. Velocity: O. 231 Lat/Northing: 45.58031 Long/Easting: 122,75742 Total Water Depth: 43. Water Depth Turbidity pH D.O. Te (feet) (NTU) (-) (mg/L) (' Surface 1 2.00 7.20 9.50 16. Middle 21.8 3.15 7.59 9.46 16. Deep 40.6 3.73 7.53 9.43 16. Comments ¹ : No SWeen, odor, discoloration, or SS Segret/Wein Station: BG EW CS-1 CS-2 N S Time: 0 838
Flood /EbB Up River (Down River) Avg. Velocity: 0.231 Lat/Northing: 45.58031 Long/Easting: 1/22, 75742 Total Water Depth: 43. Water Depth Turbidity pH D.O. Te Middle 21.8 3.15 7.59 9.46 16. Deep 40.6 3.73 7.53 9.43 16. Comments ¹ : No SWEP, odor, discoloration, or SS 05200000000000000000000000000000000000
Indid / Quo Op Niver (Down Niver) No. (100, 100, 100, 100, 100, 100, 100, 100
Water Depth (feet) Turbidity (NTU) pH (-) D.O. Te (mg/L) Surface 1 2.00 7.20 9.50 16. Middle 21.8 3.15 7.59 9.46 16. Deep 40.6 3.73 7.53 9.43 16. Comments ¹ : No Sween, odor, discoloration, or SS observe Station: BG EW CS-1 CS-2 <n< td=""> S Time: 0838</n<>
Surface 1 2.00 7.20 9.50 16. Middle 21.8 3.15 7.59 9.46 16. Deep 40.6 3.73 7.53 9.43 16. Comments ¹ : No Sween, odor, discoloration, or ssoberule Construction Activity: ISS Drilling Station: BG EW CS-1 CS-2 No S Time: 0 838
Middle 21.8 3.15 7.59 9.46 16. Deep 40.6 3.73 7.53 9.43 16. Comments': No sheen, odor, discoloration, or ss observe Construction Activity: ISS Drilling Station: BG EW CS-1 CS-2 No S Time: 0.838
Deep 40.6 3.73 7.53 9.43 16. Comments': No sheen, odor, discoloration, or SS observed Construction Activity: ISS Drilling Station: BG EW CS-1 CS-2 N S Time: 0838 Flood OFFD Up Bing Down Birth Aver Velocity 0.77
Construction Activity: ISS Drilling Station: BG EW CS-1 CS-2 N S Time: 0838
at/Northing: 45 58 007 Long/Easting: 120 76(71) Total Water Depth: 4/
Water Depth (feet)TurbiditypHDOTer (mg/L)(feet)(NTU)(-)(mg/L)(°
Surface 1 2.38 7.19 9.50 16.
Middle 23.4 3.03 7.20 9.46 16.
Deep 43.8 12.36 9.25 9.41 16.

C OEA

Date: 10 -	12-2003		Circuit Numbe	r: 2	
Station: BG	EW CS-1	CS-2 N (S)		Time: 1000	
Flo	od Ebb	Up River	Down River	Avg. Velocity: O	.482
Lat/Northing:	45.57878	Long/Easting: 12	2.75401	Total Water Depth	:40
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	2.55	7.17	9.48	16.5
Middle	20	2.69	7.26	9.45	16.5
Deep	37	2.30	7.22	9.43	16.4
Construction A Station: BG Flo	Activity: ISS D (EW) CS-1 od (EDD)	CS-2 D S Up River	Down River	Time: 1009 Avg. Velocity: 0	.307
Construction A Station: BG Flo .at/Northing: •	Activity: ISS D (EW) CS-1 od (EDD) 45.580 (3)	CS-2 D S Up River Long/Easting:] 2	Down River) 2.75693	Time: 1009 Avg. Velocity: 0 Total Water Depth	.307
Construction / Station: BG Flo .at/Northing: •	Activity: ISS D (EW) CS-1 od (EDD) 45. S80 13 Water Depth (feet)	CS-2 S Up River Long/Easting: 12 Turbidity (NTU)	Down River) 2 .75693 pH (-)	Time: 1009 Avg. Velocity: 0 Total Water Depth DO (mg/L)	, 307 44 Temp (°C)
Construction / Station: BG Flo Lat/Northing: • Surface	Activity: ISS D (EDD) 45.580 (3) Water Depth (feet)	CS-2 D S Up River Long/Easting: 12 Turbidity (NTU) 1.82	Down River) 2 .75693 pH (-) 7 . 16	Time: 1009 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9,47	, 307 44 Temp (°C) 16.5
Construction / Station: BG Flo .at/Northing: · Surface Middle	Activity: ISS D W CS-1 od (EDD) 45. S80 (3) Water Depth (feet) 22	CS-2 D S Up River Long/Easting: 12 Turbidity (NTU) 1.82 2.38	Down River) 2.75693 pH (-) 7.16 7.24	Time: 1009 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9.47 9.44	. 307 44 Temp (°C) 16.5 16.5
Construction / Station: BG Flo Lat/Northing: - Surface Middle Deep Comments ¹ :	Activity: ISS D (EW) CS-1 od (EDD) 45.58013 Water Depth (feet) 1 22 41 No Sheen,	CS-2 D S Up River Long/Easting: 12 Turbidity (NTU) 1.82 2.38 2.71 ador, drsc0	Down River) 2.75693 pH (-) 7.16 7.24 7.25 bration, c	Time: 1009 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9.47 9.44 9.39 27 Suspended	. 307 : 49 Temp (°C) 16.5 16.5 16.5 materia (

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

Date: 10 - 1	3-2023		Circuit Numbe	r: 2	
Station: BG	EW CS-D	CS-2 N S		Time: 1016	
Flo	od Æbb	Up River D	own River	Avg. Velocity: O	.299
Lat/Northing:	15.58032	Long/Easting: 122	.75746	Total Water Dept	n: 43
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	2.12	7.24	9.46	16.5
Middle	21.5	2.32	7.21	9.44	16.5
Deep	40	2.53	7.26	9.39	16.5
Construction A Station: BG Flo	Activity: ISS D EW CS-1 od EbB	rilling (S-2 N S Up River /20	own River	Time: 1025 Avg. Velocity: O	.757
Construction A Station: BG Flo .at/Northing:4	Activity: ISS D EW CS-1 od EBB 45. S8028	Up River /2 Long/Easting: 12/2	own River 2.75677	Time: 1025 Avg. Velocity: O. Total Water Depth	.757 1:45.8
Construction / Station: BG Flo Lat/Northing:4	Activity: ISS D EW CS-1 od EbB 45. S8028 Water Depth (feet)	Up River /2 Long/Easting: /2/ Turbidity (NTU)	own River 2.75677 pH (-)	Time: 1025 Avg. Velocity: 0, Total Water Depth DO (mg/L)	
Construction / Station: BG Flo Lat/Northing:4 Surface	Activity: ISS D EW CS-1 od CbB 45. S802.8 Water Depth (feet)	Up River /2 Up River /2 Long/Easting: /2/2 Turbidity (NTU) I .5582	own River 2.75677 pH (-) 7.16	Time: 1025 Avg. Velocity: 0. Total Water Depth DO (mg/L) 9.49	
Construction / Station: BG Flo _at/Northing:4 Surface Middle	Activity: ISS D EW CS-1 od CbB 45. S8028 Water Depth (feet) 1 22. 9	CS-2 N S Up River /2 Long/Easting: /2 Turbidity (NTU) I 5582 2 4 6	own River 2.75677 pH (-) 7.16 7.22	Time: 1025 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9.49 9.44	.757 : 45.8 Temp (°C) 16.5 16.5
Construction / Station: BG Flo Lat/Northing:4 Surface Middle Deep Comments ¹ :	Activity: ISS D EW CS-1 od CDB 45. S8028 Water Depth (feet) 1 22.9 42.8 ANO SWER,	CS-2 N S Up River /0 Long/Easting: 127 Turbidity (NTU) 1.5582 2.46 2.96 2.96	own River 2.75677 pH (-) 7.16 7.22 7.25	Time: 1025 Avg. Velocity: (). Total Water Depth DO (mg/L) 9.49 9.49 9.44 9.42 oc suspend	.757 AS.8 Temp (°C) 16.5 16.5 16.5 20

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6720 South Macadam Avenue, Suite 300 Portland, OR 97219

	Gas	co Sediments	Site ISS Pilo	ot Study	
Date: () -	13-2023		Circuit Number	:3	
Station: (BC	EW CS-1	CS-2 N (5)		Time: 1200	
Flo	od/Ebb	Up River /	Down River	Avg. Velocity:	.373
Lat/Northing:	45.57875	Long/Easting: 12	2. \$75401	Total Water Depth	: 39.2
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	1.83	7.30	9.59	16.5
Middle	19.9	2.37	7.22	9.51	16.5
Deep	36.8	2.56	7.27	9,48	16.5
Construction A	Activity: ISS Dr	CS-2 (N) S	Down River 2	Time: 1250 Ava. Velocity: 0	305
Construction Station: BC Flc Lat/Northing:	Activity: ISS Di €W CS-1 pod /€bD 45.58009	CS-2 N S Up River Long/Easting: [2]	Down River	Time: 1250 Avg. Velocity: 0 Total Water Depth	.305
Construction / Station: BC Flc Lat/Northing:	Activity: ISS Dr G (W) CS-1 pod / CD 45.58009 Water Depth (feet)	CS-2 N S Up River Long/Easting: [2 Turbidity (NTU)	Down River) 2,75692 pH (-)	Time: 1250 Avg. Velocity: 0 Total Water Depth D0 (mg/L)	.305 2.42.6 Temp. (°C)
Construction / Station: BC Flc Lat/Northing: Surface	Activity: ISS Dr Metivity: ISS Dr Sod / CS-1 Dod / CDD 45.58009 Water Depth (feet) 1	CS-2 N S Up River Long/Easting: [2 Turbidity (NTU)	Down River) 2.75692 PH (-) 7.32	Time: 1250 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9,59	.305 42.6 Temp. (°C) 16.6
Construction / Station: BC Flc Lat/Northing: Surface Middle	Activity: ISS Dr Gew CS-1 bod /Ebp 45.58009 Water Depth (feet) 1 21.3	CS-2 N S Up River Long/Easting: [2 Turbidity (NTU) 1,73 2,006	Down River 2.75692 PH (-) 7.32 7.32	Time: 1250 Avg. Velocity: O Total Water Depth DO (mg/L) 9.59 9.51	.305 42.6 Temp. (°C) 16.6 16.5
Surface Deep	Activity: ISS Dr Activity: ISS Dr S (W) CS-1 bod / (E)D 45.58009 Water Depth (feet) 1 21.3 39.6 NO SWIM	CS-2 N S Up River Long/Easting: 12 Turbidity (NTU) 1.73 2.06 2.98	Down River 2.75692 PH (1) 7.32 7.32 7.30 Place tion,	Time: 1250 Avg. Velocity: 0 Total Water Depth DO (mg/L) 9.59 9.51 9.51 9.47 or 35 obs	.305 142.6 Temp (°C) 16.6 16.5 16.5
Construction / Station: BC Flc Lat/Northing: Surface Middle Deep Comments ¹ : Construction / Recorded by:	Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr	CS-2 N S Up River Long/Easting: 12 Turbidity (NTU) 1,73 2.06 2.98 odor disc	Down River 2.75692 PH (-) 7.32 7.32 7.30 Ploration,	Time: 1250 Avg. Velocity: () Total Water Depth DO (mg/L) 9.59 9.51 9.51 9.47 or S5 obs	.305 .305 Temp (°C) 16.0 16.5 16.5 16.5
Construction / Station: BC Flc Lat/Northing: Surface Middle Deep Comments ¹ : Construction / Recorded by:	Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Activity: ISS Dr Simon I vations of floating/susp	CS-2 N S Up River Long/Easting: 12 Turbidity (NTU) 1.73 2.06 2.98 Qdor disc Cilling Dudemoet	Down River 2.75692 PH (-) 7.32 7.32 7.30 Plana fron, Festing restance of the second	Time: 1250 Avg. Velocity: O Total Water Depth DO (mg/L) 9.59 9.51 9.51 9.47 or 35 obs	.305 142.6 Temp (°C) 16.0 16.5 16.5

Station: BG Floor Lat/Northing: 4	EW CEP		Circuit Meunder	- 2	
Flood Lat/Northing: 4	ew our	CC 2 (A) C	Circuit Number	Time: 1:2 00	_
Lat/Northing: 4		(3-2 (N) 5	Ding	Ava Valacity: O	062
Lat/Northing: 4		Up River /		Total Water Depth	· 200
	Water Depth (feet)	Turbidity (NTU)	2 * 15 /4 / pH (-)	D.O. (mg/L)	Temp (°C)
Surface	1	1.55	7.20	9.56	16.5
Middle	20.7	1.76	7.27	9.50	16.5
Deep	38.4	2.15	7.30	9.47	16.5
Construction Act	tivity: IS3 D EW CS-1 (cs-2 W s	Diver	Time: 1.310	2
Construction Ac Station: BG Flood	tivity: I≤3 D EW CS-1 (d/€bb)	CS-2 W S Up River	Down River	Time: 1·310 Avg. Velocity: O 。	377
Construction Ac Station: BG Flood Lat/Northing: 4	tivity: IS3 D EW CS-1 (d/(Ebb) S.S8024 Water Depth	Up River Long/Easting: 1/2	Down River 2 - 75676 pH	Time: 1:310 Avg. Velocity: O Total Water Depth DO	377 : 44,4 Temp
Construction Act Station: BG Flood Lat/Northing: 4	tivity: ISB D EW CS-1 (d/(Ebb) S.S8024 Water Depth (feet)	Up River Long/Easting: /2 (NTU)	Down River 2 - 75676 PH (-)	Time: 1:310 Avg. Velocity: O Total Water Depth DO (mg/L)	377 1:44,4 Temp (°C)
Construction Act Station: BG Flood Lat/Northing: 4 Surface	tivity: $I \le 3$ D EW CS-1 (d/(Ebb) S.S8024 Water Depth (feet) I	Up River Long/Easting: 12 Untribidity (NTU)	Down River 2=75676 pH (-) 7.19	Time: 1:310 Avg. Velocity: O Total Water Depth DO (mg/L) 9,56	377 : 44,4 Temp (°C) 16.6
Construction Ac Station: BG Flood Lat/Northing: 4, Surface Middle	tivity: $I \le 3$ D EW CS-1 (d/(Ebb) S.S8024 Water Depth (feet) 1 22.2 A i A	Up River Long/Easting: 12 Turbidity (NTU) 1.39 2.62	Down River 2=75676 pH (-) 7.19 7.28	Time: 1310 Avg. Velocity: O. Total Water Depth DO (mg/L) 9.56 9.50	377 : 44,4 Temp (°C) 16.6 16.5

COEA :

Station: BG	EW CS-1	a second s	Circuit Numbe	r: 4	
Floor	LVV CO-I	CS-2 (N) S		Time: 1400	
at/Northing)/Ebb	Up River D	Down River	Avg. Velocity: 🔘	.160
card worthing.	5.58039	Long/Easting: 12	2.75803	Total Water Depth	: 41.2
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface		1.97	7.38	9.56	16,5
Middle	20.6	2.57	7.35	9.52	16.5
Deep	38.2	3.93	7.66	9.44	16.5
Construction Ac Station: BG	EW CS-1	CS-2 N (S)	Down River	Time: 1415 Avg. Velocity: 🔿	,376
Construction Ac Station: BG Floo Lat/Northing: 4	EW CS-1 CEW CS-1 CED CS=57918	CS-2 N S Up River / D Long/Easting: 12	Down River	Time: 1415 Avg. Velocity: O Total Water Depth:	,376
Construction Ac Station: BG Floo Lat/Northing: 4	EW CS-1 EW CS-1 Fbb S=57918 Water Depth (feet)	CS-2 N S Up River / D Long/Easting: 12 Turbidity (NTU)	Down River 2.7559) pH (-)	Time: 1415 Avg. Velocity: O Total Water Depth: DO (mg/L)	,376 39,4 Temp. (°C)
Construction Ac Station: BG Floo Lat/Northing: 4 Surface	EW CS-1 EW CS-1 Febb S=57918 Water Depth (feet) I	CS-2 N S Up River / D Long/Easting: 12 Turbidity (NTU) 2.25	Down River 2.7550) pH (-) 7.37	Time: 1415 Avg. Velocity: O Total Water Depth: DO (mg/L) 9 , 5 7	,376 39,4 Temp. (°C) 16,6
Construction Ac Station: BG Floo Lat/Northing: 4 Surface Middle	EW CS-1 EW CS-1 CS-57918 Water Depth (feet) I I9.7	CS-2 N S Up River / D Long/Easting: 12 Turbidity (NTU) 2.25 3.83	Down River 2.7550) pH (-) 7.37 7.55	Time: 1415 Avg. Velocity: O Total Water Depth: DO (mg/L) 9 , 57 9 , 49	,376 39,4 Temp. (°C) 16,6 16,5

Date: 10 - 1	3-2023		Circuit Numbe	r: 4	
Station: BG	EW CS-D	CS-2 N 3	1	Time: 1425	
Flo	od/Ebb	Up River	Down River	Avg. Velocity: O	.409
Lat/Northing:	45.57897	Long/Easting: 12	2.75459	Total Water Dept	h: 36,4
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	1,87	7.28	9.55	16.5
Middle	18.2	2.81	7.42	9.49	16.5
Deep	33.4	3.59	7.68	9.46	16.5
Construction / Station: BG	Activity: 758 EW CS-1	Drilling (S-2) N (S) (Up River)	Down River	Time: 1433 Avg. Velocity: O	,796
Construction / Station: BG	Activity: <u>758</u> EW CS-1 OF Ebb 45, 57951	Drilling CS-2 N C Up River Long/Easting: 12	Down River	Time: 1433 Avg. Velocity: O Total Water Dept	~796 n: 45.8
Construction / Station: BG Ato Lat/Northing: /	EW CS-1 Ebb S, S7951 Water Depth (feet)	Drilling CS-2 N C Up River Long/Easting: 10 Turbidity (NTU)	Down River 2 +75490 pH (-)	Time: 1433 Avg. Velocity: O Total Water Depth DO (mg/L)	, ,796 h: 45,8 Temp (°C)
Construction / Station: BG Eto .at/Northing:/ Surface	Activity: <u>7</u> 58 EW CS-1	Drilling CS-2 N CS Up River Long/Easting: 12 Turbidity (NTU) 1.50	Down River 2.75490 pH (-) 7.31	Time: 1433 Avg. Velocity: O Total Water Depti DO (mg/L) 9.58	~796 h: 45, 8 Temp (°C) 16, 6
Construction / Station: BG Afto Lat/Northing:/ Surface Middle	Activity: <u>7</u> 58 EW CS-1 Od Ebb 45, 57951 Water Depth (feet) 1 22, 7	Drilling (S-2) N (S) Up River Long/Easting: 12 Turbidity (NTU) 1.50 2.13	Down River 2.75490 PH (-) 7.31 7.28	Time: 1433 Avg. Velocity: O Total Water Depti DO (mg/L) 9.58 9.51	~796 h: 45. 8 Temp (°C) 16. 5
Construction / Station: BG Fto Lat/Northing:/ Surface	Activity: <u>7</u> 58 EW CS-1	Drilling CS-2 N S Up River Long/Easting: 10 Turbidity (NTU) 1.50	Down River 2,75490 PH (-) 7,31	Time: 1433 Avg. Velocity: O Total Water Depth DO (mg/L) 9. S8	, ,796 h: 45, 8 Ter (° 16,
Construction / Station: BG Effo Lat/Northing:/ Surface Middle Deep Comments ¹ :	EW CS-1 EW CS-1 Ebb HS. S7951 Water Depth (feet) 1 22.9 42.8 No sheen,	Drilling S-2 N S Up River Long/Easting: 10 Turbidity (NTU) 1.50 2.13 3.65 odors, disco	Down River 2.75490 PH (.) 7.31 7.28 7.65 Doration,	Time: 1433 Avg. Velocity: O Total Water Depti DO (mg/L) 9.58 9.51 9.43 Or SS obsu	~796 n: 45.8 Temj (°C) 16.5 16.5 erved
Construction / Station: BG Effo Lat/Northing:/ Surface Middle Deep Comments ¹ : (Construction A	Activity: <u>TS8</u> EW CS-1	Drilling CS-2 N CS Up River Long/Easting: 10 Turbidity (NTU) 1.50 2.13 3.65 odors, disco	Down River 2.75490 PH (.) 7.31 7.28 7.65 Doration,	Time: 1433 Avg. Velocity: O Total Water Depth DO (mg/L) 9.58 9.51 9.43 Or SS obsu	~796 n: 45.8 Temp (°C) 16.5 16.5 16.5 erved
Construction / Station: BG Effo Lat/Northing:/ Surface Middle Deep Comments ¹ : Construction A Recorded by:	Activity: <u>758</u> EW CS-1	Drilling Up River Long/Easting: 12 Turbidity (NTU) 1.50 2.13 3.65 odors, disco Drilling Uderhoefer	Down River 2.75490 PH (.) 7.31 7.28 7.65 Doration,	Time: 1433 Avg. Velocity: O Total Water Depti DO (mg/L) 9.58 9.51 9.43 Or SS obsu	~796 n: 45, 8 Temp (°C) 16,5 16,5 16,5

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Date: [0 - 12 Station: BG (food Lat/Northing: 4	B - 2023 EW CS-1			the second se	
Station: BG (000 Lat/Northing: 4	EW CS-1		Circuit Numbe	. 5	
Lat/Northing: 4	Fbb	CS-2 (N) S		Time: 1600	
Lat/Northing: 4 '	/	Up River / I	Down River	Avg. Velocity: O	.670
	5.58036	Long/Easting: 12	2.75795	Total Water Depth	44.6
1	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp (°C)
Surface	1	1.36	7.32	9.56	16.5
Middle	22.3	1.74	7.29	9.52	16.5
Deep	41.6	1.76	7.26	9.49	16.5
Station: BG	EV CS-1	CS-2 N (5)		Time: 16[3	0.5.5
Station: BG	EV CS-1	CS-2 N C	Down River	Time: 16(3 Avg. Velocity: Q	273
Station: BG	KITY: <u>LSS</u> (EV) CS-1 (Febb CS-7910 Water Depth (feet)	CS-2 N C CS-2 N C CDp.River / I Long/Easting: 2(Turbidity (NTU)	Down River 2 *7547 <i>5</i> PH (-)	Time: 16(3 Avg. Velocity: Q Total Water Depth: DO (mg/L)	273 44.4 Temp (°C)
Station: BG	Wity: LSS D EVB CS-1 CS-1 CS CS CS Water Depth (feet) C	CS-2 N C CS-2 N C CDp.River / I Long/Easting: 2(Turbidity (NTU) 1,52	Down River 2 - 75475 PH (-) 7 - 30	Time: 16(3 Avg. Velocity: Q Total Water Depth: DO (mg/L) 9.56	273 14.4 Temp (°C) 16.5
Station: BG	Wity: LSS D EVB CS-1 / Ebb S.S7910 Water Depth (feet) 22.22 2	CS-2 N C CS-2 N C CDp.River / I Long/Easting: 2(Turbidity (NTU) 1.52 1.65	Down River 2 * 75475 pH (-) 7 * 30 7 * 30	Time: 16(3 Avg. Velocity: Q Total Water Depth: DO (mg/L) 9.56 7,52	273 44.4 Temp (°C) 16.5

C ANCHOR 6720 South Macadam Avenue, Suite 300 Portland, OR 97219 1060 # 21E103678 YSI PropSS #6970 Water Quality Monitoring Form – Field Parameters Gasco Sediments Site ISS Pilot Study Date: 10-13-2023 Circuit Number: 5 1622 Time: Station: BG EW CS-D CS-2 NS Avg. Velocity: 0.08 Flood / Ebb Up River / Down River Lat/Northing: 45. 57889 Long/Easting: 122.75458 Total Water Depth: 35.6 D.O. Temp. Water Depth pH Turbidity (°C) (feet) (-) (mg/L)(NTU) 7.39 6.5 9.55 .75 Surface 7.38 6.5 92 9.52 17.8 Middle 1.85 9,50 6.5 32.6 7.40 Deep comments: • No sheen, odor, discoloration, or suspended material observed Construction Activity: ISS Drillin 9 CS-1 (CS-2) N (S) 63 Station: BG EW Time: Avg. Velocity: 0,341 Flood / Ebb Up River / Down River Long/Easting: 122-75493 Total Water Depth: 49.6 Lat/Northing: 45, 57958 Water Depth Temp. Turbidity pH DO (feet) (NTU) (-) (mg/L)(°C) 7.29 1. S4 9.54 16.5 Surface 9.49 1.88 7.26 24.8 Middle 16.S 6.22 8.03 9.45 46.6 Deep Comments¹: · no sheen, odor, discoloration, or 55 obsured Construction Activity: ISS Drillin 7 Simon Recorded by: Dudenhoefer 1. Include observations of floating/suspended material, sheens, discoloration, and odors. * 55 = suspended solids (material

CS-1 C 7877 1 er Depth feet) 1 0.6 8.2 Sween, odd TSS Pr 0 CS-1 C	Up River A Up River A Long/Easting: 12 Turbidity (NTU) 2.20 2.31 2.35 or, discolore	2.75406 PH (-) 7.14 7.21 7.25	Time: 0830 Avg. Velocity: 0 Total Water Depth D.O. (mg/L) 9.92 9.89 9.89 9.86 85 065erv	859 41.2 Temp. (°C) 16.3 16.3
D 7877 1 er Depth feet) 1 0.6 8.2 Sween, odd TSS Pr D CS-1 C	Up River A Long/Easting: 12 Turbidity (NTU) 2.20 2.31 2.35 or, discolore	2.75406 PH (-) 7.14 7.21 7.25 T.25	Avg. Velocity: O Total Water Depth D.O. (mg/L) 9.92 9.89 9.89 9.86 85 065erv	859 41.2 Temp. (°C) 16.3 16.3
7877 1 er Depth feet) 1 0.6 8.2 Sween, od TSS Pr	Interpretation in the second s	2.75406 PH (-) 7.14 7.21 7.25	Total Water Depth D.O. (mg/L) 9.92 9.89 9.86 35 065erv	41.2 Temp. (°C) 16.3 16.3
TSS Pr	Turbidity (NTU) 2.20 2.31 2.35 or, discolore	рн (-) 7.14 7.21 7.25	D.O. (mg/L) 9.92 9.89 9.86 35 065erv	Temp. (°C) 16.3 16.3 16.3
1 0.6 8.2 Sween, od ISS Pr	2.20 2.31 2.35 or, discoloro	7.14 7.21 7.25	9.92 9.89 9.86 35 observ	16.3 16.3 16.3
2.6 8.2 Sween, od ISS Pr	2.31 2.35 or, discolore	7.21 7.25	9.89 9.86 35 observ	16.3 16.3
B.2 Sheen, od ISB Pr	2.35 or, discolore	7.25 ation, or :	9.86 35 065erv	16.3
ISB Pr	or, discolore	ation, or s	35 observ	ed
0	Op River A	20WIL RIVER	Avg. velocity: O	645
er Depth (feet)	Turbidity (NTU)	2 - 15688 pH (-)	DO (mg/L)	46.6 Temp.
1	2.11	7,22	9,90	16.3
3.3	1.92	7.21	9.88	16.3
3.6	2.34	7.26	9,85	16.3
3.3 3.6 Wen,00	1.92 2.34 or, discolor	7.21 7.26 ation, or	9.88 9.85 55 observe	16. 16.
	er Depth (feet) 3.3 3.6	er Depth (feet) 1 3.3 1.92 3.6 2.34 Sween, o dor, discolor	er Depth Turbidity pH (feet) (NTU) (-) 1 2.011 7.22 3.3 1.92 7.21 3.6 2.34 7.26 Swen,odor, discoloration, or 1	Construing. PZ 2. 15600 Iotal Water Depth. er Depth Turbidity pH DO (feet) (NTU) (-) (mg/L) 1 2.011 7.22 7.90 3.3 1.92 7.21 9.88 3.6 2.34 7.26 9.85 Sween,odor, discoloration, or 55 observe

C ANCHOR

itation: BG EW CS-2 N S Time: 0902 Flood / ED Up River / Down River Avg. Velocity: $O_{-}622$ at/Northing: 45. \$8031 Long/Easting: $122, 75746$ Total Water Depth: 45 Water Depth Turbidity pH D.O. Temp (feet) (NTU) (-) (mg/L) (°O Surface I 2.22 7.24 9.90 16.3 Middle 22.05 2.15 7.66 9.88 16.5 Deep 42 2.62 7.33 9.82 16.3 Demments ¹ : • No Sween, 9 dor, discoloration, or 55 ebserved • Large Vessel passed Worker/Down River Avg. Velocity: 0.624 • Modyle Up River / Down River Avg. Velocity: 0.624 O.624 • Modyle Up River / Down River Avg.
Flood / 60 Up River / $00m$ River Avg. Velocity: 0.622 at/Northing: 45. 38031 Long/Easting: 122.75746 Total Water Depth: 45 Water Depth (feet) Turbidity (NTU) pH D.O. Temp (mg/L) Surface 1 2.22 7.24 9.90 16.3 Middle 22.5 2.15 7.16 9.88 16.3 Deep 42 2.62 7.33 9.82 16.3 omments ¹ : \circ No Shien, $9 dor, discoloration, or S5 ebserved ebserved ebserved ebserved etarge Vessel passed workesite 0.907 ebserved ebserved etarge Vessel passed workesite 0.907 $
at/Northing: 45, $\$8031$ Long/Easting: $122, 75746$ Total Water Depth: 45 Water Depth (feet) Turbidity (NTU) pH D.O. Temp (mg/L) Surface 1 2.222 7.244 9.90 16.3 Middle 22.55 2.15 7.016 9.88 16.5 Deep 42 2.62 7.33 9.82 16.3 Deep 42 2.62 7.33 9.82 16.3 omments ¹ : \circ No $\$ken, 940r, 413 coloration, or 55 ebserved ebserved \bullet Large Vessel passed workesite @ 0907 onstruction Activity: T53 Drilling tation: BG EW CS-1 CS-2 N S Flood (Ebb) Up River (Down River Avg. Velocity: 0.624 624 t/Northing: 45. Long/Easting: 122. Total Water Depth: 48.4 Water Depth Turbidity pH DO Temp. (feet) (NTU) (-) (mg/L) (cc) Surface 1 2.077 7.28 9.91 16.3 Middle 24.2$
Water Depth (feet) Turbidity (NTU) pH (-) D.O. (mg/L) Temp (°O) Surface 1 2.22 7.24 9.90 16.3 Middle 2.2.05 2.15 7.16 9.88 16.3 Deep 42 2.62 7.33 9.82 16.3 Deep 42 2.62 7.33 9.82 16.3 omments': No Swlen, 9.407, discoloration, or 55 6520702d onstruction Activity: TS3 Drilling tation: BG EW CS-1 CS2 N S Time: 0.911 Flood /{Ebb Up River /Down River Avg. Velocity: 0.624 4.4 Vorthing: 45, Long/Easting: 122, Total Water Depth: 4.8,4 Water Depth Turbidity pH DO Temp, (feet) (NTU) (-) (mg/L) (°C) Surface 1 2.077 7.28 9.91 16.3 Middle 2.4, 2 2.79 7.21
Surface 1 2.22 7.24 9.90 16.3 Middle 22.05 2.15 7.16 9.88 16.3 Deep 42 2.62 7.33 9.82 16.3 Demments': No Sween, 940r, drochteste 00907 55 pbserved 16.3 Donstruction Activity: IS3 Drilling Drilling 16 16.3 Instruction Activity: IS3 Drilling Water Cs-1 Cs-2 N S Flood /Ebb Up River /Down River Avg. Velocity: 0.624 48.4 Kithorthing: AS. Long/Easting: 122. Total Water Depth: 48.4 Water Depth Turbidity pH DO Temp. (feet) (NTU) (-) (mg/L) (°C)
Middle 2.2.0.5 2.1.5 7.1.6 9.88 16.5 Deep 4.2 2.62 7.33 9.82 16.5 omments1: No sween, 9.40r, discoloration, or 55 9.65erved a Large Vessel passed workesite @ 0907 onstruction Activity: TS3 Drilling station: BG EW CS-1 CS-2 No S Time: 0911 Flood /Ebb Up River /Down River Avg. Velocity: 0.624 Total Water Depth: 48.4 Water Depth Turbidity pH DO Temp. Surface 1 2.07 7.28 9.91 16.3 Middle 2.4.2 2.79 7.21 9.92 16.3
Deep 42 2.62 7.33 9.82 16.5 omments ¹ : • No Sheen, ofor, discoloration, or SS ebserved • Large Vessel passed workesite @ 0907 onstruction Activity: IS3 prilling itation: BG EW CS-1 CS-2 N S Time: 0911 Flood (Ebb) Up River / Down River Avg. Velocity: 0.624 vt/Northing: 45. Long/Easting: 122. Total Water Depth: 48.4 Water Depth Turbidity pH DO Temp. (feet) (NTU) (-) (mg/L) (°C) Surface 1 2.077 7.28 9.91 16.3 Middle 24.2 2.79 7.21 9.92 16.3
omments': No sheen, ator, discoloration, or 55 ebserved a Large Vessel passed workesite @ 0907 onstruction Activity: IS3 Drilling tation: BG EW CS-1 CS-2 N S Time: 0911 Flood/Ebb Up River/Down River Avg. Velocity: 0.624 tr/Northing: AS. Long/Easting: 122. Total Water Depth: 48.4 Water Depth Turbidity pH D0 Temp. (feet) (NTU) (-) (mg/L) (°C) Surface 1 2.07 7.28 9.91 16.3 Middle 24.2 2.79 7.21 9.92 16.3
Water Depth (feet) Turbidity (NTU) pH (-) DO (mg/L) Temp. (°C) Surface 1 2.07 7.28 9.91 16.3 Middle 24.2 2.79 7.21 9.92 16.3
Surface 1 2.07 7.28 9.91 16.3 Middle 24.2 2.79 7.21 9.92 16.3
Middle 24.2 2.79 7.21 9.92 16.3
1-1 0-7/ - 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Deep 45.4 5.16 7.29 9.92 6.2

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

Sec.

Date: Q -	4-2023		Circuit Numbe	er: 2	
Station: BG	EW CS-1	CS-2 N 5		Time: 1030)
Floc	od / tbb	Up River / I	Down River	Avg. Velocity:	.339
Lat/Northing:	15.57877	Long/Easting: 12	2-75401	Total Water Depth	: 37.2
	Water Depth (feet)	Turbidity (NTU)	рН (-)	D.O. (mg/L)	Temp. (°C)
Surface	1	1.89	7.23	9.92	16.3
Middle	18.6	3.42	7.28	9,92	16.1
Deep	34.2	4.17	7.28	9,89	16.2
Comments': Collected Construction A Station: BG Floc	Chimist g sa chimist g sa ctivity: I SS Di CEV CS-1	odor, discolo Mple here @ <u>silling</u> cs-2 (N) s Up River K	each dept	Time: 1037 Avg. Velocity: 0	.373
Comments': Construction A Station: BG Floc Lat/Northing:	No sheen, Chimist g sa ctivity: ISS Di EN CS-1 od/@0 tS. S8014	odor, discolo Mple here @ Tilling CS-2 N S Up River A Long/Easting: 129	each dept	Time: 1037 Avg. Velocity: O Total Water Depth	.373 :46.2
Comments': Construction A Station: BG Floc Lat/Northing:	No sheen, Chimist g sa ctivity: ISS Di EW CS-1 od/ED tS.S8014 Water Depth (feet)	odor, discolo mple here @ -111111 CS-2 N S Up River A Long/Easting: 129 Turbidity (NTU)	cation, or each dept 2.75687 PH (-)	Time: 1037 Avg. Velocity: O Total Water Depth DO (mg/L)	.373 : 46.2 Temp. (°C)
Comments': Construction A Station: BG Floc Lat/Northing: 4 Surface	No sheen, Chimist g sa ctivity: ISS Di (EV) CS-1 od /(ED) (S. S8014 Water Depth (feet)	odor, discolo mple here @ 	cown. River 2.75687 PH (-) 7.28	Time: 1037 Avg. Velocity: O Total Water Depth DO (mg/L) 9.92	.373 :46.2 Temp. (°C) 16.3
Comments': Construction A Station: BG Floc Lat/Northing: Surface Middle	No sheen, Chimist g sa ctivity: ISS Di EW CS-1 od/OD tS. S8014 Water Depth (feet) 1 23.1	odor, discolo Mple here @ -111111 CS-2 N S Up River A Long/Easting: 129 Turbidity (NTU) 2.38 3.65	cown. River 2.75687 PH (-) 7.28 7.21	Time: 1037 Avg. Velocity: O Total Water Depth DO (mg/L) 9,92 9,92	.373 :46.2 Temp. (°C) 16.3 16.2
Comments': Construction A Station: BG Floc Lat/Northing: Surface Middle Deep Comments ¹ :	No sheen, Chimist g sa ctivity: ISS Di EW CS-1 od/OD tS. S8014 Water Depth (feet) 1 23.1 43.1 No sheen,	odor, discolo mple here @ mple here # mple here # mpl	cartion, or each tept 2.75687 PH (-) 7.28 7.21 7.21 7.26	Time: 1037 Avg. Velocity: O Total Water Depth DO (mg/L) 9.92 9.92 9.92 9.92 9.89	.373 :46.2 Temp (°C) 16.3 16.2 16.2
Comments': Construction A Station: BG Floc Lat/Northing: Surface Middle Deep Comments ¹ : Construction A	No sheen, chimist g sa ctivity: ISS Di (EW) CS-1 od/(D) (S. S8014 Water Depth (feet) 1 23.1 No sheen, ctivity: ISS D	odor, discolo mple here @ illing cs-2 N s Up River A Long/Easting: 129 Turbidity (NTU) 2.38 3.65 3.87 odor, discolo prilling	cown. River 2.75687 PH (-) 7.28 7.21 7.26 pration, gr	Time: 1037 Avg. Velocity: O Total Water Depth DO (mg/L) 9.92 9.92 9.92 9.92 9.92 9.92 9.89	ved .373 :46.2 Temp. (°C) 16.3 16.2 16.2 16.2

Station: BG EW ED CS-2 N S Time: 1052 Flood / EDD Up River / DOWN River Avg. Velocity: 0.066 Lat/Northing: 45.58030 Long/Easting: 122.75746 Total Water Depth: 44. Water Depth Turbidity pH D.O. Term (feet) (NTU) (-) (mg/L) (% Surface I 2.51 7.26 9.93 16.7 Middle 22.2 3.22 7.23 9.91 16.7 Deep 41.4 3.41 7.30 9.88 16.7 Comments ¹ : No SWen, odor, discoloration, or SS observed Served Construction Activity: ISS Drilling S Time: 103
Flood / EbbUp River Down RiverAvg. Velocity: 0.066Lat/Northing: 45.58030Long/Easting: 122.75746Total Water Depth: 44.Water DepthTurbiditypHD.O.(feet)(NTU)(-)(mg/L)Surface12.517.26Middle22.23.227.23Deep41.43.417.30Peep41.43.417.30Comments': NO SWLEN, Odor, discoloration, or SS observedConstruction Activity: ISS DrillingStation: BG EW CS-1S-2NSTime: 103
Lat/Northing: 45.58030 Long/Easting: 122.75746 Total Water Depth: 44. Water Depth (feet) Turbidity (NTU) pH D.O. Ter (mg/L) Surface 1 2.51 7.26 9.93 16.7 Middle 22.2 3.22 7.23 9.91 16.7 Deep 41.4 3.41 7.30 9.88 16.7 Comments': • No Siven, odor, discoloration, or 55 06 served Construction Activity: ISS Drilling S Time: 1103
Water Depth (feet) Turbidity (NTU) pH (-) D.O. (mg/L) Ter (mg/L) Surface 1 2.51 7.26 9.93 16.1 Middle 22.2 3.22 7.23 9.91 16.1 Deep 41.4 3.41 7.30 9.88 16.2 Comments1: NO SWLEN, Odor, discoloration, or 55 observed Construction Activity: ISS Drilling Station: BG EW CS-1 S-2 N S Time: 103
Surface 1 2.51 7.26 9.93 16.1 Middle 22.2 3.22 7.23 9.91 16.1 Deep 41.4 3.41 7.30 9.88 16.2 Comments1: No Sween, odor, discoloration, or 55 observed Construction Activity: ISS Drilling Station: BG EW CS-1 CS-2 N S Time: 103
Middle 22.2 3.22 7.23 9.91 16.1 Deep 41.4 3.41 7.30 9.88 16.2 Comments': • No Sween, odor, discoloration, or 55 observed Construction Activity: ISS Drilling Station: BG EW CS-1 S.20 N S Time: 1103
Deep 41.4 3.41 7.30 9.88 16.2 Comments': NO SWLEN, Odor, discoloration, or SS observed Construction Activity: ISS Drilling Station: BG EW CS-1 (S-2) (N S Time: 103
Comments': NO SWEEN, ODOR, discoloration, or 55 observed Construction Activity: ISS Drilling Station: BG EW CS-1 (S-2) (N) S Time: 1103
at/Northing: 45.58024 Long/Easting: 122,75676 Total Water Depth: 47, 4
Water Depth (feet)TurbiditypHDOTen(feet)(NTU)(-)(mg/L)(°C)
Surface 1 1.82 7.26 9.94 16.
Middle 23.7 2.77 7.22 9.93 16:
Deep 44.4 4.69 8.35 9.89 16.

Attachment 4 Water Quality Sampling Forms – Chemical Parameters

ANCHOR		672	20 S Macadam Ave., Suite 30
Circuit #	12 - Flood Tide -	- ISS Drillin	Portland, OR 982:
Water C	uality Sampling Fo Gasco Sediment Si	rm - Chemical Pa te ISS Pilot Stud	arameters lv
Background Station ID:	BG-IN		
Lat/Northing: 45, S&C	076	Long/Easting: 22.	75848
Total Water Depth: 4	i.6	Sample Depth: 41	6
Sample ID: NWN - B(SIN-231009 1315	Date: 10-9-73	Time: 1315
• No Swan, od	or, discoloration, or CS-15	suspended mate	run) observed
at/Northing: 45, 57	\$90	Long/Easting: パクク、	75463
Fotal Water Depth:	40.4	Sample Depth: 37	.4
Sample ID: NWN - C	51 5-2310091250	Date: 10-9-23	Time: 12 ≤ 0
Collected X2 125 No sheen, od	ted using Van Dorn m1 amber glass and x2 urs, discoloration,	sampler 125ml amber poly or suspended a	1 containers material observed
	Analytical	Suite	
Analyte	Bottle	Method	Preservative
Free Cyanide	125-mL Amber Poly	ASTM D4282	NaOH
(DALL	125-mL Amber Poly		None
PAHs	2 X 125-mL Amber Glass	EPA 8270D SIM	None

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

V OFA	6720	0 S Macadam Ave., Suite 3
Circuit #2 - Flood Ti	to - TSS Da	Portland, OR 982
Water Quality Sampling For Gasco Sediment Si	rm - Chemical Pa	rameters
Background Station ID: $BG - IN$		
Lat/Northing: 45, S0072	Long/Easting: 122.	75856
Fotal Water Depth: 47.4	Sample Depth: 23	.7
Sample ID: NWN - BG[N -231009150	O Date: 10-9-23	Time: \ 500
a No share a for disclosed		
Compliance Station ID: CS-1S	or suspended ma	ternal observed
at/Northing: 45.57894	Long/Easting: 10.0	ternal observed
Compliance Station ID: CS-1S at/Northing: 45.57894 Total Water Depth: 36.8	or Suspended Ma Long/Easting: 122. Sample Depth: 33	ternal observed 75467 2818.4
Compliance Station ID: CS-1S at/Northing: 45.57894 Total Water Depth: 36.8 ample ID: NWN - CSIS - 23100 9 1445	or Suspended Ma Long/Easting: 122. Sample Depth: 33 Date: 10-9-23	ternal observed 75467 2818.4 Time: 1445
Compliance Station ID: CS-IS at/Northing: 45.57894 Total Water Depth: 36.8 Sample ID: NWN - CSIS - 2310091445 Comments ^[1] : , Collected using Van Dorr Collected x 2 125ml amber glass and Collected x 2 125ml amber glass and No swen, odor, discoloration, or	or suspended ma Long/Easting: 122. Sample Depth: 33 Date: 10-9-23 Samples *2 125ml ander p suspended mater	ternal observed 75467 2818.4 Time: 1445 Time: 1445 Time: 1445
Compliance Station ID: CS-IS at/Northing: 45.57894 otal Water Depth: 36.8 ample ID: NWN - CSIS - 2310091445 omments ^[1] : , Collected using Van Dorr Collected x2 125ml amber glass and collected x2 125ml amber glass and No SWAN odor, discoloration, or Analytical	or suspended ma Long/Easting: 122. Sample Depth: 33 Date: 10-9-23 Somples *2 125ml ander p Suspended mater Suspended mater	ternal observed 75467 2818.4 Time: 1445 Time: 1445 Time: 1445
Compliance Station ID: CS-IS at/Northing: 45.57894 otal Water Depth: 36.8 ample ID: NWN - CSIS - 23100 9 1445 omments ⁽¹⁾ : , Collected using Van Dorr Collected x 2 125ml amber glass and No SWAN odor, discoloration, or Analytical Analyte Bottle Bottle	or Suspended ma Long/Easting: 122. Sample Depth: 33 Date: 10-9-23 Somples ×2 125ml ander F Suspended mater Suspended mater Suspended mater	ternal observed 75467 2818.4 Time: 1445 Soly containers Sial observed Preservative
Compliance Station ID: CS-IS at/Northing: 45.57894 Total Water Depth: 36.8 ample ID: NWN - CSIS - 2310091445 comments ^[1] : , Collected using Van Dorr Collected x 2 125ml ander glass and No Swen odor, discoloration, or Analytical Pree Cyanide 125-mL Amber Poly 125-mL Amber Poly	or Suspended ma Long/Easting: 122. Sample Depth: 33 Date: 10-9-23 Nomples X2 125ml ander p Suspended mater Suspended mater Suite Method ASTM D4282	ternal observed 75467 2818.4 Time: 1445 Time: 1445

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



	Gasco Sediments Sit	e ISS Pilot Study	
Background Station ID:	NWN-251N-23	0110917	CS1N
at/Northing: 45.5	803	Long/Easting: 122	75755
Total Water Depth: \mathcal{U}	3.4	Sample Depth: 4	0.4
ample ID: NWN-CS	52N-2310110917	Date: 10-11-2023	Time: 091フ
Compliance Station ID: Lat/Northing: ロら、ら	BG15 7879	Long/Easting: ノンフ. Sample Depth: 3~	.75406
Fotal Water Depth: Sample ID: $MWM - B$ Comments ¹ :	40.2 615-23101/0933	Date: 10-11-2023	Time: 0923
Total Water Depth: Sample ID: ルレルー乃 Comments ¹ : No いらんえ ちら	40.2 G15-2310110933 So, sheen, clisic brothen Analytical	Date: 12-11-2023 or others was ob	Time: 0923
Fotal Water Depth: Sample ID: ルレルーろ Comments ¹ : No いらんえ ごう Analyte	40.2 G15-2310110933 Son, Sheen, clisic braition Analytical Bottle	Date: 12-11-2023 or others was ob Suite Method	Time: 0923
iotal Water Depth: iample ID: ルレルーパ Comments ¹ : No いらん ろう Analyte	40.2 G15-2310110933 So, Sheen, clisic brothon Analytical Bottle 125-mL Amber Poly	Date: 12-11-2023 or others was ob	Time: 0923 served . Preservative NaOH
Fotal Water Depth: Sample ID: ルレルーろ Comments ¹ : No いらんえ ろう Analyte Free Cyanide	40.2 G15-23101/2933 So, Sheen, cl.soborntion Analytical Bottle 125-mL Amber Poly 125-mL Amber Poly	Date: 12-11-2023 or others was ob	Time: 0923 served. Preservative NaOH None

C OEA

Wat	ter Quality Sampling For Gasco Sediments Si	rm – Chemical Para ite ISS Pilot Study	meters				
Background Station ID	BG-15						
Lat/Northing: 45.5	7880	Long/Easting: (22,	75407				
Total Water Depth: 4.4	1.2	Sample Depth: 41	.2				
Sample ID: NWN-E	615-2310121835	Date: 10-12-23	Time: 835				
· (ollected ×2	lor, discoloration, or	suspended mat	erial observed				
Compliance Station ID	: C5-2N						
Lat/Northing: 45,58027 Long/Easting: 122, 75673							
Total Water Depth: SC	.6	Sample Depth: 47.	6				
Sample ID: NWN - C	52N-2310121825	Date: 10-12-23	Time: 1825				
· Cellected XZ · Sample cl · No swen, ode	ited using van Dorn si 12.5ml amber glasg oudy response or, discoloration, or su	ampler and rlamber pol uspended materia	y containers 1 observe1				
Analuto	Bottle	Method	Preservative				
Free Cyanide	125-mL Amber Poly	ASTM D4282	NaOH _None				
PAHS	2 X 125-mL Amber Glass	EPA 8270D SIM	None				
· Callecter and	recarded by Simp	n Dudenhoefer	ea in the comments.				

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Water	Quality Sampling For Gasco Sediments Sit	m – Chemical Paran e ISS Pilot Study	neters
Background Station ID:	G-15		
Lat/Northing: 45.578	570	Long/Easting: 122.	75405
Total Water Depth: 39		Sample Depth:	
Sample ID: NWN - BG	15-2310141205	Date: 10-14-23	Time: 1205
• No. Shillin 1000 Compliance Station ID: (Lat/Northing: 45, S80	or, discoloration, s 25-2N 24	Long/Easting: 12.2.	15668
Total Water Depth: 47		Sample Depth: 1	
Sample ID: NWN - CS	2N-2310141145	Date: 10-14-23	Time: 1 (45
· Callected x2 12 · No sheer,	to using Van P Sml anderglass and odor, disceleration	orn sampler x125m1 x1 comber poly c n, or SS obse	ontainess rved
Analyte	Bottle	Method	Preservative
Free Cyanide	125-mL Amber Poly	ASTM D4282	NaOH None
PAHs	2 X 125-mL Amber Glass	EPA 8270D SIM	None
* SS = SUSPE * recorded +	collected by Sin	non Dudenho.	ed in the comments.

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Water	Quality Sampling For Gasco Sediments Sit	m – Chemical Paran e ISS Pilot Study	neters
Background Station ID: F	36-15		
Lat/Northing: 45, 578	10	Long/Easting: 122 ,	75405
Total Water Depth: 39		Sample Depth: 19 ,	5
Sample ID: NWV - BG	15-2310141210	Date: 10-14-23	Time: 1210
Comments : · Co ILCte	using Van Dorn	n sampler	
· NO Sheen, od c Compliance Station ID: (or, discoloration,	or SS observ	ied
Lat/Northing: 45.5809	24	Long/Easting 122.7	15668
Total Water Depth: 47		Sample Depth: 23	, 5
Sample ID: NWN-52	N-2310141150	Date: 10-14-23	Time: 1150
· Collected ×21 • No sheen, odo	ed Using Van Dorn 25ml amber glass and or, discoloration, or	sampul 1×1125mlanderp 55 observed	oly containers
	Analytical	Suite	
Analyte	Bottle	Method	Preservative
Free Cyanide	125-mL Amber Poly	ASTM D4282	NaOH None - 🔊
PAHS	2 X 125-mL Amber Glass	EPA 8270D SIM	None
* SS=SUSP	ended solids/w	atcria/	ea in the comments.

CREA -

Water	r Quality Sampling For Gasco Sediments Si	m – Chemical Para te ISS Pilot Study	meters
Background Station ID:	BG-15		
Lat/Northing: 45, 578	370	Long/Easting: 122 e	75405
Total Water Depth: 39		Sample Depth: 36	1
Sample ID: NWN - BC	615-2310141215	Date: 10-14-23	Time: 1215
• Collected ×2 122 each sample • No sween, odo Compliance Station ID:	ml an burglass + ×1	125ml amber poly o or SS observed	iontainers for
Lat/Northing: 45, 58	.024	Long/Easting: 122.	75668
Total Water Depth: 47		Sample Depth: 44	
Sample ID: NWN - C	\$2N-231014115	5 Date: 10 - 14 - 23	Time: 1155
· Collected ×2 1: • No sheen, a	dor, discoloration,	er SS observes	ly containess f
Analyte	Bottle	Method	Preservative
Free Cyanide	125-mL Amber Poly 125-mL Amber Poly-20	ASTM D4282	NaOH None Sta
PAHs	2 X 125-mL Amber Glass	EPA 8270D SIM	None
PAHS 1. Observations of floating/su: * SS = SUSPER * recorded +	spended material, sheens, discoloration ted solids/material collected by Simi	epa 8270D SIM on, and /or odors will be record reals on Dudenhoe	None lea in the comments.

Attachment 5 Water Quality Field Parameter Measurements

			Flow Direction			Total Water	Monitoring		Measured	Background Corrected				
Circuit	Monitoring		(Upriver/		North/	Depth	Depth	Depth	Turbidity	Turbidity		DO	Temperature	Chemistry
No.	Date	Time	Downriver)	Station	South	(feet)	(feet)	Zone	(NTU)	(NTU) ¹	рΗ	(mg/L)	(C°)	Sample
							1	Surface	1.16		7.03	9.88	16.2	
		12:57	E	BG-1N	North	45.6	22.8	Middle	1.21		7.10	9.87	16.1	
							42.6	Deep	1.64		7.11	9.79	16.1	Х
							1	Surface	1.43	0.27	7.21	9.94	16.1	
		12:03		EW-1S	South	43	21.5	Middle	1.37	0.16	7.15	9.82	16.1	
1	10/9/2023		Upriver				40	Deep	3.75	2.11	7.98	9.75	16.1	
	10/3/2023		opinei				1	Surface	1.23	0.07	7.11	9.86	16.2	
		12:21		CS-1S	South	40.6	20.3	Middle	1.49	0.28	7.18	9.84	16.1	
							37.6	Deep	3.65	2.01	7.78	9.77	16.1	Х
			CS-2S			1	Surface	1.26	0.1	7.14	9.88	16.1		
		12:32		CS-2S	South	46.4	23.2	Middle	1.33	0.12	7.08	9.83	16.1	
							43.4	Deep	2.17	0.53	7.14	9.80	16.1	
							1	Surface	0.87		7.17	9.94	16.2	
		14:03		BG-1N	North	47.2	23.6	Middle	1.42		7.15	9.88	16.2	Х
							44.2	Deep	1.49		7.16	9.84	16.2	
							1	Surface	2.16	1.29	7.32	9.90	16.2	
		14:14		EW-1S	South	42.4	21.2	Middle	2.35	0.93	7.38	9.86	16.2	
2	10/9/2023		Upriver				39.4	Deep	2.49	1	7.52	9.83	16.2	
-	10, 3, 2023		opinei				1	Surface	1.56	0.69	7.30	9.91	16.2	
		14:25		CS-1S	South	32.0	16	Middle	1.94	-0.41	7.28	9.88	16.2	Х
							29	Deep	1.75	0.26	7.30	9.86	16.2	
							1	Surface	0.94	0.07	7.19	9.96	16.2	
		14:32		CS-2S	South	47.0	23.5	Middle	1.18	-0.24	7.15	9.89	16.2	
							44.0	Deep	1.17	-0.32	7.17	9.84	16.2	

			Flow Direction			Total Water	Monitoring		Measured	Background Corrected				
Circuit	Monitoring		(Upriver/		North/	Depth	Depth	Depth	Turbidity	Turbidity		DO	Temperature	Chemistry
No.	Date	Time	Downriver)	Station	South	(feet)	(feet)	Zone	(NTU)	(NTU) ¹	рН	(mg/L)	(C°)	Sample
-							1	Surface	1.25		7.17	9.89	16.0	
		9:30		BG-1S	South	39.4	19.7	Middle	1.43		7.21	9.86	16.0	
							36.4	Deep	1.32		7.22	9.83	16.0	
							1	Surface	1.05	-0.2	7.23	9.91	16.0	
		9:40		EW-1N	North	42.8	21.4	Middle	1.22	-0.21	7.25	9.87	16.0	
1	10/10/2023		Downriver				39.8	Deep	5.93	4.61	7.62	9.82	16.0	
	10/10/2023		Downine				1	Surface	1.10	-0.15	7.24	9.90	16.0	
		9:50		CS-1N	North	41.2	20.6	Middle	1.75	0.32	7.27	9.87	16.0	
							38.2	Deep	1.59	0.27	7.35	9.84	16.0	
			2		North	44.6	1	Surface	1.01	-0.24	7.21	9.90	16.0	
		10:02		CS-2N N			22.30	Middle	1.47	0.04	7.24	9.85	16.0	
							41.6	Deep	1.35	0.03	7.31	9.81	16.0	
							1	Surface	0.82		7.11	9.83	15.9	
		8:32		BG-1S	South	39.4	19.7	Middle	1.09		7.21	9.78	15.9	
							36.4	Deep	1.20		7.23	9.74	15.9	Х
							1	Surface	1.03	0.21	7.20	9.81	15.9	
		8:45		EW-1N	North	43.6	21.8	Middle	1.15	0.06	7.24	9.77	15.9	
1	10/11/2023		Downriver				40.6	Deep	1.41	0.21	7.26	9.73	15.9	
	10, 11, 2023		Dominici				1	Surface	0.82	0	7.22	9.81	15.9	
		8:54		CS-1N	North	42.6	21.3	Middle	1.08	-0.01	7.23	9.77	15.9	
							39.6	Deep	1.34	0.14	7.26	9.74	15.9	Х
							1	Surface	1.09	0.27	7.21	9.80	15.9	
		9:02		CS-2N	North	46.6	23.30	Middle	1.14	0.05	7.24	9.76	15.9	
							43.6	Deep	1.24	0.04	7.20	9.73	15.9	

			Flow Direction			Total Water	Monitoring		Measured	Background Corrected				
Circuit	Monitoring		(Upriver/		North/	Depth	Depth	Depth	Turbidity	Turbidity		DO	Temperature	Chemistry
No.	Date	Time	Downriver)	Station	South	(feet)	(feet)	Zone	(NTU)	(NTU) ¹	рН	(mg/L)	(C°)	Sample
							1	Surface	0.73		7.29	9.80	16.6	
		17:50	BG-1	BG-1S	South	42.8	21.4	Middle	1.25		7.23	9.64	16.3	
							39.8	Deep	1.70		7.28	9.58	16.3	Х
							1	Surface	0.69	-0.04	7.26	9.77	16.6	
		18:00		EW-1N	North	47.6	23.8	Middle	1.29	0.04	7.26	9.66	16.4	
1	10/12/2023		Downriver				44.6	Deep	1.65	-0.05	7.29	9.57	16.3	
	10/12/2025		Downiver				1	Surface	0.73	0	7.26	9.77	16.6	
		18:09		CS-1N	North	46.8	23.4	Middle	1.07	-0.18	7.25	9.65	16.4	
							43.8	Deep	1.71	0.01	7.27	9.58	16.3	
						th 50.6	1	Surface	0.72	-0.01	7.22	9.75	16.6	
		18:16	16	CS-2N	North		25.3	Middle	1.17	-0.08	7.29	9.65	16.4	
							47.6	Deep	4.06	2.36	8.44	9.49	16.3	Х
							1	Surface	1.83		7.15	9.51	16.4	
		8:00		BG-1S	South	37.6	18.8	Middle	2.55		7.14	9.47	16.5	
							34.6	Deep	2.46		7.20	9.45	16.4	
							1	Surface	1.76	-0.07	7.17	9.51	16.4	
		8:14		EW-1N	North	46.0	23	Middle	2.73	0.18	7.19	9.47	16.4	
1	10/13/2023		Downriver				43	Deep	3.45	0.99	7.57	9.44	16.4	
	10/13/2023		Downing				1	Surface	2.00	0.17	7.20	9.50	16.4	
		8:30		CS-1N	North	43.6	21.8	Middle	3.15	0.6	7.59	9.46	16.4	
							40.6	Deep	3.73	1.27	7.53	9.43	16.4	
							1	Surface	2.38	0.55	7.19	9.50	16.5	
		8:38		CS-2N	North	46.8	23.4	Middle	3.03	0.48	7.20	9.46	16.4	
							43.8	Deep	12.36	9.9	9.25	9.41	16.4	

			Flow Direction			Total Water	Monitoring		Measured	Background Corrected				
Circuit	Monitoring		(Upriver/		North/	Depth	Depth	Depth	Turbidity	Turbidity		DO	Temperature	Chemistry
No.	Date	Time	Downriver)	Station	South	(feet)	(feet)	Zone	(NTU)	(NTU) ¹	рН	(mg/L)	(C°)	Sample
						40.0	1	Surface	2.55		7.17	9.48	16.5	
		10:00		BG-1S	South		20	Middle	2.69		7.26	9.45	16.5	
							37.0	Deep	2.30		7.22	9.43	16.4	
		10:09				44.0	1	Surface	1.82	-0.73	7.16	9.47	16.5	
				EW-1N	North		22	Middle	2.38	-0.31	7.24	9.44	16.5	
2 10/13/2023	10/13/2023		Downriver				41	Deep	2.71	0.41	7.25	9.39	16.5	
	10/13/2023	10:16):16	CS-1N	North	43.0	1	Surface	2.12	-0.43	7.24	9.46	16.5	
							21.5	Middle	2.32	-0.37	7.21	9.44	16.5	
							40	Deep	2.53	0.23	7.26	9.39	16.5	
							1	Surface	1.82	-0.73	7.16	9.49	16.5	
		10:25		CS-2N	North	45.8	22.90	Middle	2.46	-0.23	7.22	9.44	16.5	
							42.8	Deep	2.96	0.66	7.25	9.42	16.5	
				BG-1S	South	39.8	1	Surface	1.83		7.30	9.59	16.5	
		12:00					19.9	Middle	2.37		7.22	9.51	16.5	
							36.8	Deep	2.56		7.27	9.48	16.5	
						42.6	1	Surface	1.73	-0.1	7.32	9.59	16.6	
		12:50		EW-1N	North		21.3	Middle	2.06	-0.31	7.32	9.51	16.5	
3	10/13/2023		Downriver				39.6	Deep	2.98	0.42	7.30	9.47	16.5	
5	10, 13, 2023		Dominici				1	Surface	1.55	-0.28	7.20	9.56	16.5	
		13:00		CS-1N	North	41.4	20.7	Middle	1.76	-0.61	7.27	9.50	16.5	
							38.4	Deep	2.15	-0.41	7.30	9.47	16.5	
							1	Surface	1.39	-0.44	7.19	9.56	16.6	
		13:10		CS-2N	North	44.4	22.2	Middle	2.62	0.25	7.28	9.50	16.5	
							41.4	Deep	3.87	1.31	7.27	9.44	16.5	

			Flow Direction			Total Water	Monitoring		Measured	Background Corrected				
Circuit	Monitoring		(Upriver/		North/	Depth	Depth	Depth	Turbidity	Turbidity		DO	Temperature	Chemistry
No.	Date	Time	Downriver)	Station	South	(feet)	(feet)	Zone	(NTU)	(NTU) ¹	рН	(mg/L)	(C°)	Sample
				BG-1N	North	41.2	1	Surface	1.97		7.38	9.56	16.5	
		14:00					20.6	Middle	2.57		7.35	9.52	16.5	
							38.2	Deep	3.93		7.66	9.44	16.5	
		14:15			South	39.4	1	Surface	2.25	0.28	7.37	9.57	16.6	
				EW-1S			19.7	Middle	3.83	1.26	7.55	9.49	16.5	
4 10/13/2023		Upriver				36.4	Deep	4.64	0.71	8.00	9.44	16.5		
•	4 10/15/2025		opiivei				1	Surface	1.87	-0.1	7.28	9.55	16.5	
	14:25		CS-1S	South	36.4	18.2	Middle	2.81	0.24	7.42	9.49	16.5		
							33.4	Deep	3.59	-0.34	7.68	9.46	16.5	ļ
							1	Surface	1.50	-0.47	7.31	9.58	16.6	
		14:33		CS-2S	South	45.8	22.9	Middle	2.13	-0.44	7.28	9.51	16.5	
							42.8	Deep	3.65	-0.28	7.65	9.43	16.5	
		16:00		BG-1N	North	44.6	1	Surface	1.36		7.32	9.56	16.5	
							22.3	Middle	1.74		7.29	9.52	16.5	
							41.6	Deep	1.76		7.26	9.49	16.5	
						44.4	1	Surface	1.52	0.16	7.30	9.56	16.5	
		16:13		EW-1S	South		22.2	Middle	1.65	-0.09	7.34	9.52	16.5	
5	10/13/2023		Upriver				41.4	Deep	1.94	0.18	7.41	9.49	16.5	
5	,,		ope.				1	Surface	1.75	0.39	7.39	9.55	16.5	
		16:22		CS-1S	South	35.6	17.8	Middle	1.92	0.18	7.38	9.52	16.5	
							32.6	Deep	1.85	0.09	7.40	9.50	16.5	
					South		1	Surface	1.54	0.18	7.29	9.54	16.5	
		16:31		CS-2S		49.6	24.8	Middle	1.88	0.14	7.26	9.49	16.5	
							46.6	Deep	6.22	4.46	8.03	9.45	16.5	

C			Flow Direction			Total Water	Monitoring	Denti	Measured	Background Corrected			-	
Circuit	Nonitoring	Time	(Upriver/	Ctation	North/	Deptn (feet)	Deptn (feet)	Depth	I urbidity				l'emperature	Cnemistry
INO.	Date	Time	Downriver)	Station	South	(feet)	(Teet)	Zone	(NTU)		рн	(mg/L)	(C) 16.2	Sample
		0.20		DC 10	South	41.2	1	Surface	2.20		7.14	9.92	10.3	
		8:30		DG-13			20.6	Middle	2.31		7.21	9.89	16.3	
			-				38.2	Deep	2.35		7.26	9.86	16.3	
		8:50		EVA/ 111	North	10.0	1	Surface	2.11	-0.09	7.22	9.90	16.3	
				EVV-IIN		46.6	23.3	Middle	1.92	-0.39	7.21	9.88	16.3	
1 10/14/2023		Downriver				43.6	Deep	2.34	-0.01	7.26	9.85	16.3		
		9:02		CS-1N	North	45.0	1	Surface	2.22	0.02	7.24	9.90	16.3	
							22.5	Middle	2.15	-0.16	7.16	9.88	16.3	
			4				42	Deep	2.62	0.27	7.33	9.82	16.3	
				CC 211			1	Surface	2.07	-0.13	7.28	9.91	16.3	
		9:11		CS-2N	North	48.4	24.2	Middle	2.79	0.48	7.21	9.92	16.3	
							45.4	Deep	5.76	3.41	7.29	9.92	16.2	
				BG-1S	South	37.2	1	Surface	1.89		7.23	9.92	16.3	Х
		10:30					18.6	Middle	3.42		7.28	9.92	16.2	Х
							34.2	Deep	4.17		7.28	9.89	16.2	Х
						46.2	1	Surface	2.38	0.49	7.28	9.92	16.3	
		10:37		EW-1N	North		23.1	Middle	3.65	0.23	7.21	9.92	16.2	
2	10/14/2023		Downriver				43.2	Deep	3.87	-0.3	7.26	9.89	16.2	
2	10/14/2025		Downiner				1	Surface	2.51	0.62	7.26	9.93	16.3	
		10:52		CS-1N	North	44.4	22.2	Middle	3.22	-0.2	7.23	9.91	16.2	
							41.4	Deep	3.41	-0.76	7.30	9.88	16.2	
							1	Surface	1.82	-0.07	7.26	9.94	16.3	Х
		11:03		CS-2N	North	47.4	23.7	Middle	2.77	-0.65	7.22	9.93	16.2	Х
							44.4	Deep	4.69	0.52	8.35	9.89	16.2	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

CS: compliance station

DO: dissolved oxygen

EW: early warning

mg/L: milligram per liter

NTU: nephelometric turbidity unit

Attachment 6 Water Quality Chemical Parameter Measurements

Water Quality Monitoring Chemical Results Gasco Sediments Site ISS Field Pilot Study

					-		-							
	ISS Mixing		Swell R	Swell Removal		ISS N	ISS Mixing			Debris Removal		ISS Mixing		
	10/3/2023	10/3/2023	10/4/2023	10/4/2023	10/9/2023	10/9/2023	10/9/2023	10/9/2023	10/11/2023	10/11/2023	10/12/2023	10/12/2023		
	9:45	9:25	14:30	14:15	13:15	12:50	15:00	14:45	9:33	9:17	18:35	18:25		
Location ID			BG-1N	CS-2S	BG-1S	CS-2N	BG-1N	CS-1S	BG-1N	CS-1S	BG-1S	CS-1N	BG-1S	CS-2N
Depth (feet)			43	47	38.4	43.6	42.6	37.4	23.7	18.4	37.2	40.4	41.2	47.6
	Chronic	Acute												
Analyte	WQC ^{1,2}	WQC ^{1,2}												
Polycyclic Aromatic Hydrocarbons (µg/L)	Polycyclic Aromatic Hydrocarbons (μg/L)													
Benzo(a)anthracene	2.2	9.2	0.804	1.04	0.024 J	0.350	0.0194 J	1.24	0.016 U	0.253	0.0167	0.0187 J	0.0168 J	0.657
Benzo(a)pyrene	0.96	4	1.09 ³	1.35 ³	0.0282 J	0.296	0.0259 J	1.54 ⁴	0.016 U	0.328	0.0167	0.0240 J	0.0232 J	0.865

Notes:

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

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

3. The result for Benzo(a) pyrene was higher than the chronic water quality criterion at both the background and compliance stations on 10/3. The chronic criterion is based on a 4-day average concentration. The 2-day average (10/3 and 10/4) concentrations for both the background and compliance stations are below the chronic criterion.

4. The result for Benzo(a) pyrene was higher than the chronic water quality criterion at the compliance station during circuit 1 on 10/9. The chronic criterion is based on a 4-day average concentration. The 1-day average (on 10/9) concentration for the compliance station was below the chronic criterion.

Detected concentration is greater than the acute water quality criteria

Detected concentration is greater than the chronic water quality criteria

Bold: Detected result

J: Estimated value

U: Compound analyzed but not detected above detection limit

µg/L: micrograms per liter

BMP: best management practice

ISS: in situ stabilization and solidification

WQC: water quality criteria

Reference:

EPA (U.S. Environmental Protection Agency), 2003. Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures. Office of Research and Development. EPA 600-R-02-013. November 2003. Available at: https://clu-in.org/conf/tio/porewater1/resources/EPA-ESB-Procedures-PAH-mixtures.pdf.

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Attachment 7 Moonpool Informational Measurements

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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)	
* 1-1	9-23-23	7:34	PRE	13.6	9.6	7.25		
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		7:19		4	8	7.10	19.1	
1-2		9:45	POST	12	1	6.93	19.3	
1-2		9:47	1	1	6	7.23	19.3	
1-2		9:49		1	8	7.73	19.2	
1-4	9-26-23	14:50	PRE	13	1	7.12	18.8	
1-4		14:52		I	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	1	II	5	7.54	18.3	
1-4		18:35		4	10	7.50	18.2	
1-6	9-27-23	06:51	PRE	14	1	7.12	14.9	
1-6		06:53	1	1	7	7.23	16.2	
1-6		06:55	L L		11	7.44	16.5	
1-6	9-27-23	09:38	POST	OUX 13	1	7.11	17.8	
1-6		09:40	1		7	7.24	17.5	
1-6		09:42	L.	1 V	10	7.25	16.6	
2-1	9-28-23	10:38	PRE	13	1	6.95	20.8	
2-1		10:41		J	6	7.16	21.	

Notes:

#= Parameters collect @ beginning of mixing

PAGE: 1

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Moonpool Informational Measurements

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

ISS Column Location	Date	Time	Pre-/Post- Measurement	Water Column Thickness (feet)	Measurement Depth	р <mark>Н</mark>	Temperature (*C)
2-1	9-28-23	10:43	PRE	12	10	7.37	21
2-1	9-28-23	12:00	Past	13	1	7.04	199
2-1		12:03			1	3.16	19.9
2-1	-	12:06	4		10	7.51	19.5
2-6	9-29-23	07:45	PRE	14	1	7.03	17
2-6		07:47			7	7.26	16.2
2-6	*	07:49			11	7.78	16.2
2-6	9-29-23	09:12	Post	14		3.20	11.3
2-6		09:20		1	3	7.00	19.7
2-6		09:25	4		11	715	17
3-1	10-2-2023	D7:17	PRE	15	1	20/	14.5
3-1		07:19		1	7	7.00	16.5
3-1	1	07:22	T T	+	12	7 31	10.5
3-1	10-2-2023	08:10	POST	14.5	1	7.36	15.5
3-1		08:12			6	7.17	15.5
3-1	4	08:15	+		11	+ 4T	15.5
6-9	10-3-2023	06: 1-07:11	PRE	16	1	T.36	15.8
6-9		07:14	1		6	6.98	16.5
6-9		07:19	1	N	13	7.22	16.2
6-9	10 -3-2023	08:01	MIDI	16		T. 29	16.0
6-9	1	08205	J.	1	10	1.26	16.0
						7.71	16.0

PAGE: 2

V QEA

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)
1.0	10-3-2023	08.09	MID	16	13	7.72	16.0
6-9	10-3-2023	80:00	Post	17	1	7.26	1.5.6
6-1	10 1000	09:11	1	17	7	7.58	15.6
6-9	4	09:14	T	17	14	7.64	15,8
			1				
							1.000
							-
						1	
					1 Same		

Notes:

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Moonpool Informational Measurements

6720 South Macadam Avenue, Suite 300 Portland, OR 97219

Gasco Sediments Site ISS Field Pilot Study

ISS Column Location	Date	Time	Pre-/Post- Measurement	Water Column Thickness (feet)	Measurement Depth (feet below surface)	рН	Temperature (°C)
7-9	10-4-2023	08:38	PRE	14	1	6.95	* 59 15.4
7-9	1	06:42	1	i	7	7.28	15.4
7-9		06:45	1 V	V.	11	7.46	15.5
7-9	10-4-2023	07:39	POST	14	1	7.64	15.1
7-9	1	07:42	1	1	7	7.66	15.4
7-9	J	07:46		L L	11	7.61	15.5

Notes:

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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)
BARGE MODE 1	10/9/23	07:35	Pre	14.5	1	7.09	16.3
comp s-1	1	07:38	Pre	14.5	7.25	7.33	16.2
60mm 8-1	J	07:411	Pre	14.5	11.5	7.40	16.2
count 5-1	10/9/23	10:34	Pre	16.6	1	719	16.8
com 8-1	1	10:38	Pre	166	8.2	7.39	165
lune 8-1	L	10:42	Pre	16.6	13.6	7.42	16.5
	10/9/23	12:23	Post	16.1	r	7.10	16.9
	1	12:25	Past	16.1	8.05	7.45	16.7
· l	d.	12:27	Puss	16.1	13.1	7.42	to.6. 16.6
Column 8-2	10/10/2023	06:52	Pre	19.9	1'	7.05	15.3
1	T	06:58	fre	19.9	16'	7.44	15.6
1	L	07:06	Pre	19.9	17'	7.49	15.6
Column 8-2	10/10/2023	10:21	Post	15.3	1'	2.05	15.4
1	1	10:25	Post	15.3	7.6	7.66	15.6
V	V	10:29	Post	15.3	12.3'	7.73	15.8
Column 8-10	10/12/2023	1.15:58.	Pre	18.5	1'	7.04	~ 17.7
1	1	4.16:01	Pre	19.5	9.75'	7.41	17.2
Y		16:05	Pre	19.5	16.5	7.43	17.0
Column - 8-10	10/12/2023	18:22	Post	20.1	1' .	7.52	16.9
1	1	18:25	Post	20.1	10.0	8.02	16.9
V	t	18:29	Post	20.1	17.11	8.27	16.9

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Notes:

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VE ANCHOR QEA

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)
Column 8-9	10-13-2023	0630	Pre	20.2	1'	7.16	15.1
1	1	0634	Pre	T	10.1'	7.39	15.6
¥.	ł	0640	Pre	4	17.2	7.35	15-3
Column 8-9	10-13-2023	0743	Post	19.0	1'	7.93	15.9
1	1	0747	Post	1	9.5'	9.10	16.0
ł		0752	Post		16.0'	9.30	16.2
Column 6-11	10-14-2023	0711	Pre	18.2	1'	6.91	15.8
1	1	0715	Pre	1	9.1'	7.34	16.0
V	1	0719	Pre		15.2'	7.45	16.2
Column 6-11	10-14-2023	0831	Post	22.0'	1'	7.57	15.2
1	1	0834	Post	1	<i>i</i> 1'	8.77	16.0
4	1	0838	Post	J. J.	19'	8.84	16.0
		-					
							-
							-

Notes:

Recheck calibration after post readings on 10-18-2023 - POK.