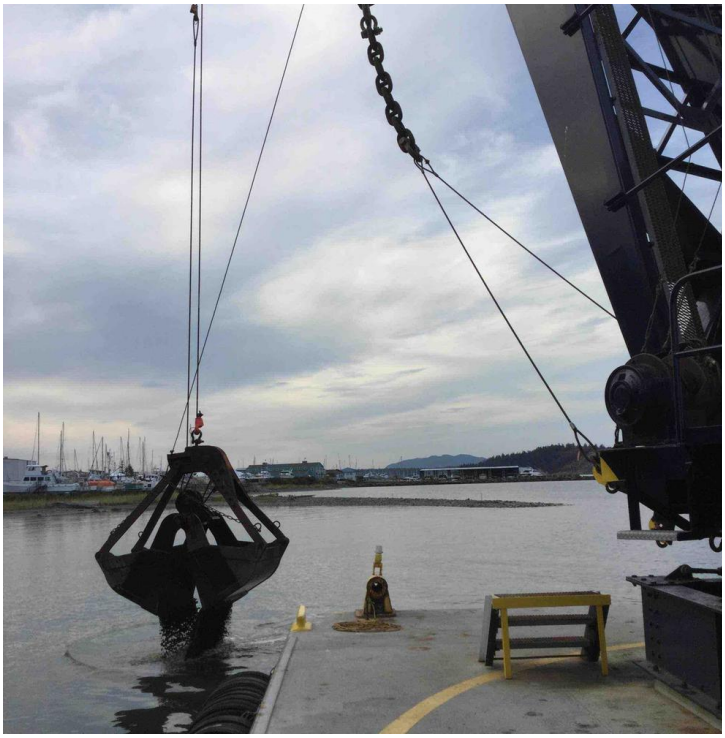
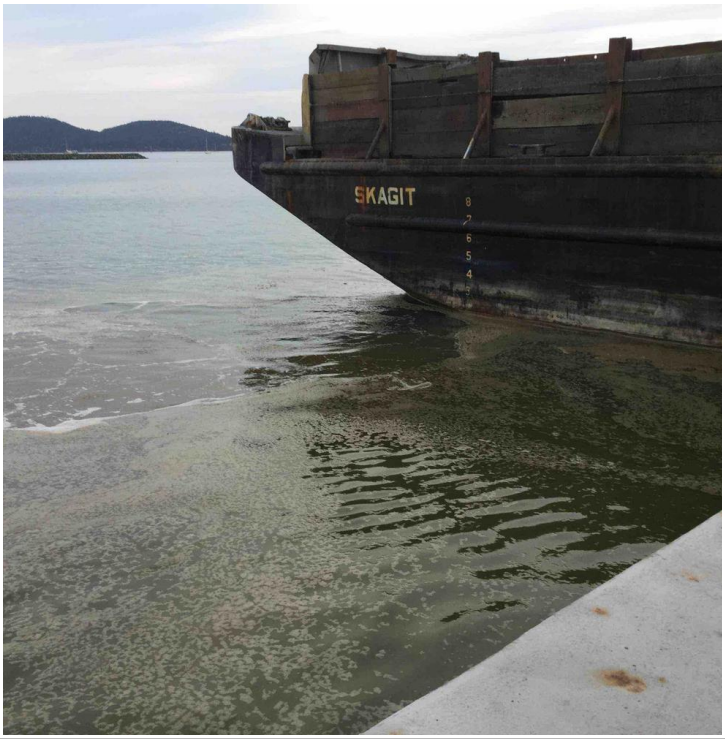
Time	Observations
20:24	Barge offloaded, dredging ceases; few high spots identified in survey to be knocked down, likely to address with full bucket on Friday.
20:32	Chris departs from barge for water quality monitoring.
20:53	Noted: drift eelgrass on surface waters *roots attached*, likely those observed earlier in day in tire bumpers on barge then was washed out when survey vessel went by. Noted approximately 3-5 shoots.
20:59	Noted: silt plume rose from below barge near Victory when reversed. Drift brown algae observed rising to surface.
21:08	Drop port spud to pivot and align position relative to the channel.
21:09	Drop starboard spud in overnight location near channel. Crew demobilized and prepares barge for transport.
21:13	Chris arrives back on dredge in survey vessel.
21:42	Crew departs dredge for shore transport.
22:01	Crew departs for day. Plan to mobilize barge out to load tomorrow (Thurs, 8/26). Resuming placement upon barge delivery at 17:00 Friday 8/27.

Photos



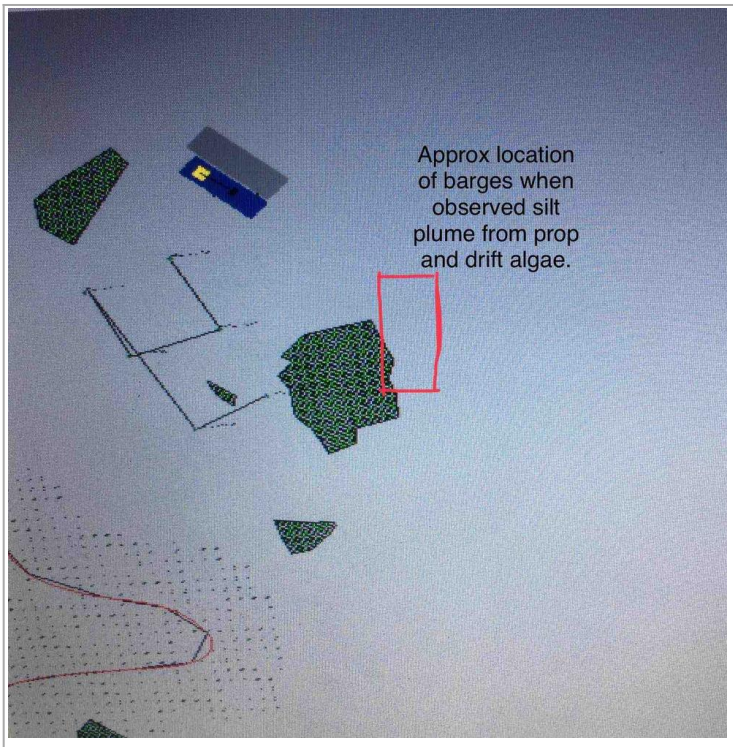
Active backfill placement.



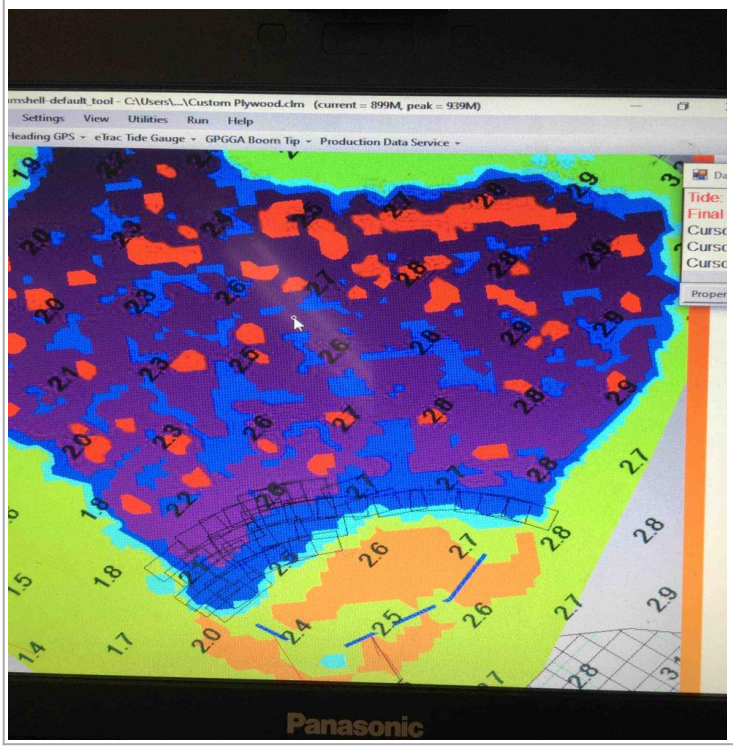
Isolate plume and foam on surface.

View of foam on surface to the northwest of placement.

Close up of foam to show sheety organic sheen below bubbles.



Location near eelgrass where plume from prop wash was observed.



Bucket map of material placed 8/25 with color gradient from survey 8/25. Red = possible overdredge?; Navy=at grade.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	08/27/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Backfill placement observations.
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Warm|Sunny
Work Summary:	Place material in central dredge prism.	Temperature:	66
Field Rep:	Jessica Blanchette and Bret Buskirk	Remarks:	
Field Rep Time In:	17:00	Start Draft Level:	5.5
Field Rep Time Out:	23:00	End Draft Level:	2.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	17:00	23:00
Greg Lybeek	Operator	17:00	23:00
Lester Jones	Project Supt	17:00	23:00
Chad Morrison	Deck Hand Apprentice	17:00	23:00
Jessica Blanchette	Construction/backfill monitoring.	17:00	20:22
Bret Buskirk	Construction/backfill monitoring	17:00	23:00

Equipment

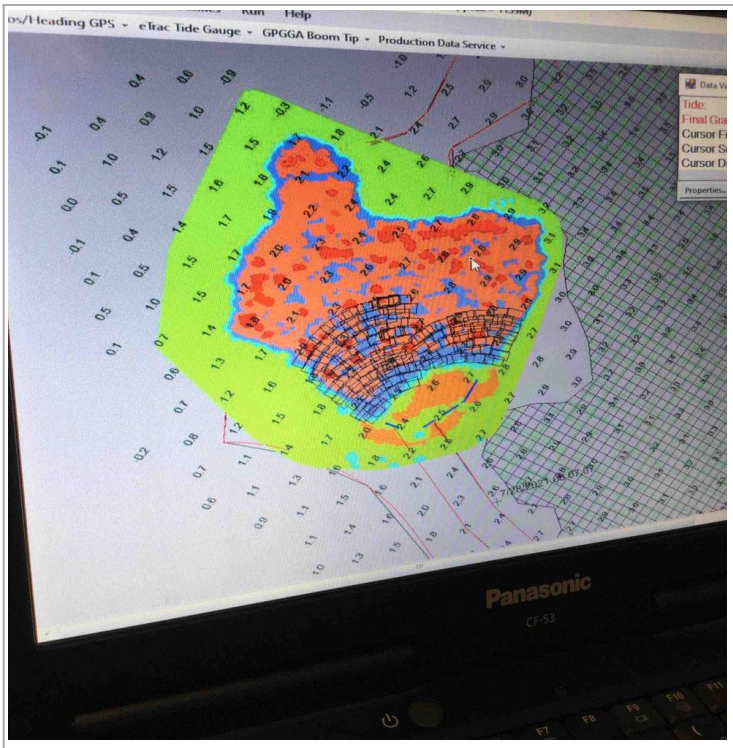
Equipment Used	Start Time	End Time
DB Snohomish	17:00	23:00
Skagit	17:00	23:00
Victory	17:00	23:00
Skiff	17:00	23:00
Survey vessel	17:00	23:00
4 CY Rehandle	17:00	23:00

Daily Observations

Time	Observations
17:00	Crew arrives at shore transport area to mobilize to site,
17:15	Arrive at a DB Snohomish. Crew warms up equipment and mobilizes for day,
17:36	Lester and Greg depart barge to replace tide gauge battery.
17:47	Lester and Greg return to barge.
18:19	Pick up port spud.
18:23	Pick up starboard spud to mobilize to site. Chris departs in survey vessel to facilitate navigation.
18:44	Drop starboard spud to pivot.
18:47	Pick up starboard spud.
18:55	Dropped port spud, to pivot stern west.
18:59	Pick up port spud.
19:04	Drop port spud.
19:07	Pick up Port spud.
19:09	Drop starboard spud.
19:11	Chris w/survey boat returned.
19:11	Drop port spud. Tide gauge at arrival 6.82'.
19:17	Picking up spuds to shift forward using bucket.

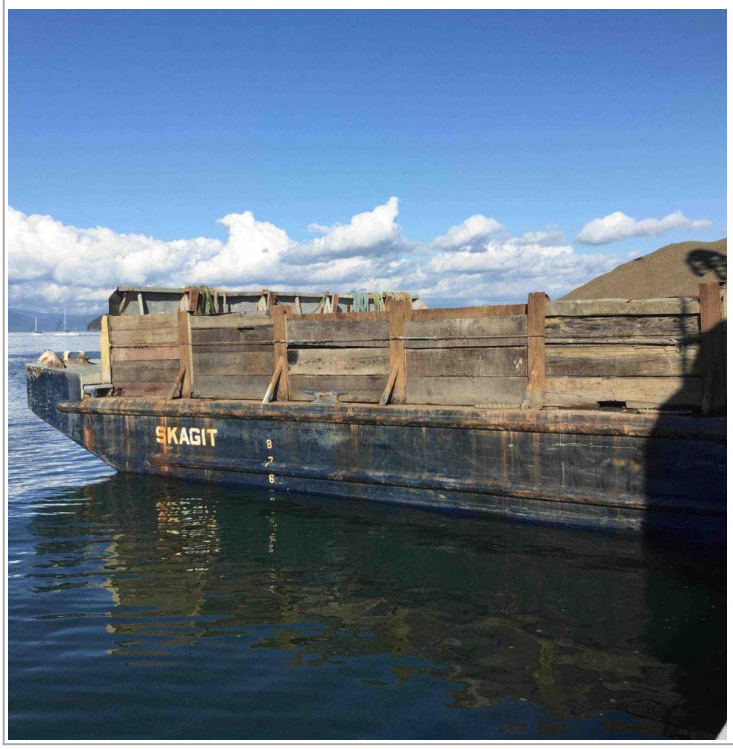
Time	Observations
19:20	Drop spuds.
19:21	Pick up port spud.
19:21	Drop port spud.
19:22	Raise bucket from use in positioning of barge. Starting placement of backfill material.
20:14	Water quality is Visual monitoring only.
20:17	Port spud raised, bucket down to reorient.
20:18	Port spud down.
20:22	Jessica and Les leave
20:41	Les and survey boat back.
20:55	Pick up spuds, using dropped bucket to reorient.
20:56	Spuds down.
21:08	Starting to place material 'dry', not placing bucket in water, little feathering.
21:11	Back to placing bucket in water and feathering.
21:45	Chris out on survey boat.
21:46	Spuds up. Bucket down for positioning.
21:48	Done placing backfill material.
21:55	Spuds down. Placement for the night.
21:57	Chris and survey boat back.
21:59	Picture: bow draft, 2.5'.
22:10	Pictures: bucket map, Les' notes for draft #'s.
22:16	Placing bucket for evening. Locking crane.
22:33	Shutting down boat.
22:42	Survey boat and crew back at marina.

Photos

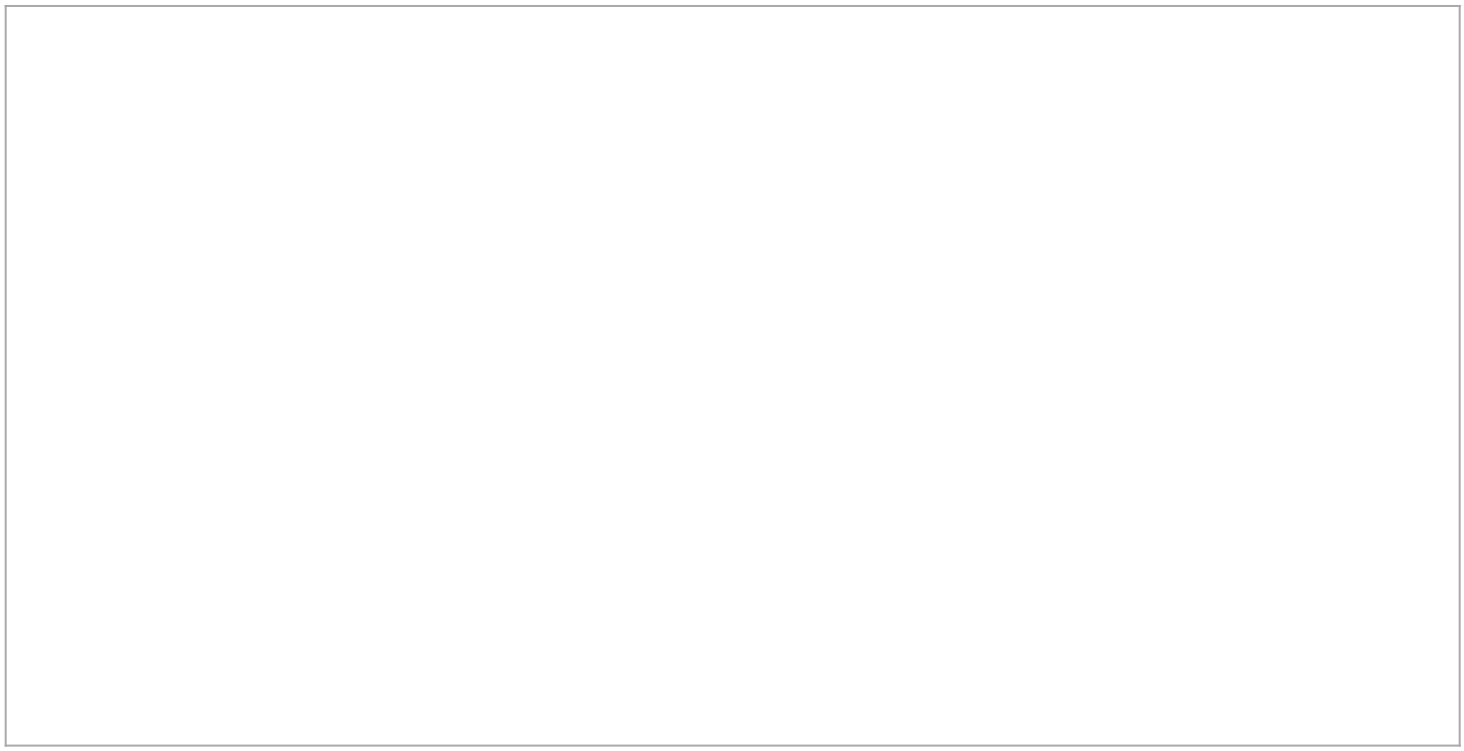


End of day bucket map.

Bow draft at end of night.



Bow draft at beginning of day.



HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	08/28/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Construction/backfill monitoring.
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Sunny|Warm
Work Summary:	Backfill monitoring.	Temperature:	70F
Field Rep:	Bret Buskirk	Remarks:	
Field Rep Time In:	17:00	Start Draft Level:	2.5
Field Rep Time Out:	23:15	End Draft Level:	1.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Manager	17:00	23:15
Greg Lybeck	Operator	17:00	23:15
Chad Morrison	Deck Hand Apprentice	17:00	23:15
Lester Jones	Project Supt	17:00	23:15

Equipment

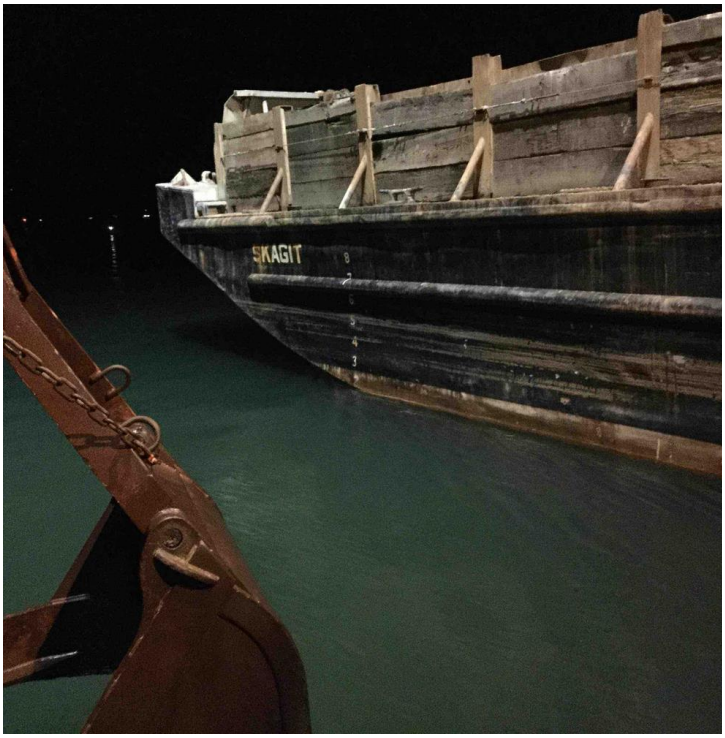
Equipment Used	Start Time	End Time
DB Snohomish	17:00	23:15
Victory	17:00	23:15
Skiff	17:00	23:15
Survey vessel	17:00	23:15
4 CY Rehandle	17:00	23:15
Skagit	17:00	23:15

Daily Observations

Time	Observations
17:00	Crew on Survey vessel, departs for barge.
17:20	Crew arrives at DB Snohomish, start warming up equipment for day. Pic of bow draft and Les' starting draft notes.
17:55	Picking bucket up. Lowering boom for maintenance.
18:10	Redistributing of backfill material on barge. Maintenance on port spud. Maintenance on crane computer. After redistribution of material, bow draft a little under 2', picture taken.
19:22	Computer back to crane, warming spud machine up.
19:27	Chris out on survey vessel to survey backfill site.
19:42	Spuds up! Moving to position.
19:53	Drop port spud.
19:57	Chris back with survey boat. Never mind, back out.
19:57	Starboard spud down.
19:59	Spuds up. Bucket down to orient barge.
20:00	Starboard spud down.
20:01	Port spud down, Chris back with survey boat.
20:02	Starting backfill placement.
20:03	5 fisherman fishing, and 3 harbor seals watching to south along shore, 5 Otters/minks on shore to west.
20:12	Sun is setting, fisherman packing up.
20:35	Fisherman, seals and otters gone, now there are bats.
21:22	Les out on survey boat to check tide gauge. 7.525'

Time	Observations
21:28	Les back with survey boat.
21:42	Chris out in survey boat, bucket hanging just in water.
21:43	Spuds up. Greg in tug, moving out for night.
22:09	Spuds down.
22:10	Port spud up.
22:11	Port spud down.
22:12	Chris back in with survey boat.
22:16	Computer shut down before capturing prism and days work. Report that some bucket placements may not have been captured. Pic of bow draft and Lester notes.
22:21	Locking up boat, crew headed out.
23:10	Crew departing skiff, back at marina.

Photos



Bow draft at end of night.

Bow draft after redistribution of backfill material in barge.

Bow draft beginning of day.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	08/31/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Placement of backfill observations
Tailgate Meeting:	Not conducted/Attended	Weather:	CloudyIHigh Winds
Work Summary:	Backfill placement mid-prism. ECY site visit.	Temperature:	62
Field Rep:	Jessica Blanchette	Remarks:	High tide at 15:18
Field Rep Time In:	11:45	Start Draft Level:	5
Field Rep Time Out:	19:53	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	12:00	19:53
Greg Lybeek	Operator	12:00	19:53
Lester Jones	Project Supt	12:00	19:53
Chad Morrison	Deck Hand Apprentice	12:00	19:53
Arianne Fernandez	Dept of Ecology	12:00	19:53

Equipment

Equipment Used	Start Time	End Time
Survey vessel	12:00	19:52
Skiff	12:00	19:52
Victory	12:00	19:52
DB Snohomish	12:00	19:52
Skagit	12:00	19:52
4 CY Rehandle	12:00	19:53

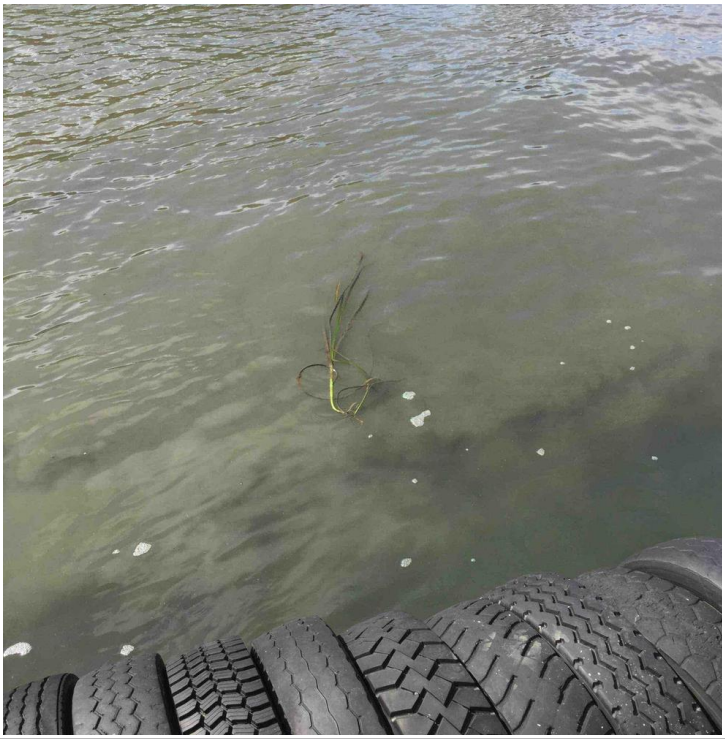
Daily Observations

Time	Observations
12:00	Arrive at shore transport area.
12:19	Arrive at DB Snohomish, crew setting up barge/ warming up equipment.
12:33	Pick up port spud to pivot barge.
12:35	Pick up starboard spud. Materials barge not yet on site, mobilizing to secondary staging area to deploy Victory and pick up materials barge.
12:48	Drop spuds in staging area to continue mobilization.
13:01	Crew departs in Victory to meet materials barge and transfer to Victory
13:32	Chris departs in survey vessel to pick up support crew from barge so they can transfer to the DB snohomish.
13:40	Skagit with backfill material arrives at DB Snohomish. Some movement on DB Snohomish when barges meet while spudded.
13:43	Chris departs to survey.
14:03	Pick up starboard spud to pivot and mobilize into site. Pick up port spud .
14:08	Drop spuds to switch Victory from pushing the Skagit to the DB Snohomish
14:13	Chris returns to barge in survey vessel. Observed some movement/drifting of the bow to the west with spuds fully deployed.
14:15	Pull up port spud.
14:16	Pick up starboard spud,

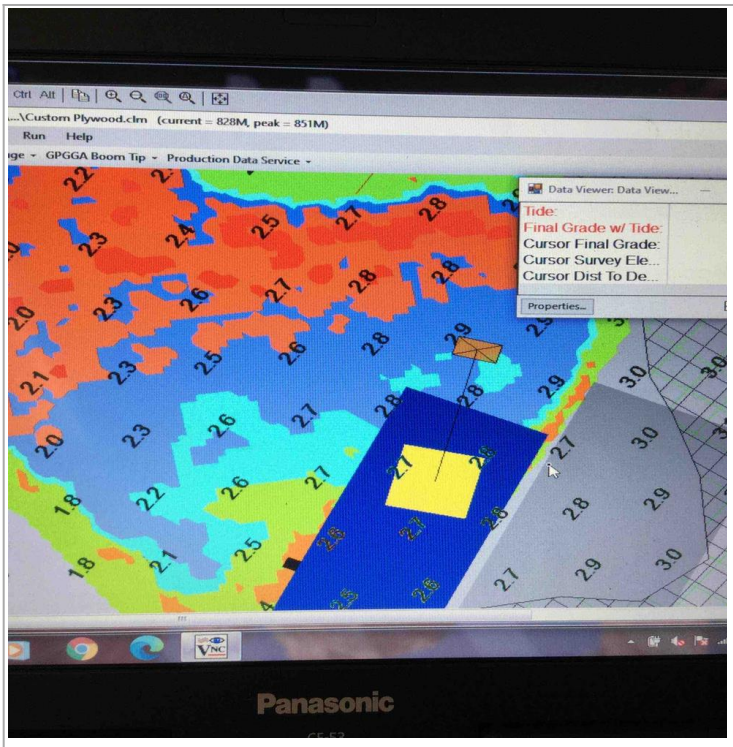
Time	Observations
14:26	Drop spuds in dredge prism area- will pivot using bucket. Observed eelgrass shoots with rhizomes in plume adjacent to barge while moving. Unconfirmed origin of the eelgrass, could be flotsam or from below. See photos.
14:32	Greg fills bucket with backfill material and sets in water, pick up spuds to shift barge position. Barge measurements were conducted after one bucket was removed.
14:33	Drop starboard spud.
14:34	Drop port spud. Tide gauge reads 7.19' at time of entry.
14:41	Begin placement.
14:45	Pick up both spuds to shift south.
14:47	Drop starboard spud.
14:48	Drop port spud. Resume backfill.
15:18	Pick up and drop port spud
15:21	Pick up port spud to pivot bow to the west.
15:22	Drop port spud. Resume backfill.
15:33	Chris departs dredge for water quality monitoring.
15:38	Pick up and replace port spud to pivot bow to the west.
16:20	Pick up spuds to shift barge forward using bucket. (Chris returned tonDB Snohomish ~15:45)
16:21	Drop spuds, resume backfill.
16:36	Pick up port spud to pivot bow to the east using the bucket and boom. Drop spud.
18:35	Chris departs in survey vessel for water quality monitoring.
18:46	Chris returns from monitoring and move out if the dredge prism.
18:58	Drop spuds in overnight staging area. Chris returns to DB Snohomish. Turbidity at all sites <3 NTU despite appearance of bubbles/foam.
19:45	Depart barge for shore.
20:00	Depart for day. Crew will assemble tomorrow 9/1 to move barges to transport area near channel. Next load of backfill material scheduled for Thursday 9/2.

Photos

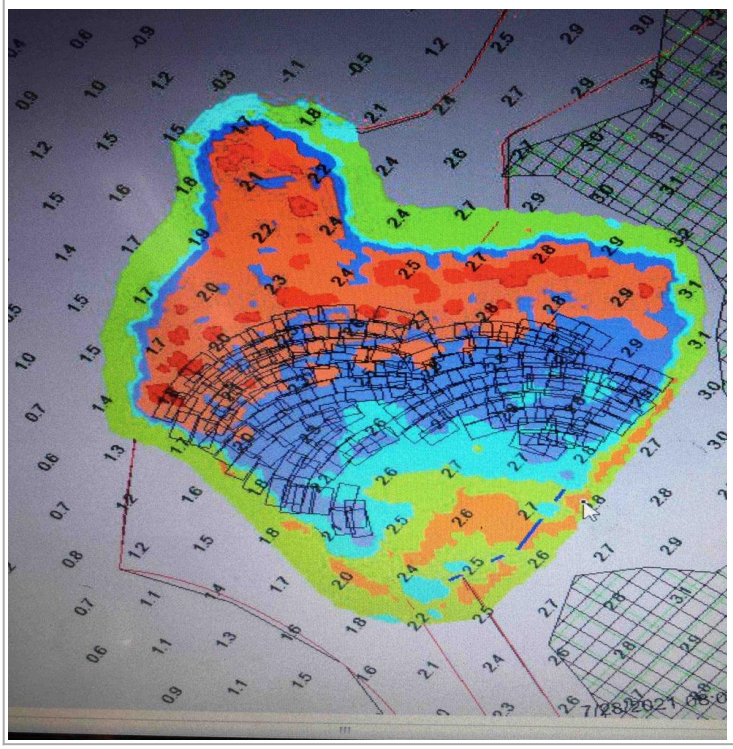
Start of day barge draft level with a Chad taking barge draft measurements.



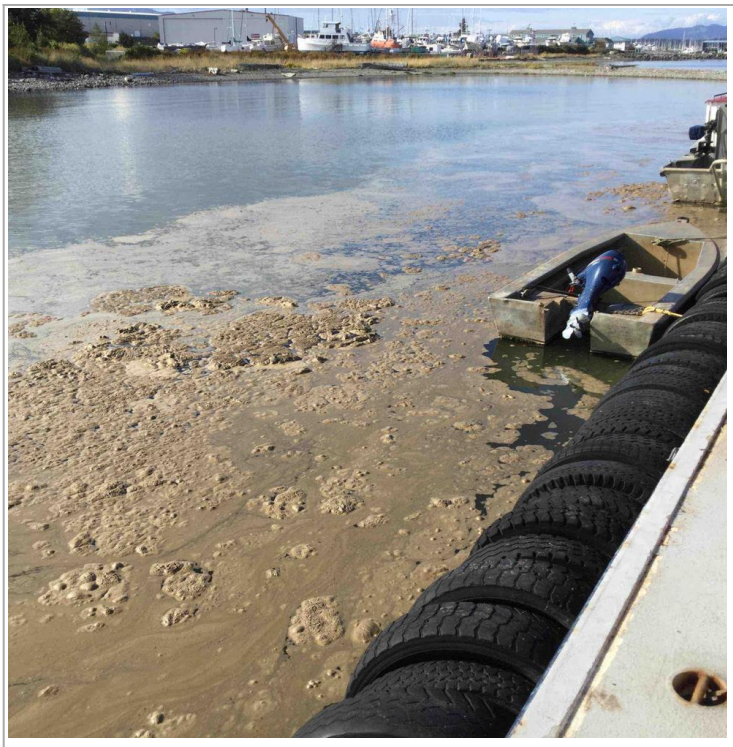
Observed eelgrass w rhizome in prop wash plume.



Barge position at start of placement.



Bucket map for end of day 8/31/21



Surface foam from placement.

Rain buckets for verifying placement thickness (TLC)

Rain buckets with holes.

HARTCROWSER
A division of Haley & Aldrich

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/02/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Backfill placement observations
Tailgate Meeting:	Not conducted/Attended	Weather:	Clear|Sunny|Warm
Work Summary:	Backfill placement, finish barge #4.	Temperature:	70
Field Rep:	Jessica Blanchette	Remarks:	High tide at 16:37.
Field Rep Time In:	12:44	Start Draft Level:	5
Field Rep Time Out:	19:28	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	19:28
Greg Lybeek	Operator	13:00	19:28
Lester Jones	Project Supt	13:00	19:28
Chad Morrison	Deck Hand Apprentice	13:00	19:28

Equipment

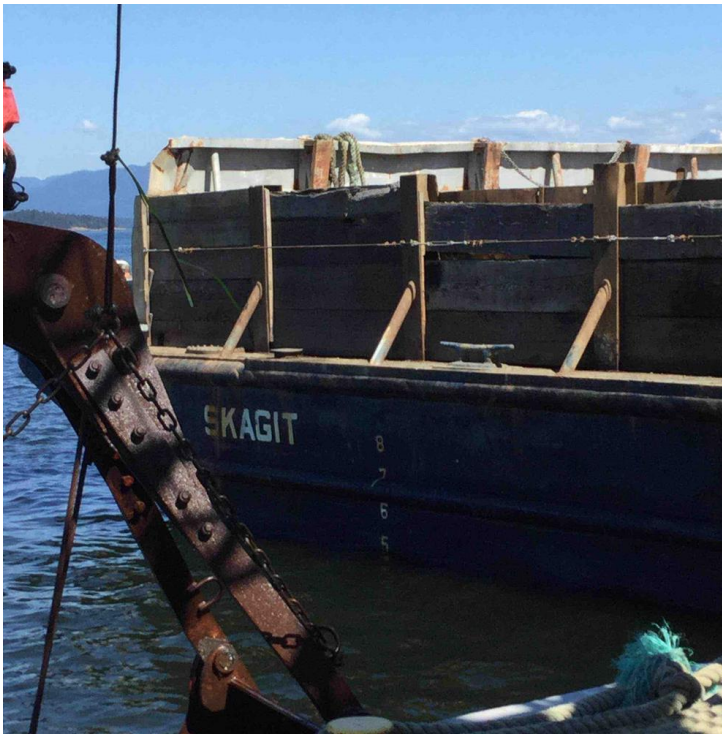
Equipment Used	Start Time	End Time
Survey vessel	13:00	19:28
Skiff	13:00	19:28
Skagit	13:00	19:28
Victory	13:00	19:28
DB Snohomish	13:00	19:28
4 CY Rehandle	13:00	19:28

Daily Observations

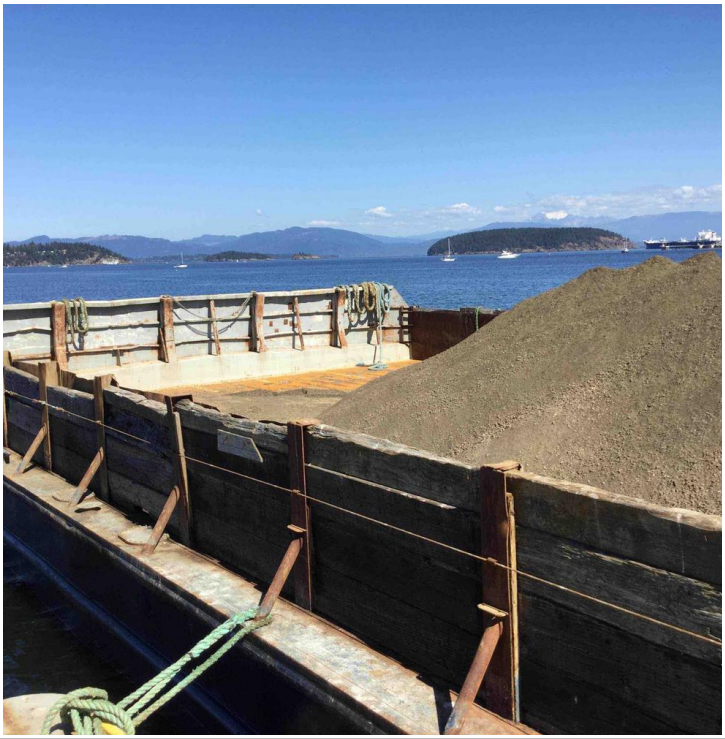
Time	Observations
13:00	Crew on site for shore transport
13:30	Arrive at a Db Snohomish
13:49	Lester and Chad depart Snohomish to check tide gauge.
14:01	Lester and Chad return to Snohomish.
14:09	Pick up port spud to pivot barge and begin mobilizing to site.
14:12	Pick up starboard spud to mobilize to site. Moving barge with bucket partially in water.
14:15	Civilian crossed path in power boat and stopped to anchor directly in front of barge while moving. Drop spuds. Chris and Greg depart to talk to boater and request they move. NOTED eelgrass with rhizomes attached in plume where paused. Considerable drift eelgrass floating in marina/around barge upon arrival this morning.
14:22	Pick up spuds and continue mobilizing to site. Chris scouting ahead in survey vessel.
14:35	Drop spuds. Still spinning some after dropping. Outside of eelgrass on map. Chris returns to barge.
14:54	Pick up spuds to continue mobilizing into site, Chris departs in survey vessel to scout and facilitate navigation.
15:08	Drop port spud in placement area (north) to pivot bow.
15:15	Pick up spuds to slide north using crane/bucket. Chris returns to dredge.
15:16	Drop spuds and begin placement.
15:57	Pick up spuds to shift forward using bucket.
15:58	Replace spuds. Resume backfill.
16:46	ACC missed flood tide water quality monitoring event. Will supplement with slack tide reading.
16:49	Pick up port spud to pivot bow to the west using the bucket and crane.

Time	Observations
16:51	Drop port spud.
16:52	Pick up both spuds to shift south.
16:53	Replace both spuds. Resume backfill placement.
17:00	Chris and Jessica depart in survey vessel for water quality monitoring during slack tide/ Ebb
17:08	Pick up both spuds
17:10	Drop both spuds, resume backfill.
17:11	Surface readings at early warning appear to be around 5 NTU, but drop after the first foot. Though some visible turbidity throughout site and north of jetty, readings indicate within compliance.
17:16	Chris and JPB return to dredge.
17:56	Pick up port spud to pivot.
17:57	Drop port spud.
18:01	Chris departs to collect water quality readings for ebb tide event.
18:10	Chris returns to Snohomish, continue backfill.
18:20	Chris departs in survey vessel to mobilize out of site.
18:21	Pick up spuds to move out of site.
18:33	Drop spuds in overnight staging area. Chris returns to barge in survey vessel. Crew demobilizes for evening.
19:14	Depart dredge for shore transport.
19:27	Arrive at shore, crew departs for day. Crew to return tomorrow 9/3 to prepare barge for transport. Backfill to resume Tuesday 9/7.

Photos



Start of day barge and level.



Full materials barge, start of day. (1 of 3)

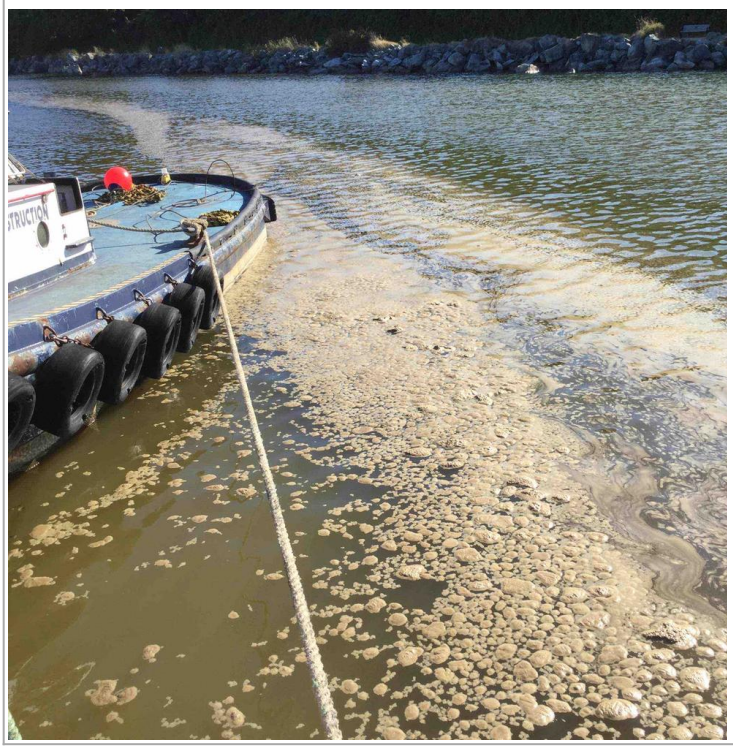
Full materials barge, start of day. (2 of 3)

Full materials barge, start of day. (3 of 3)

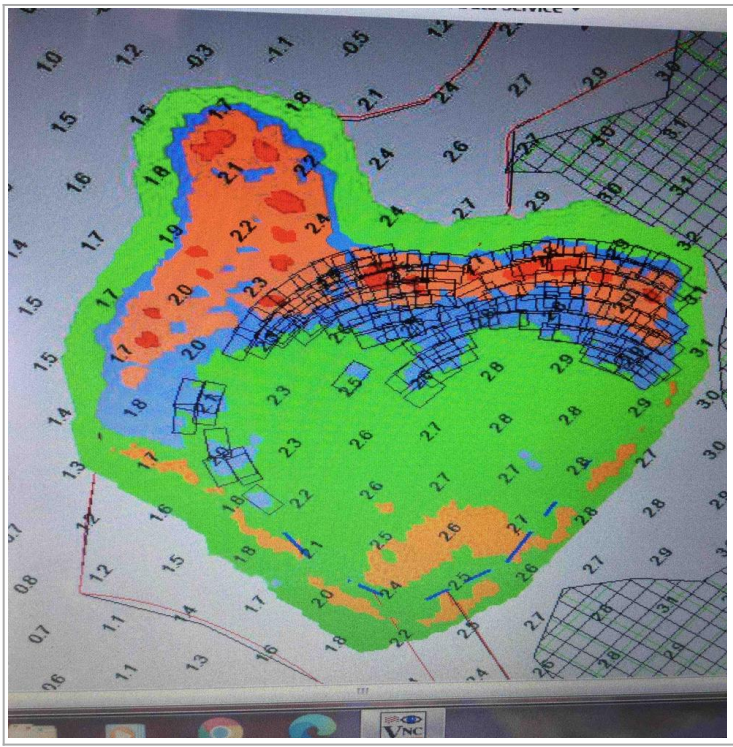
Noted eelgrass in plume when required sudden stop due to civilian in path.

Boater stopped in barge path, survey vessel to discuss with boater, bucket in water during transport.

Silt foam traveling along surface.



Silt foam traveling along surface.



Placement bucket map for 9/2/2021.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/07/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Backfill placement observations.
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Warm|Windy
Work Summary:	Receive new barge, place backfill.	Temperature:	72
Field Rep:	Jessica Blanchette	Remarks:	High tide of 8' @ 18:30
Field Rep Time In:	13:45	Start Draft Level:	4
Field Rep Time Out:	21:03	End Draft Level:	3

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	21:03
Greg Lybeek	Operator	14:00	21:03
Lester Jones	Project Supt	14:00	21:03
Chad Morrison	Deck Hand Apprentice	14:00	21:03
Andy and Kent	Drop off Skagit barge loaded	15:16	15:47

Equipment

Equipment Used	Start Time	End Time
DB Snohomish	14:00	21:02
Survey vessel	14:00	21:02
4 CY Rehandle	14:00	21:02
Skiff	14:23	21:02
Victory	14:00	21:02
Skagit	15:16	21:02

Daily Observations

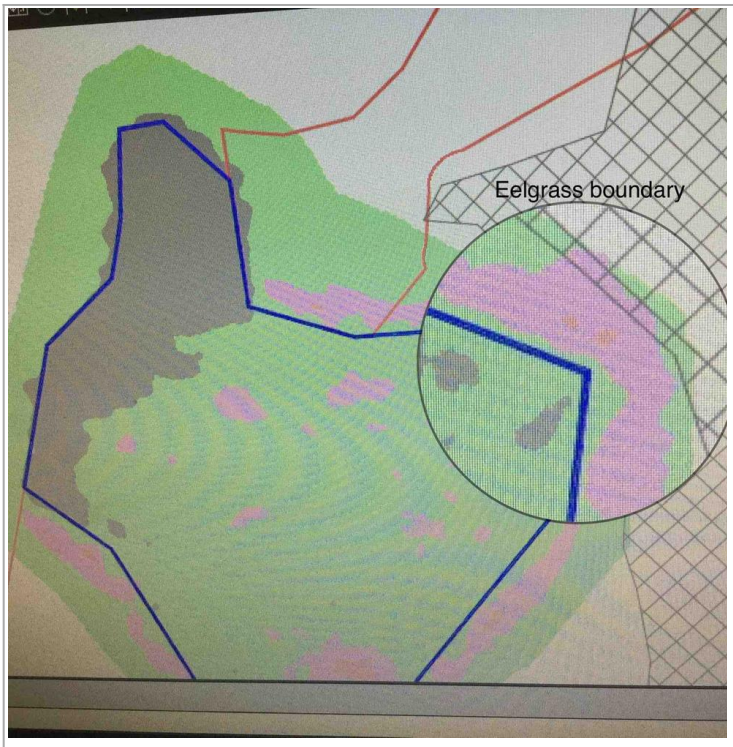
Time	Observations
14:00	Crew arrives on site for shore transport.
14:16	Arrive at DB Snohomish, crew mobilizes for day and warms up eqt. Barge Skagit not yet on site, en route with the Glenn Cove.
15:15	Skagit arrives via drop off from Glenn Cove tug.
15:47	Glenn cove tug departs
15:57	Chris departs in survey vessel.
16:18	Pick up port spud.
16:20	Pick up starboard spud and mobilize to site, Chris supporting in survey vessel.
16:34	Drop starboard spud to pivot.
16:38	Chris returns to DB Snohomish from navigating barge.
17:00	Chris departs to survey prism backfill to date,
17:27	Pick up spuds to continue mobilizing to site.
17:40	Drop port spud to pivot in dredge prism, may be dragging spud.
17:41	Drop starboard spud.
17:47	Chris returns to dredge. Begin placement.
17:49	Pick up both spuds to shift position using crane and bucket.
17:51	Drop spuds in new location. Continue backfill placement.

Time	Observations
18:31	**High tide-- ACC missed flood event water quality monitoring.
19:00	Pick up spuds to shift north.
19:02	Drop spuds and continue placement. Observe several groups dip-netting along the shore (estimate 5 pairs).
19:17	Chris departs in survey vessel for water quality monitoring. (During slack)
19:24	Chris returns from WQM.
19:38	** JPB viewed survey from today 9/7 and noted placement of material outside of dredge prism boundary that may impede upon eelgrass to the northeast. Placement appears to be directly adjacent to or overlap with eelgrass outside of the 10' construction boundary in the northeast near control points 5, and 6.
19:43	Pick up spuds to shift barge position south.
19:44	Drop starboard spud.
19:45	Drop port spud. Continue placement.
19:51	Pick up and replace port spud to pivot.
20:01	Chris departs for water quality monitoring. Backfill ceases.
20:10	Pick up spuds to mobilize out of the site. Chris pushing stern in survey vessel. Tide gauge reads 7.34' at time of departure.
20:20	Drop spuds in overnight staging location.
20:24	Chris returns to barge. Crew demobilizes for evening.
20:52	Depart DB Snohomish for shore.
21:02	Arrive at shore transport and depart for day. Plan to check final placement and may start 8" tomorrow 9/8

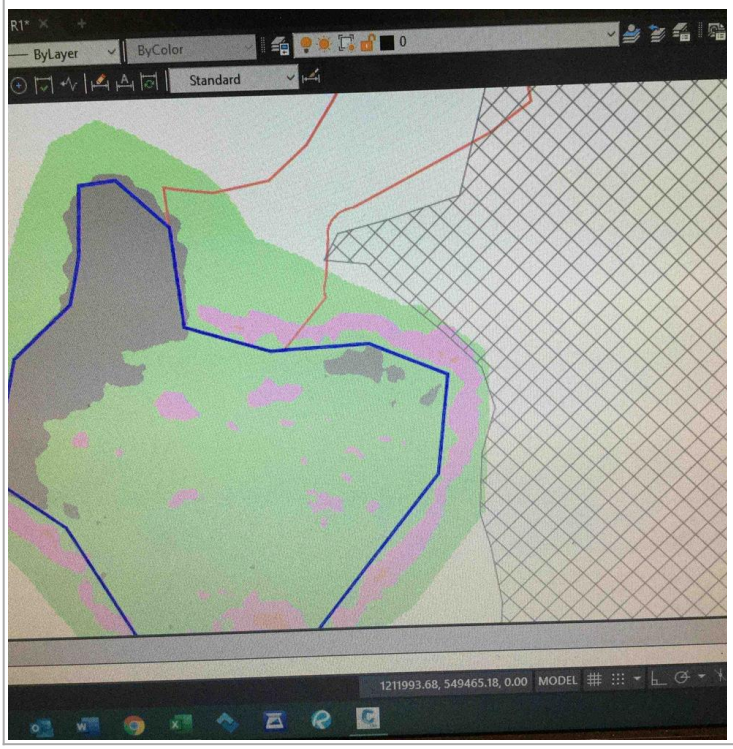
Photos

Plume observed during pivot using port spud.

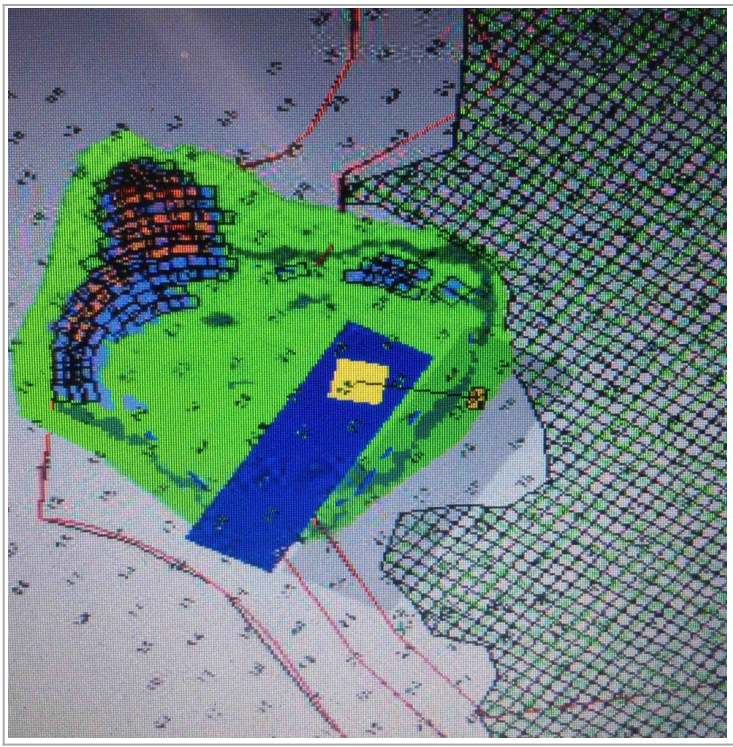
Starting barge name and level.



Magnified view of backfill placement and eelgrass boundary.
Green = backfill within +/- 0.5' tolerance, Pink = > 0.5' tolerance.
Pink area overlapping eelgrass about 16'L x 3'W. To be checked by Grette divers during 2" TLC diver work 3/16/21.



Area of backfill placed outside construction buffer and in/adjacent to eelgrass boundary.



Areas backfill was placed on 9/7/21.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/08/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Sand cover placement observations
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Warm
Work Summary:	Begin 8" placement, survey dredge backfill	Temperature:	73
Field Rep:	Jessica Blanchette	Remarks:	High tide of 8' at 18:56
Field Rep Time In:	13:50	Start Draft Level:	3.75
Field Rep Time Out:	21:26	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	21:26
Greg Lybeek	Operator	14:00	21:26
Lester Jones	Project Supt	14:00	21:26
Chad Morrison	Deck Hand Apprentice	14:00	21:26

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	21:26
DB Snohomish	14:00	21:26
Victory	14:00	21:26
4 CY Rehandle	14:00	21:26
Skagit	14:00	21:26

Daily Observations

Time	Observations
13:45	Crew arrives at shore transport.
14:00	Arrive at DB Snohomish, crew mobilizes for day.
15:15	Lester and a Chad depart in survey vessel to maintain tide gauge and replace light on jetty.
15:48	Lester and Chad return to barge.
16:10	Pick up port spud to pivot and mobilize into 8" placement zone.
16:12	Pick up starboard spud and continue mobilizing.
16:18	Drop spuds
16:21	Grab a bite of backfill material to weigh down bucket.
16:22	Pick up starboard spud to pivot.
16:23	Drop starboard spud.
16:45	Lester and Chad place rain bucket at northeastmost corner of 8" placement area.
16:50	Les and Chad return from rain bucket placement.
16:53	Chris departs in survey vessel to survey backfill in dredge prism and take closer look at eelgrass boundary.
17:12	Begin placement.
17:16	Chris returns from survey. Les drilling additional holes in rain buckets to facilitate them sinking when placed.
17:36	Survey revealed some low spots in dredge backfill ~6", pausing 8" placement to mobilize to dredge prism and finish placement.Estimate placed ~10 buckets of backfill material in 8" zone before pausing to move.
17:40	Pick up spuds to mobilize to dredge prism.
17:42	Chris departs in survey vessel to facilitate navigation.

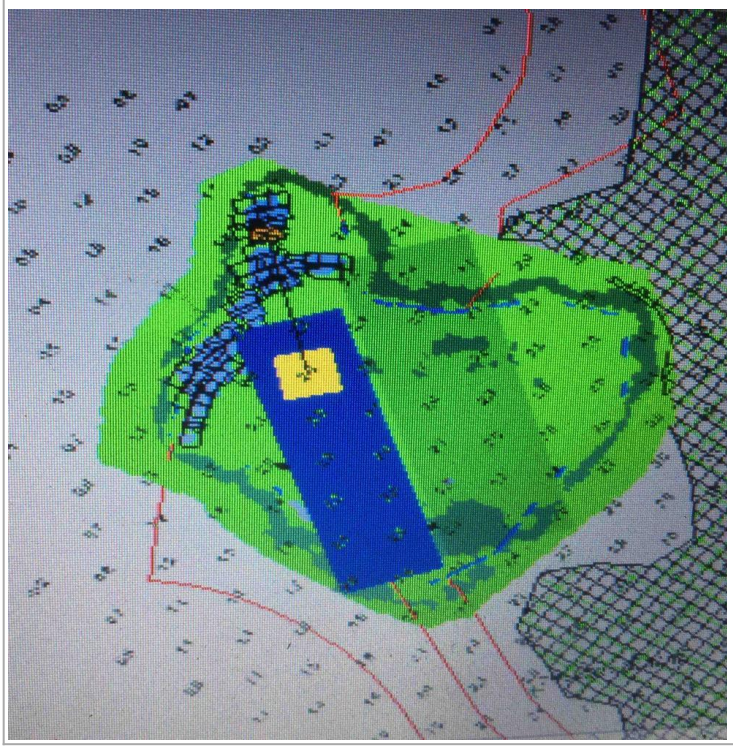
Time	Observations
17:57	Drop spuds. Did not collect barge measurements between areas; begin placement.
18:13	Pick up spuds to move north using the bucket/crane. Chris departs in survey vessel to perform water quality monitoring.
18:23	Chris returns from water quality monitoring.
18:33	Chris departs to help move out of the dredge prism.
18:34	Pick up both spuds to move out if dredge prism. Tide gauge reads 7.82' at time of departure.
18:46	Drop port spud to pause and pivot before moving into 8".
18:47	Pick up port spud to move west into 8" placement area.
18:48	Drop port spud to pivot.
18:51	Drop starboard spud. Chris returns in survey vessel.
18:54	Pick up spuds to slide forward using crane and bucket.
18:56	Drop spuds. Begin placement.
19:30	Placement ceases, barge empty.
19:37	Pick up port spud
19:38	Pick up starboard spud. Chris departs in survey vessel. Mobilize to barge pick up point in channel.
19:55	Drop starboard spud.
19:57	Drop port spud in overnight location.
19:59	Chris returns to barge in survey boat. Crew demobilizes for the evening and prepares barge for transport.
21:15	Depart barge for shore transport.
21:26	Arrive at parking, depart for day.

Photos

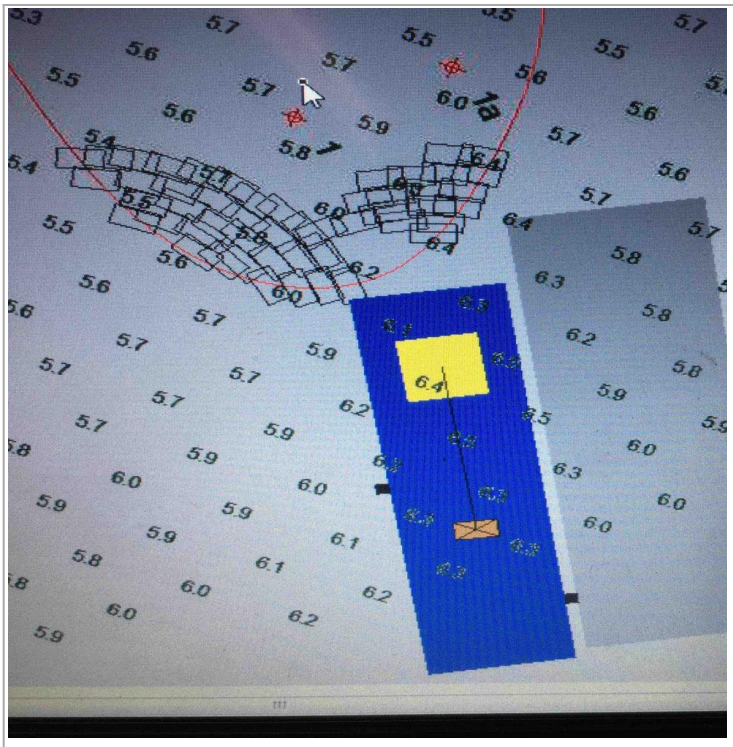
Active placement.

Rain bucket with additional holes to facilitate sinking.

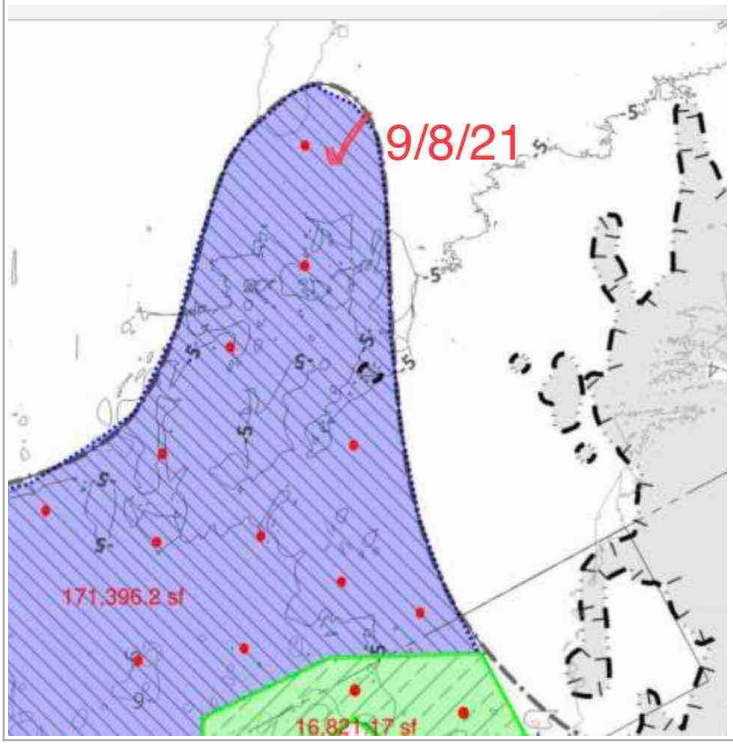
Crew placing the rain bucket for 8" placement.



Bucket map for material placed in remaining low spots in dredge prism (blue ~ 6" low of threshold) (~13 x 4CY buckets placed)



Placement of 8" sand cover.



Location of first rain bucket placed. Left overnight.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/09/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	8" TLC observations
Tailgate Meeting:	Conducted by H&A staff	Weather:	Partly Cloudy|Warm
Work Summary:	Placing sand in 8" TLC boundary.	Temperature:	77
Field Rep:	Jessica Blanchette and Vaishnavi Komaravolu	Remarks:	Visual WQ monitoring. High tide 8.1'@ 19:23.
Field Rep Time In:	15:00	Start Draft Level:	4.75
Field Rep Time Out:	22:20	End Draft Level:	3

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	15:00	22:20
Greg Lybeek	Operator	15:26	22:20
Lester Jones	Project Supt	15:00	22:20
Chad Morrison	Deck Hand Apprentice	15:00	22:20

Equipment

Equipment Used	Start Time	End Time
Survey vessel	15:00	22:20
DB Snohomish	15:00	22:20
4 CY Rehandle	15:00	22:20
Victory	15:00	22:20
Skagit	16:00	22:20
Skiff	15:00	22:20

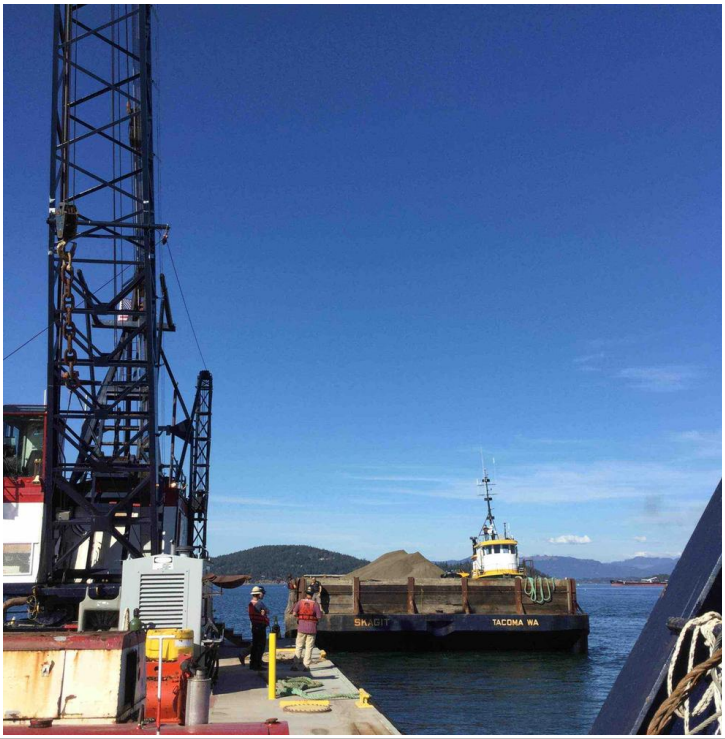
Daily Observations

Time	Observations
15:00	Crew arrives at shore transport area.
15:15	Crew arrives on DB snohomish, Skagit has not yet arrived. Crew mobilizes for day.
16:00	Tug arrives with the loaded Skagit.
16:16	Tug that brought the Skagit departs. Observed a snapped line when visitor tug attempted to pivot, safety concern that was addressed by Greg in discussion with tug operator.
16:27	Pick up port spud to pivot.
16:28	Pick up starboard spud to mobilize into site.
16:29	Chris departs in survey vessel
16:47	Drop spuds in placement area. Chris returns in survey vessel.
17:00	Placed three buckets, sun interfering with operators vision, looking to make a shade or reposition.
17:15	Chris departs in survey vessel to facilitate navigation.
17:16	Starboard spud picked up to pivot and reposition DB snohomish
17:20	Port spud raised to move Db snohomish
17:26	Both spuds dropped. Placement to continue
17:27	Chris returns from survey boat
17:52	Starboard spud raised to pivot Db snohomish
17:53	Starboard spud lowered

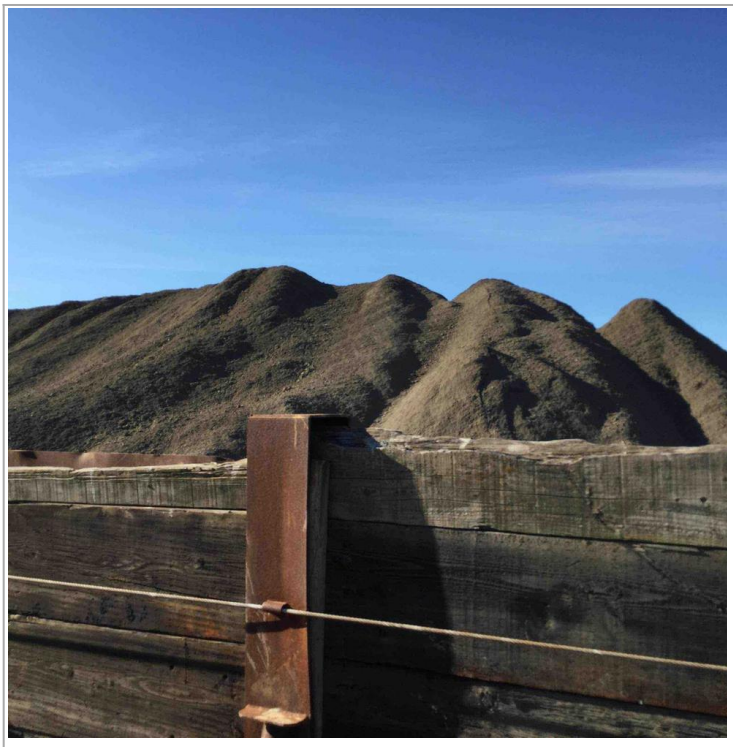
Time	Observations
17:55	Les, Chad, Jessica, and Vaish depart to observe rain bucket level. Attempted to lift the bucket by hand then shifted to using the crane. Measurement taken by inserting a painted rod into the bucket bottom (red paint = middle is 8" and has 2" tolerance). Material seems granular enough to stay within the bucket despite holes for drainage. Material level within bucket =6", within tolerance.
18:09	Return to DB Snohomish, continue placement.
18:12	Both spuds raised to mobilize.
18:32	Both spuds dropped in new placement location.
18:52	Pick up spuds to shift position using the crane and bucket.
18:53	Spuds lowered at new placement area
19:21	Pick up spuds to shift barge west.
19:22	Note: ACC performing visual monitoring only today.
19:22	Drop spuds, some movement still after dropped.
19:23	Pick up both spuds to pivot.
19:24	Drop spuds.
19:26	Spuds raised.
19:27	Spuds lowered in new placement area
19:56	Spuds raised.
19:57	Both spuds dropped in new placement location
20:02	Chad and Les head out in the skiff to place rain bucket in new location
20:06	Chad and Les return
20:18	Chad, Les, and Jess, depart in skiff to check rain bucket.
20:20	First check of rain bucket demonstrated just short of threshold ~5" in depth.
20:35	Second attempt at checking the rain bucket after more material is placed. Result =5.5"/5.75" depth. Greg places two more passes of material and rechecking.
20:43	Third rain bucket measurement performed-- result =8"
20:50	Les, Chad, and Jess return to barge in skiff. Placement continues.
21:12	End placement for the night, will leave barge in position overnight. Crew demobilizes for night.
22:10	Crew, Jess and Vaish depart the barge and head to shore
22:20	Crew departs for the day. Resuming placement with remaining material tomorrow at 1500

Photos

Measurement of painted rod for rain bucket depth measurements.



Skagit arriving.



Material for 8" placement

Active placement of 8"

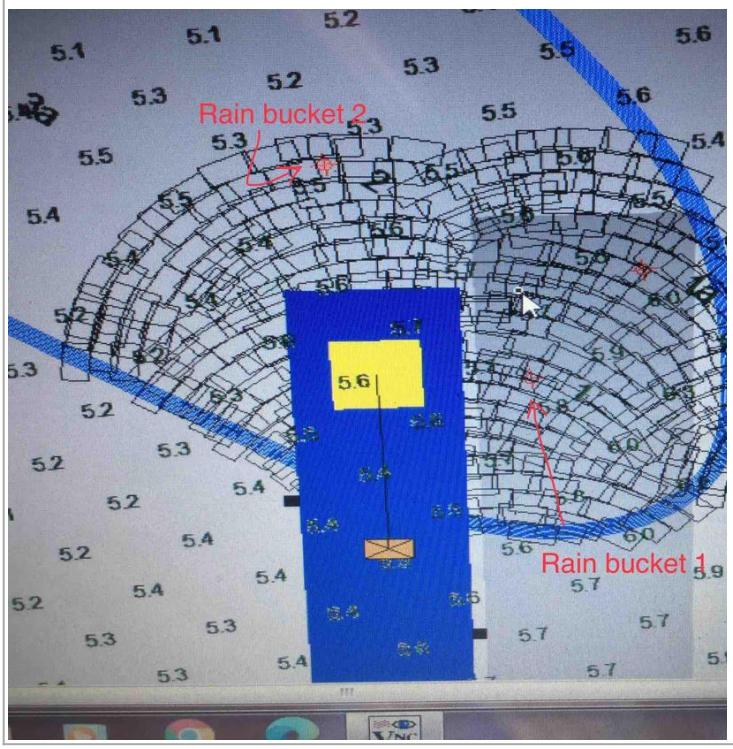
Depth of sediment on rod once removed from bucket (pointing at sediment level)

Rain bucket 1 depth measurement (passed)

Rain bucket 2 draining.

Rain bucket 2 depth measurement (attempt 3, passed)

Rain bucket 2 depth measurement (attempt 2, failed)



Bucket map for placement to date.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/10/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Backfill placement observations
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy
Work Summary:	8" TLC backfill placement	Temperature:	66
Field Rep:	Vaish Komaravolu	Remarks:	
Field Rep Time In:	15:00	Start Draft Level:	3.25
Field Rep Time Out:	18:15	End Draft Level:	2.00
Volume Equation:			

Crew

Worker Name	Work Accomplished	Time In	Time Out
Greg Lybeek	Operator	15:00	18:15
Chris Raymond	Project Engineer	15:00	18:15
Chad Morrison	Deck Hand Apprentice	15:00	18:15
Lester Jones	Project Supt	15:00	18:15

Equipment

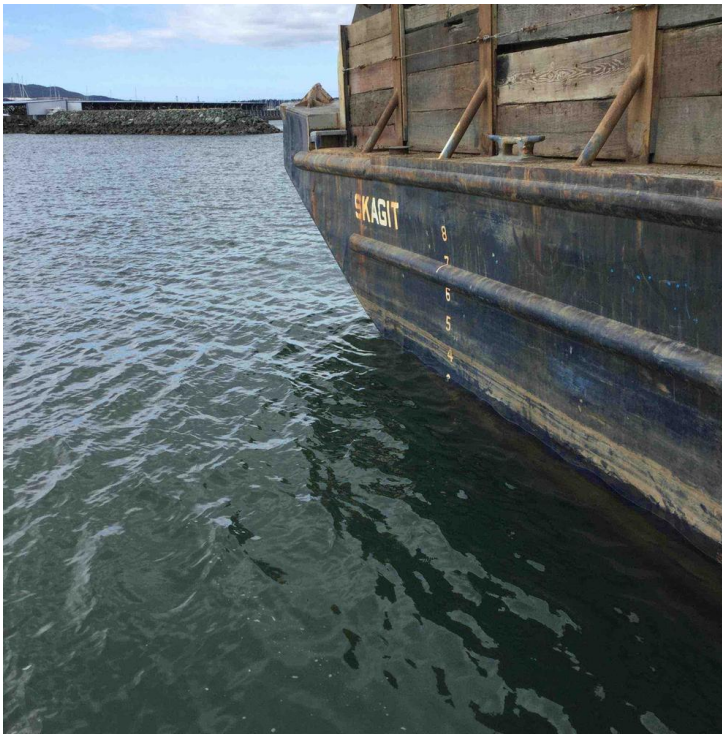
Equipment Used	Start Time	End Time
Skagit	15:00	18:15
DB snohomish	15:00	18:15
Survey vessel	15:00	18:15
4 CY Rehandle	15:00	18:15

Daily Observations

Time	Observations
15:00	Crew arrives on site for shore transport
15:16	Arrive on Db snohomish. Crew starts mobilizing for the day
15:50	Placement begins
15:52	Both spuds raised. Db moved to new location for placement
15:53	Both spuds lowered in new placement location
15:54	Spuds raised again to adjust Db for the crane
15:56	Starboard spud lowered.db pivoting on starboard spud
15:56	Port spud lowered in new placement location
15:57	Placement resumes
16:26	Starboard spud raised. Db pivoting on port spud to new placement location
16:28	Port spud raised
16:29	Both spuds lowered in new location
16:54	All material on barge has been placed
16:57	Db Skagit to be sent to be loaded with backfill material tomorrow morn8ng. TLC placement to begin at 1500 tomorrow
17:00	Crew starts demobilizing
17:22	Both spuds raised. Crew mobilizes dredge out of site. Greg tugging dredge using victory to staging area. Chris heads out in survey vessel
17:40	Drop starboard spud to pivot.
17:42	Drop port spud
17:47	Crew returns to the barge

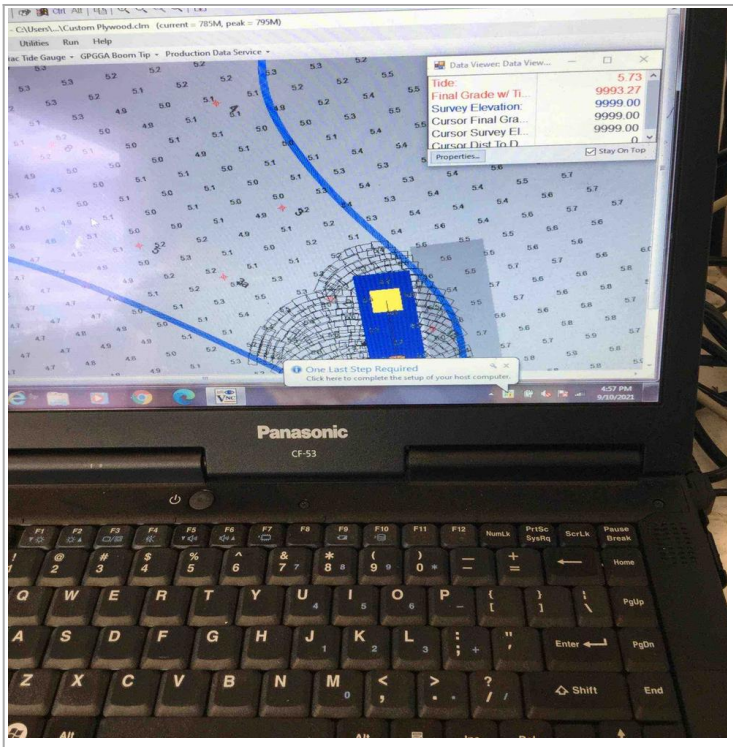
Time	Observations
18:00	Crew boards survey vessel to return to shore
18:15	Crew departs. 8". TLC placement to continue tomorrow at 1500 once new material arrives

Photos



Barge Skagit before placement starts. Water level at approximately 3.25

Remaining material that will be placed today



Bucket map at end of day 9/10/21

End draft level after all material has been placed

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/11/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	TLC backfill monitoring
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Rain
Work Summary:	TLC 8" placement backfill monitoring	Temperature:	64
Field Rep:	Vaish Komaravolu	Remarks:	
Field Rep Time In:	15:00	Start Draft Level:	4.5
Field Rep Time Out:	20:45	End Draft Level:	3.25

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	03:00	20:45
Greg Lybeek	Operator	15:00	20:45
Chad Morrison	Deck Hand Apprentice	03:00	20:45
Lester Jones	Project Supt	15:00	20:45

Equipment

Equipment Used	Start Time	End Time
Skagit	15:00	20:45
DB Snohomish	15:00	20:45
Skiff	15:00	20:45
Survey vessel	15:00	20:45
4 CY Rehandle	15:00	20:45

Daily Observations

Time	Observations
06:57	Spuds raised and lowered in new location
08:20	Crew starts demobilizing for the night.
15:00	Crew arrives on site for shore transport
15:20	Crew arrived DB snohomish. Crew starts mobilizing.skagit yet to arrive
15:50	Skagit arrives
16:20	Port spud raised. Chris heads out on survey vessel to navigate. Db snohomish pivots on starboard
16:22	Starboard spud raised
16:40	Both spuds lowered in TLC place,ent location. Chris returns to Db
16:46	Placement begins
17:06	Both spuds raised. Db moved to new placement location.
17:07	Both spuds lowered. Slight adjustment made to spuds and placement begins in new location
17:41	Both spuds raised. Db moved to new location
17:43	Both spuds lowered in new placementlocation. Chad and Les head out in skiff to place rain bucket in location 3A (Chris mentioned that this is an additional location that they are using as an additional check but is not present in the list)
17:50	Chad,Les, and Vaish head out in skiff to check on rain bucket.
17:54	First check just at 4" and short of the threshold. Greg to place a few more passes before next check.
18:01	Check passes at 6 1/16 ". Chad, Les and vaish returnto Db on skiff
19:02	Spuds raised and lowered in new placement location
19:55	Placement stops for the day. Spuds raised, Db moved to new location on site
20:10	Spuds lowered. Db to remain on site and placement of remaining material to resume on Monday

Time	Observations
20:30	Crew leaves Db in survey vessel for shore.
20:44	Crew departs for the night

Photos

Film of fines from 8" TLC material and entrained air resulting from placement with 4 CY bucket.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/13/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Warm
Work Summary:	8" placement/ finish barge	Temperature:	70
Field Rep:	Jessica Blanchette	Remarks:	
Field Rep Time In:	13:30	Start Draft Level:	3.75
Field Rep Time Out:	19:00	End Draft Level:	1.75

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	19:00
Greg Lybeek	Operator	14:00	19:00
Lester Jones	Project Supt	14:00	19:00
Chad Morrison	Deck Hand Apprentice	14:00	19:00

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	18:51
DB Snohomish	14:00	18:51
Skagit	14:30	18:51
4 CY Rehandle	14:00	18:51

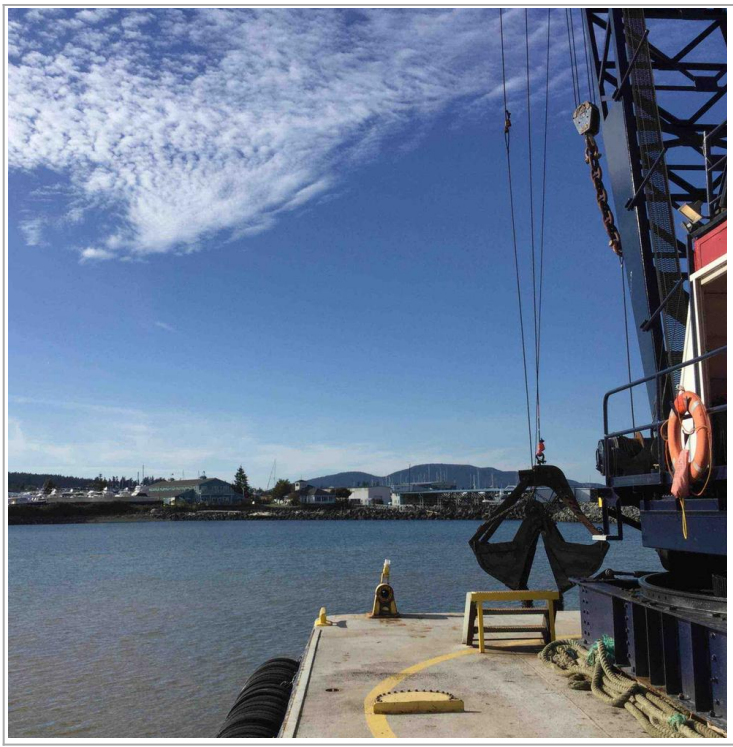
Daily Observations

Time	Observations
13:27	Arrive on site for shore transport
14:05	Arrive at DB Snohomish. Crew mobilizes for day.
15:04	Pick up spuds to mobilize into site.
15:07	Drop port spud
15:08	Drop starboard spud.
15:17	Pick up and drop spuds-- moving forward into position using crane bucket.
15:24	Begin placement.
16:05	Pick up spuds to shift position west..drop spuds.
16:06	Chris departs for water quality monitoring. Slack tide reading, missed ebb tide.
16:23	Chris returns to barge.
16:30	Greg notified Chris that he was on the last bucket, Chris departed for second water quality reading
16:41	Chris returns in survey vessel. Plume is visible at approx 75 ft radius around placement.
16:42	Conclude placement for day. Approx 40 buckets were placed before running out of material.
16:56	Pick up spuds to mobilize out of site.
17:16	Drop spuds in staging area near channel to demobilize and prep barge for transport.
18:39	Depart dredge for shore transport.
19:00	Depart for day

Photos

Chris performing water quality monitoring.

Visual plume (~75' from bucket)



Active placement.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/14/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" backfill placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Rain
Work Summary:	Placement of 8", receive new barge.	Temperature:	60
Field Rep:	Jessica Blanchette	Remarks:	Low tide: 6.6'@17:45, High: 7.3'@22:26.
Field Rep Time In:	14:00	Start Draft Level:	4.75
Field Rep Time Out:	20:57	End Draft Level:	1.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	20:57
Greg Lybeek	Operator	14:00	20:57
Lester Jones	Project Supt	14:00	20:57
Chad Morrison	Deck Hand Apprentice	14:00	20:57
Visitor- Glenn Cove	Drop off Skagit	14:46	15:09

Equipment

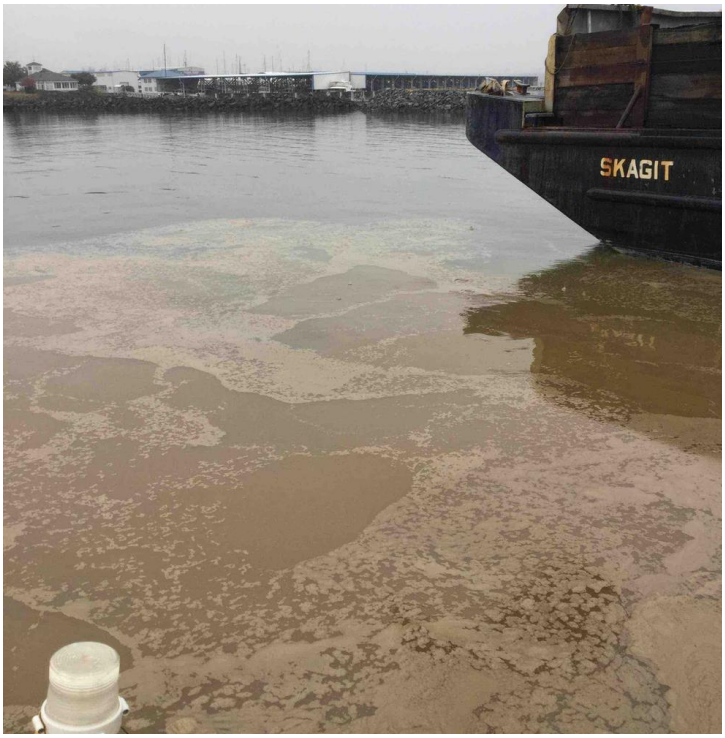
Equipment Used	Start Time	End Time
Survey vessel	14:00	20:57
DB Snohomish	14:00	20:56
Victory	14:00	20:56
Skiff	14:00	20:56
Skagit	15:03	20:56
4 CY Rehandle	14:00	20:56

Daily Observations

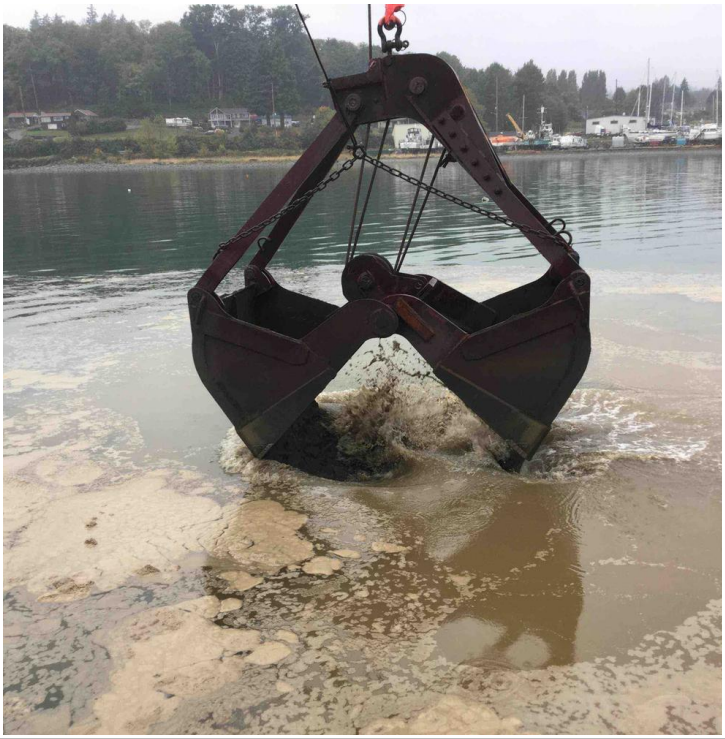
Time	Observations
14:00	Arrive at shore transport area.
14:15	Arrive at DB snohomish
14:46	Glenn Cove arrives with Skagit
15:09	Glenn cove departs; pick up port spud.
15:11	Pick up starboard spud to mobilize into site. Chris departs in survey vessel to facilitate navigation.
15:32	Drop port spud near placement area to adjust positioning.
15:35	Drop starboard spud. Chris returns in survey vessel.
15:41	Begin placement (1 bucket before sliding forward)
15:43	Pick up both spuds.
15:44	Drop both spuds.
16:17	Pick up spuds shift forward.
16:18	Drop both spuds, resume placement.
16:20	Lester and Chad place rain bucket 3.
16:55	Rain bucket passes inspection at 8.5".
17:02	Pick up and drop spuds to shift forward.
17:14	Chris departs for water quality monitoring (ebb tide)

Time	Observations
17:25	Chris returns from water quality monitoring-- noted a reading of 13 NTU at early warning site but dropped off to <1 NTU at point of compliance. Likely due to interaction of location relative to the jetty creating a "finger" reaching out and stopping before point of compliance.
17:30	Chris departs in survey vessel to recon/ survey in dredge prism.
17:50	Pick up and drop both spuds to shift forward; resume placement.
18:23	Pick up spuds to shift back (east)
18:24	Drop starboard spud.
18:27	Drop port spud,resume placement.
18:51	Pause placement to compile remaining with skid steer and prep barge, approx one bucket + left.
18:55	Finish placement. Crew moves env bucket to the Skagit and demobilizes.
19:25	Pick up both spuds to mobilize out of site.
19:29	Drop port spud to pivot.
19:30	Drop starboard spud.
19:45	Greg, Les, and Chad depart with Skagit and Victory to meet Glenn Cove in deeper water.
20:12	Crew returns with Victory.
20:52	Depart dredge for shore transport.
20:56	Depart for day.

Photos



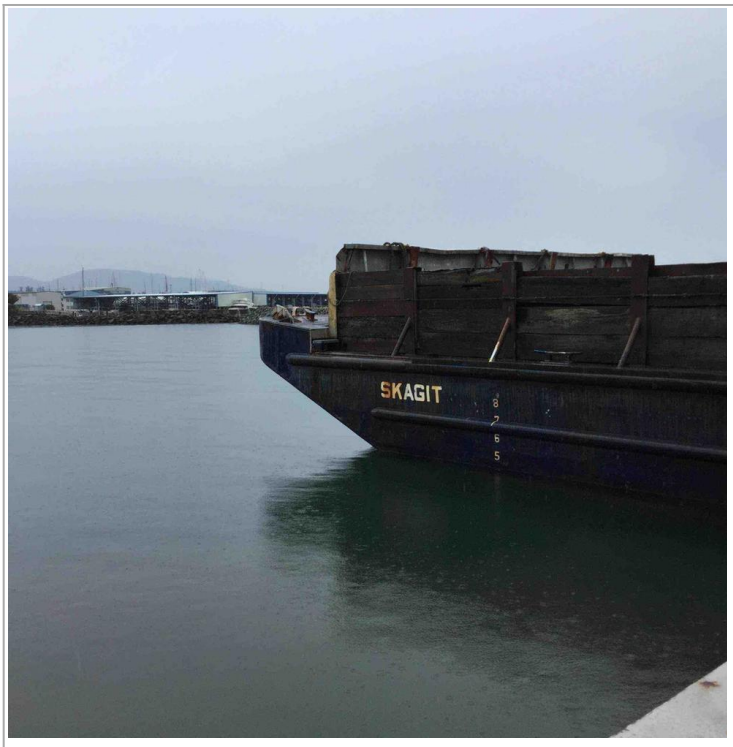
Extent of visible plume relative to barge.



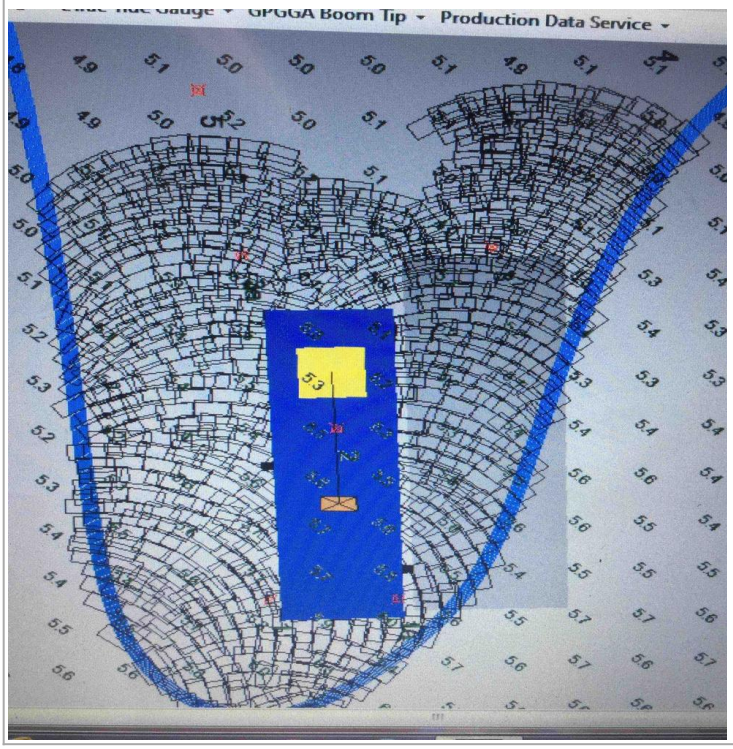
Active placement.

Measurement of rain bucket 3= 8.5"

Rain bucket 3 removed post-placement; note drainage holes, one blocked by sediment.



Full barge starting level.



Bucket map placement to date (end of day 9/14)

HARTCROWSER
A division of Haley & Aldrich

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/15/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Sunny|Warm
Work Summary:	Receive barge 9-TLC, placed 8" TLC, prep for 2" demo/test table.	Temperature:	64
Field Rep:	Jessica Blanchette	Remarks:	Visual water quality monitoring.
Field Rep Time In:	14:00	Start Draft Level:	5
Field Rep Time Out:	21:40	End Draft Level:	4

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	21:13
Greg Lybeek	Operator	14:00	21:13
Lester Jones	Project Supt	14:00	21:13
Chad Morrison	Deck Hand Apprentice	14:00	21:13

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	21:13
DB Snohomish	14:00	21:13
Skiff	14:00	21:13
Victory	14:00	21:13
4 CY Rehandle	14:00	21:13
Skagit	15:27	21:13

Daily Observations

Time	Observations
02:00	Arrive at shore transport area.
14:11	Arrive on DB Snohomish
14:50	Crew departs in Victory to pick up Skagit from Glen Cove.
15:01	Chris departs in survey vessel.
15:26	Chris and Crew with Skagit return to DB snohomish.
15:33	Pick up spuds to mobilize into site.
15:41	Drop port spud to pivot.
15:51	Drop starboard spud
15:57	Pick up spuds to pivot.
15:58	Drop port spud.
15:58	Drop starboard spud.
16:03	Begin placement. Les and Chad depart to place rain bucket #4.
16:30	Les, Chad, and Jess depart to check rain bucket #4
16:35	Rain bucket passes inspection at 8". Return to dredge to shift position and continue placement.
16:38	Pick up starboard spud to pivot.
16:39	Drop starboard spud.
16:41	Pick up spuds to pivot, may have drifted over buoy of unknown origin. Will likely need to remove buoy.
16:42	Drop spuds.

Time	Observations
16:45	Les and Chad depart to remove buoy-- appears to be abandoned crab pot. Continue placement.
17:16	Pick up spuds to shift position.
17:17	Drop spuds. Continue placement.
17:36	Chris departs in survey vessel, pushes Skagit to shift positioning to the stern.
17:47	Cease placement. Estimated 48 buckets of material placed. Shift to evening out material distribution on barge and setting up table for 2" demonstration scheduled 9/16.
19:08	Noted a considerable amount of drift eelgrass between the DB Snohomish and Skagit.
19:10	Crew measures 2" placement table: 8'4" (100") wide x 8'3" (99") long
19:38	Test/ dry run of shaker table over the barge. Appears to have placed just under 2", not all the material was placed when the slats opened and closed but approx 90% was. See photos for demo. A video can be provided upon request.
19:48	Test run #2 to time operations and test vibrate feature. (4 min from start of load to placed). Approx 3" in high spots and 2" in low.
20:04	Chris departs in survey vessel to facilitate navigation to overnight staging area.
20:05	Pick up spuds to mobilize out of site.
20:10	Drop spuds in overnight staging area. Chris returns to DB snohomish. Crew demobilizes for evening. Will leave crane cables with headache ball attached to table spreader bar, spreader bar suspended in air. Greg mentioned will lay down spreader bar when over weekends or if weather picks up (wind/waves).
21:07	Depart dredge for shore.
21:12	Arrive at shore transport area. Crew departs, JPB works on PVC stakes for 2" placement demo and drops off for Grette.

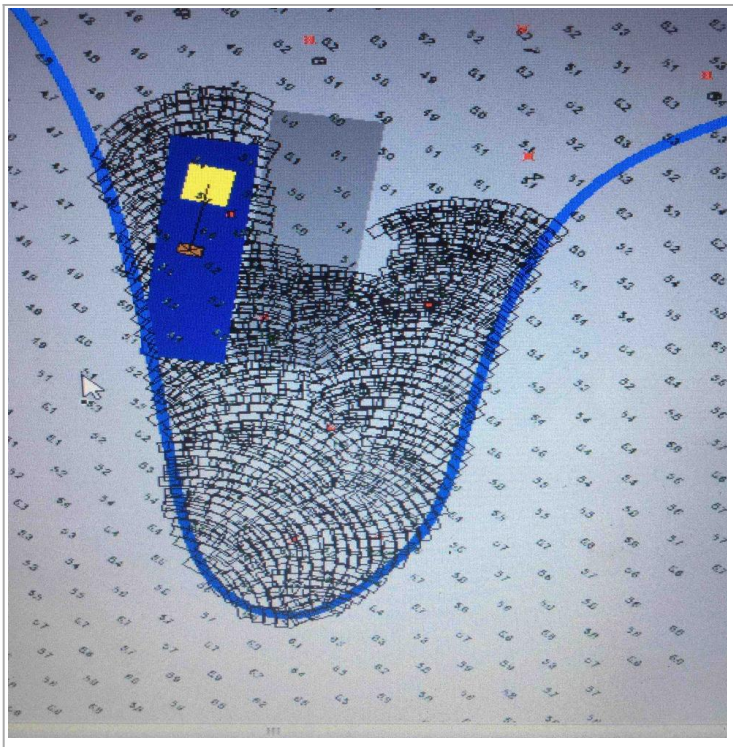
Photos

Controls for 2" table to be tested today, implemented tomorrow 9/16.

Rain bucket 4 measurement (8"= pass inspection)

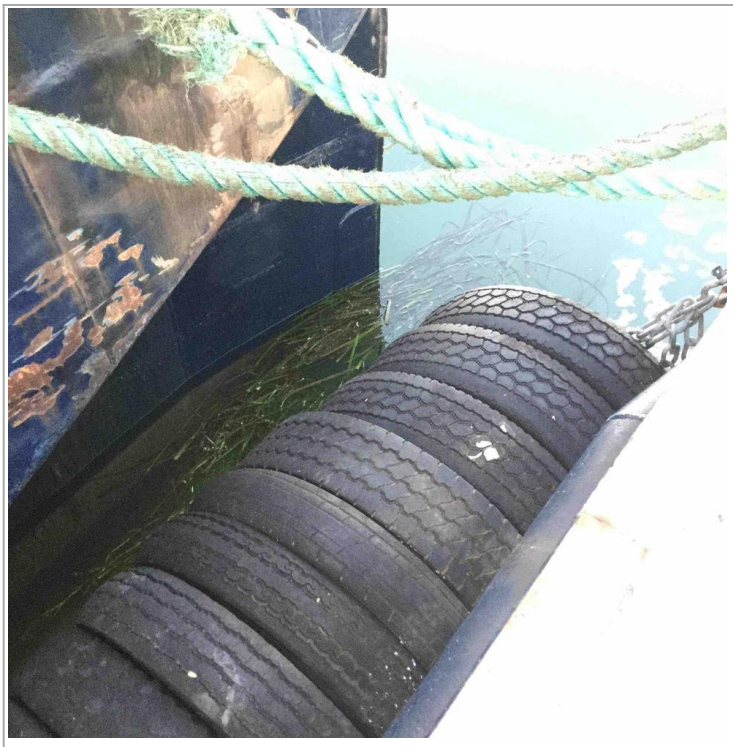
Active placement (crab pot buoy in background)

Abandoned crab pot removed from site.

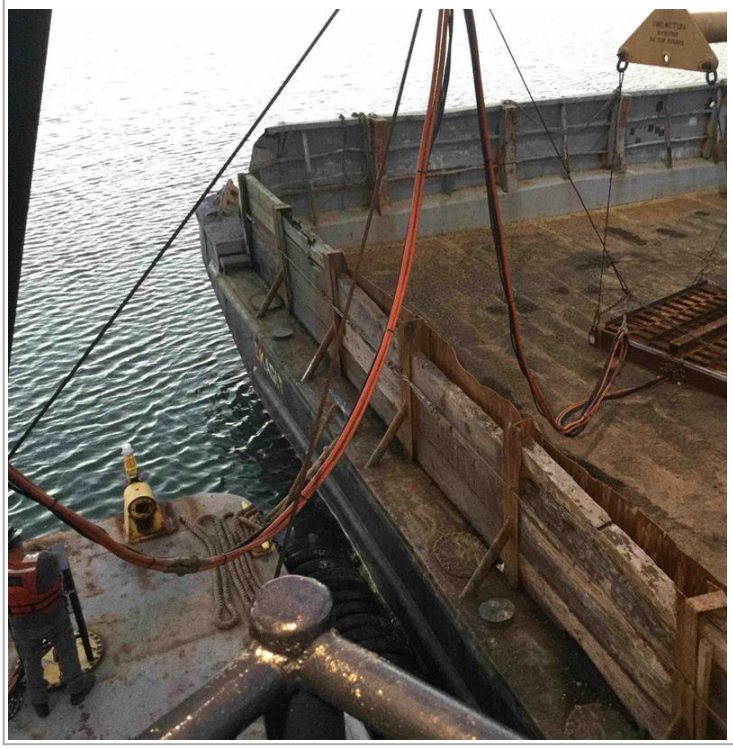


End of day bucket map.

Drift eelgrass.



Drift eelgrass.



Overview of set up with controls table,

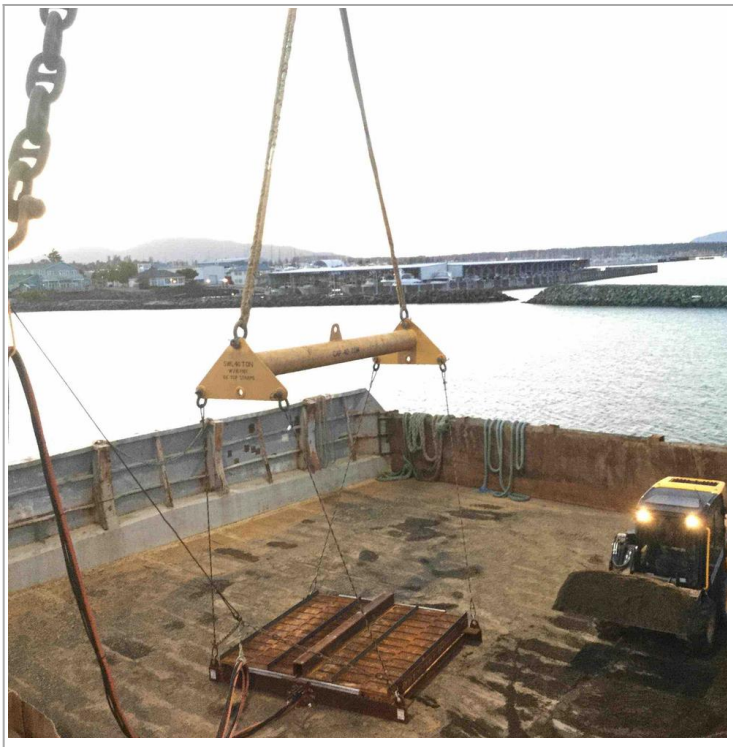
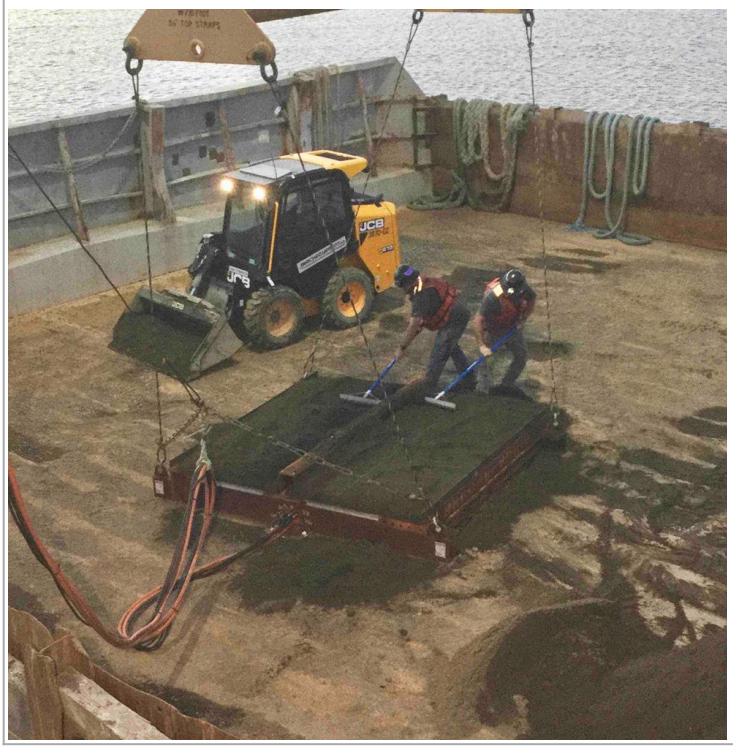
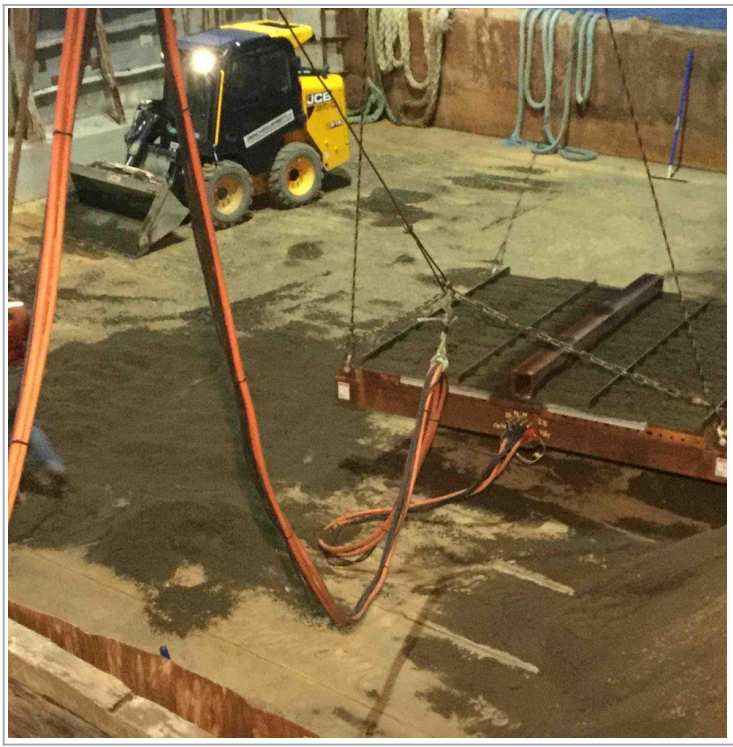


Table in closed position on barge.



Crew smoothing material on table.



Post placement for test run #2, showing 3" in high spots and 2" in low with some material remaining on table.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/16/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	2" demonstration
Tailgate Meeting:	Conducted by H&A staff	Weather:	Partly Cloudy|Warm
Work Summary:	2" demo and placement	Temperature:	67
Field Rep:	Jessica Blanchette	Remarks:	Draft levels may be altered by material position on barge.
Field Rep Time In:	13:30	Start Draft Level:	4.5
Field Rep Time Out:	00:02	End Draft Level:	4.2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	00:02
Greg Lybeek	Operator	13:00	00:02
Lester Jones	Project support	13:00	00:02
Chad Morrison	Deck Hand Apprentice	13:00	00:02
Arianne Fernandez	Depart of Ecology	13:30	17:55
N. John Bingham	Hart Crowser PM	13:30	17:55
Arlen Henderson	Deck Hand Apprentice	18:55	00:02
Scott Maharry & dive team	Grette - independent check of 2" demo.	08:00	12:45

Equipment

Equipment Used	Start Time	End Time
Survey vessel	13:00	00:01
DB Snohomish	13:00	00:01
Skiff	13:00	00:01
Victory	13:00	00:01
Skagit	13:00	00:01
Shaker table	13:00	00:01

Daily Observations

Time	Observations
00:01	Arrive at shore transport area and depart for day.
13:30	Arrive on site with Arianne and John Bingham to prepare for shore transport. Crew arrived early to perform maintenance and mobilize into site.
14:21	Picked up by Chris in survey vessel to move into site
14:37	Arrive on DB snohomish
14:42	NJB, AF, JPB, and Chris view loading and test "dry" runs from Skagit barge.
14:46	Test run 1= 8'6" wide by 8'6". 1.5"-3" in depth. Location where bar is located is between 0-1".
14:49	Test run 2 adjacent to to first according to screen location. Overlap of approx 2', highest measurement of 5", most spots of 3", some of 2".
15:03	Test run 3, using 9'x9' for dimensions of bucket on ClamVision. Used 3 cycles. Deepest spots measure 3", lows of 2". Spread total=8.5'x8.5'.
15:17	Second load of test run. Some overlap of the table resulted in 5" depths.
15:26	Moving to "wet" run, will place 4ish tables in the water using a 10'x10' square for represent the table and then survey. Comparison will be against yesterday's survey.
15:55	4 tables placed with rain bucket near center.

Table: 8' x 8'5" (w/ channel covering actuators)

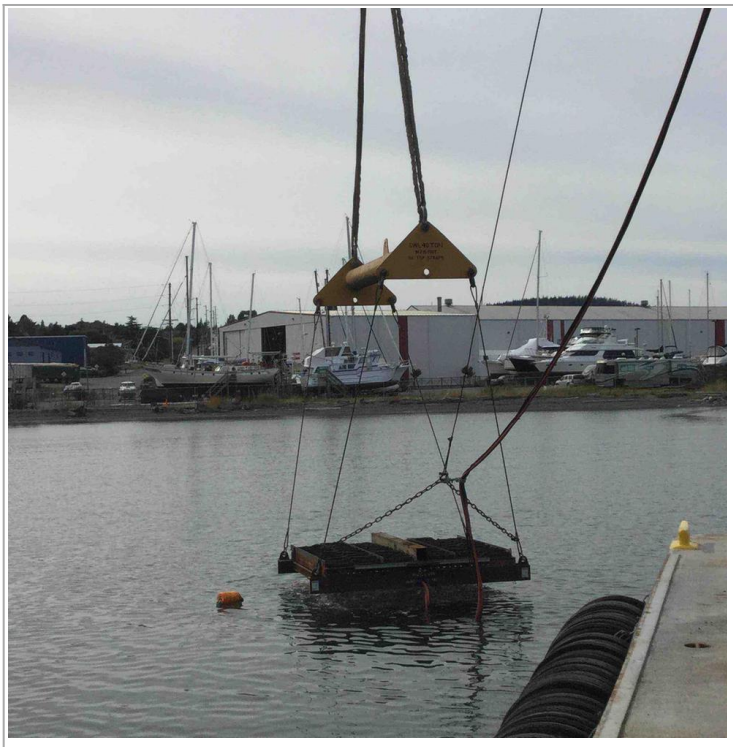
Time	Observations
16:00	Chris departs to survey.
16:04	Les and Chad retrieve test rain bucket, observed fill at 1.75".
16:49	Survey results were muddled due to interference of the dredge and exposure to satellites. Discussed with NJB and AF, moving forward with placement and may attempt another survey tomorrow before mobilizing into site.
16:50	Begin 2" placement.
17:52	Chris departs in survey vessel to drop off Arianne and John.
18:10	Chris returns to DB snohomish.
18:49	Chris departs to pick up second apprentice (new arrival) from shore. Crew filling table halfway with sand to fill in void spaces along boundary of 2" placement areas.
18:55	Chris returns with Arlen Henderson (Apprentice).
19:06	Pick up spuds
19:07	Drop spuds.
19:09	Pick up port spud to pivot.
19:10	Drop port spud.
19:13	Les departs to place rain bucket
19:17	Les returns to barge.
22:00	Chris, Les, Jess depart in survey vessel to collect rain bucket #23.
22:03	Rain bucket passes inspection at 1 7/8"
22:04	Pick up spuds
22:06	Drop spuds. Continue placement.
23:17	Cease placement. Set down spreader bar on deck in case weather comes in early. Predictions for 30-40 mph winds 9/17. Headache balls will be tied down on the stern.
23:23	**NOTE: Grette on site earlier in the day prior to ACC mobilization (approx 0800-1245) to place 6 stakes in the area predicted for demonstration. Each stake was inserted with the mudline at 10". From visual inspection, appears all 6 stakes are within the area of placed material for the day. May have set the first "test bucket" on or near stake 4 (1)
23:27	Pick up spuds to mobilize out of site and to staging area.
23:33	Drop spuds in staging location.

1) Scott with Grette called Jessica indicating the area at the NE corner of the dredge area that appeared to have some eelgrass covered by backfill outside the dredge prizm did not appear to cover/smother eelgrass. This was relayed to Chris at ACC.

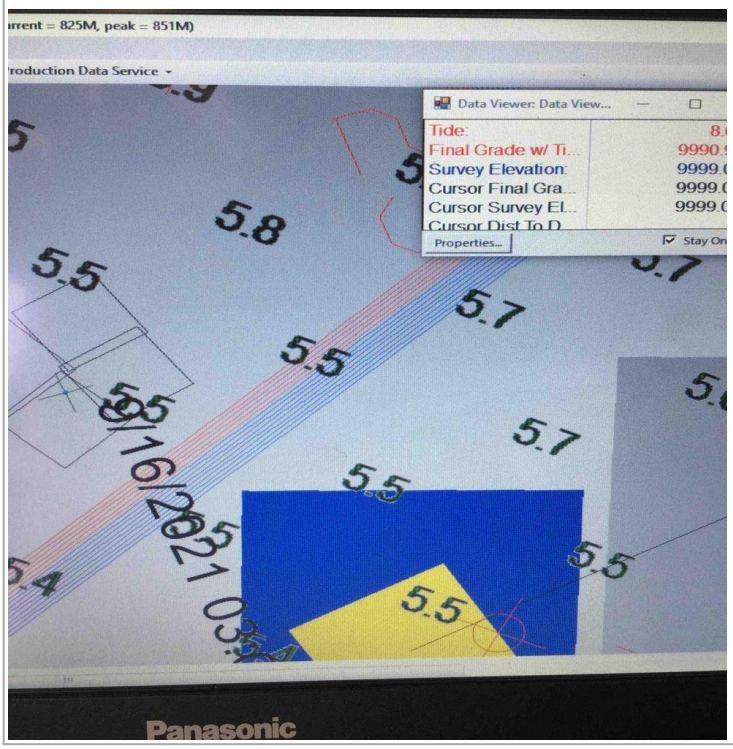
Photos

John measuring depth of dry run on deck.

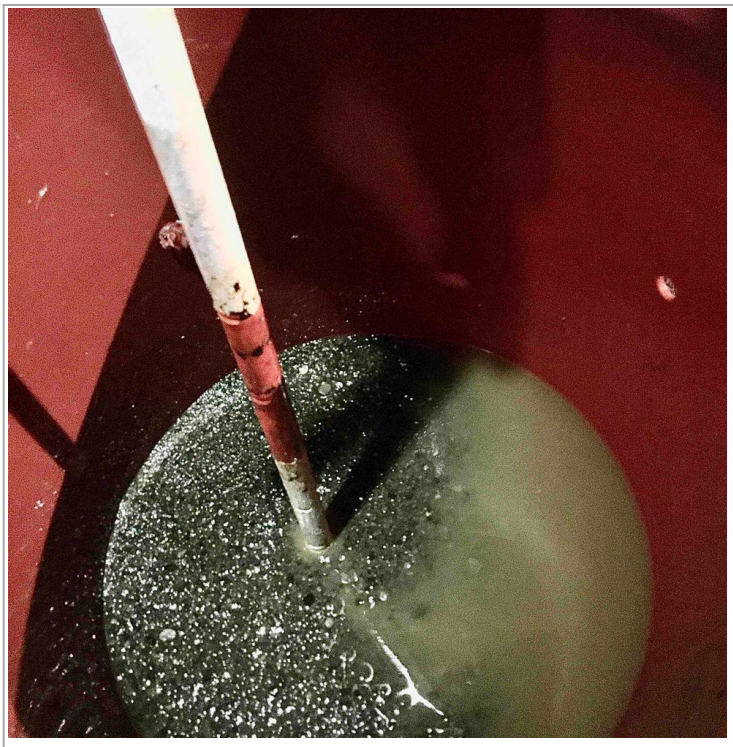
Dry run on deck with overlap between sets. This run assumed the table distribution would be a 9'x9' square



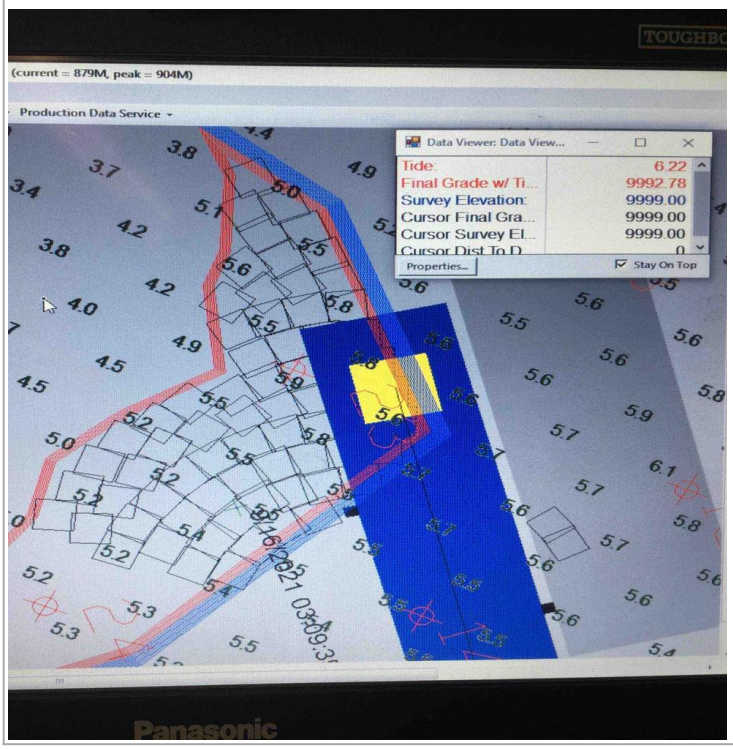
"Wet run" testing placement with an added bucket and survey.



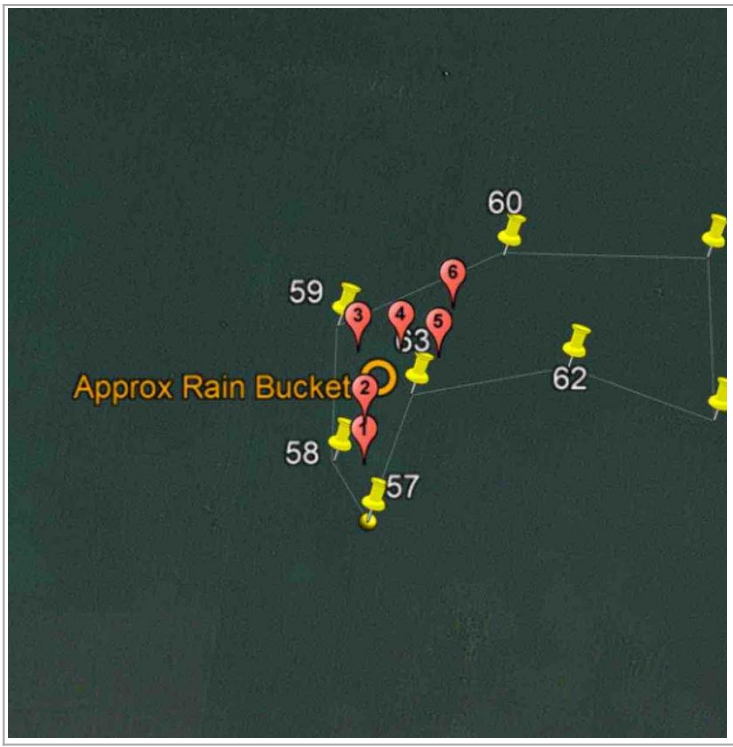
Test placement area during "wet run" with green x marking test bucket location relative to table.



Rain bucket #23 (planned location) showing 1.875" placement. (Grinder mark visible above mudline is at 2").



Final placement map for day 9/16/21. Red X is rain bucket #23, Green is first "test bucket" (~67 to 70 x 2" TLC tables placed)



Location of stakes relative to control points and rain bucket #23.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/20/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" TLC
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Sunny|Cloudy
Work Summary:	Continue 2" placement, replace spud cable.	Temperature:	66
Field Rep:	Jessica Blanchette	Remarks:	
Field Rep Time In:	14:00	Start Draft Level:	4.5
Field Rep Time Out:	23:52	End Draft Level:	4

Crew

Worker Name	Work Accomplished	Time In	Time Out
Aaron McMahill	Project Engineer	14:00	23:52
Greg Lybeek	Operator	14:00	23:52
Lester Jones	Project support	14:00	23:52
Chad Morrison	Deck Hand Apprentice	14:00	23:52
Arlen Henderson	Deck Hand Apprentice	14:00	23:52

Equipment

Equipment Used	Start Time	End Time
Skiff	14:09	23:51
Victory	14:09	23:51
DB Snohomish	14:10	23:51
Skagit	14:10	23:51
Shaker table	14:10	23:51

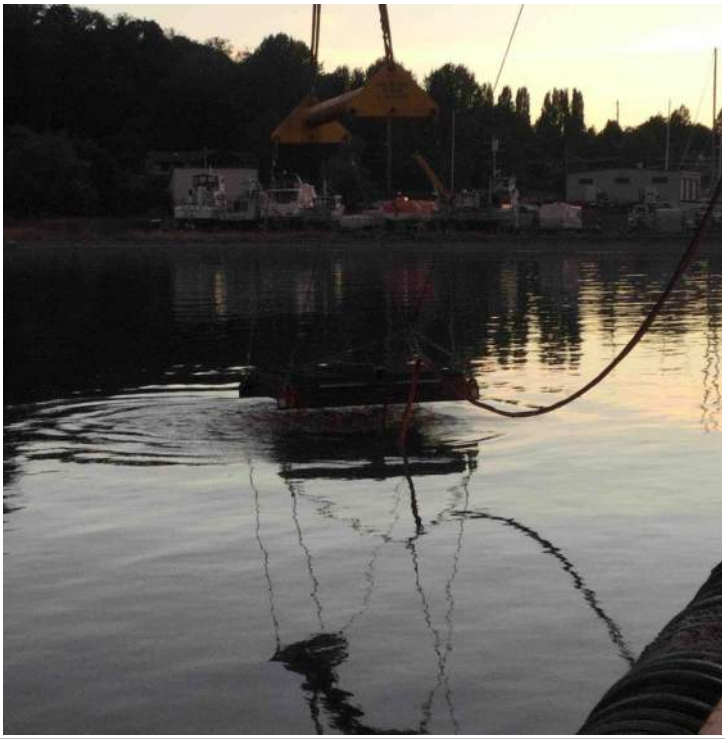
Daily Observations

Time	Observations
14:00	Depart shore for DB Snohomish
14:10	Arrive on DB Snohomish, crew gets set up for day and warms up eqt, kicks off project with Aaron.
15:11	When "waking up" the spuds, the starboard spud cable snapped. ACC crew uses crane to pick up spuds and reposition to re-string cable.
17:20	Finish with spud repairs and mobilize into site.
17:24	Drop spuds in placement location.
17:48	Begin TLC placement and prepare to place rain bucket #24.
18:06	Pick up spuds to shift position.
18:09	Drop spuds. Resume placement.
18:12	Les departs to place rain bucket #24.
18:19	Les returns from placing bucket 24.
18:25	Aaron departs for water quality monitoring.
18:43	Jess and Aaron depart to pick up buoys marking the eelgrass mitigation area.
19:10	Jess and Aaron return to the barge.
21:00	Jess and Les depart barge to check on rain bucket 24 in skiff. Result was 2" of placement (pass)
21:08	Pick up and drop spuds to reposition,
22:55	Cease placement. Approx 49 "tables" placed today near/south of demo area.
23:05	Pick up spuds to move out of site and into staging area.
23:13	Drop spuds. Crew demobilizes for evening.

Time	Observations
23:51	Arrive at shore transport area. Depart for day.

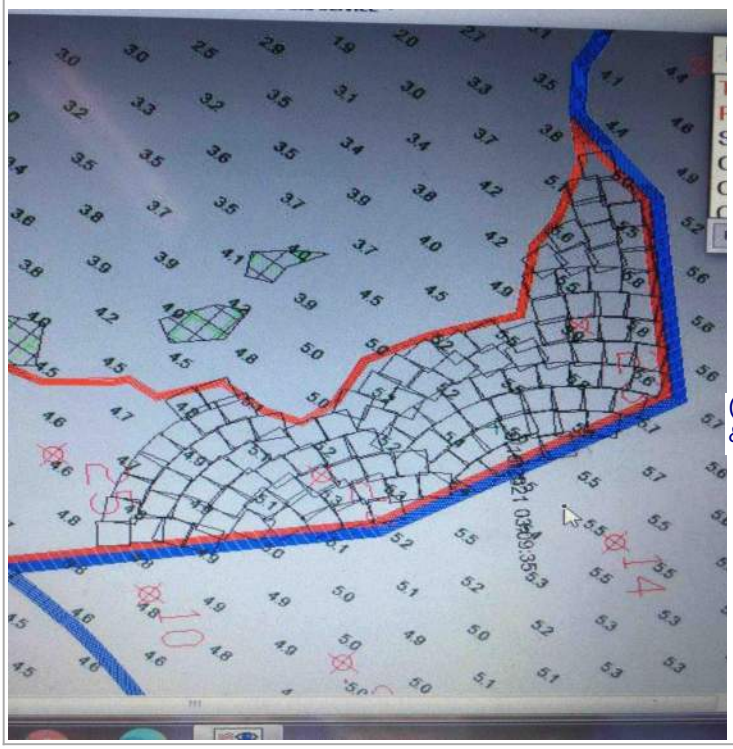
Photos

Crew replacing spud cable.



Active placement

Rain bucket #24 measurements = 2" (pass)



"Bucket"/"table" map to date.
(red circle & number) (black boxes)

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/21/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" TLC
Tailgate Meeting:	Conducted by H&A staff	Weather:	Clear|Warm|Sunny
Work Summary:	2-inch TLC complete in Area A	Temperature:	68
Field Rep:	Jessica Blanchette & Sam Fisher	Remarks:	High tide of 7.8'@18:09
Field Rep Time In:	13:30	Start Draft Level:	4
Field Rep Time Out:	21:41	End Draft Level:	3.8
Volume Equation:			

Crew

Worker Name	Work Accomplished	Time In	Time Out
Aaron McMahill	Project Engineer	14:00	21:40
Greg Lybeek	Operator	14:00	21:40
Lester Jones	Project support	14:00	21:40
Chad Morrison	Deck Hand Apprentice	14:00	21:40
Arlen Henderson	Deck Hand Apprentice	14:00	21:40

Equipment

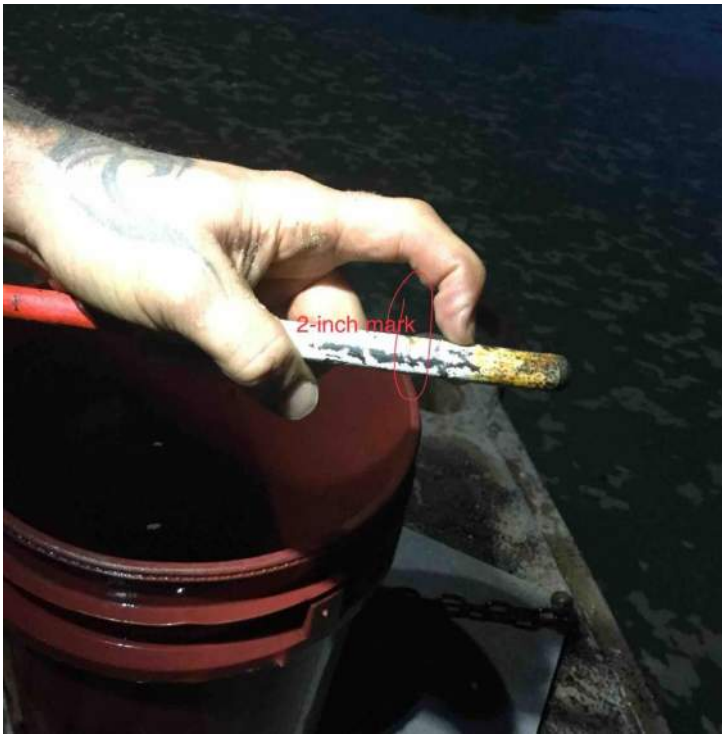
Equipment Used	Start Time	End Time
Skiff	14:00	21:39
DB Snohomish	14:00	21:40
Skagit	14:00	21:40
Victory	14:00	21:40
Shaker table	14:00	21:40

Daily Observations

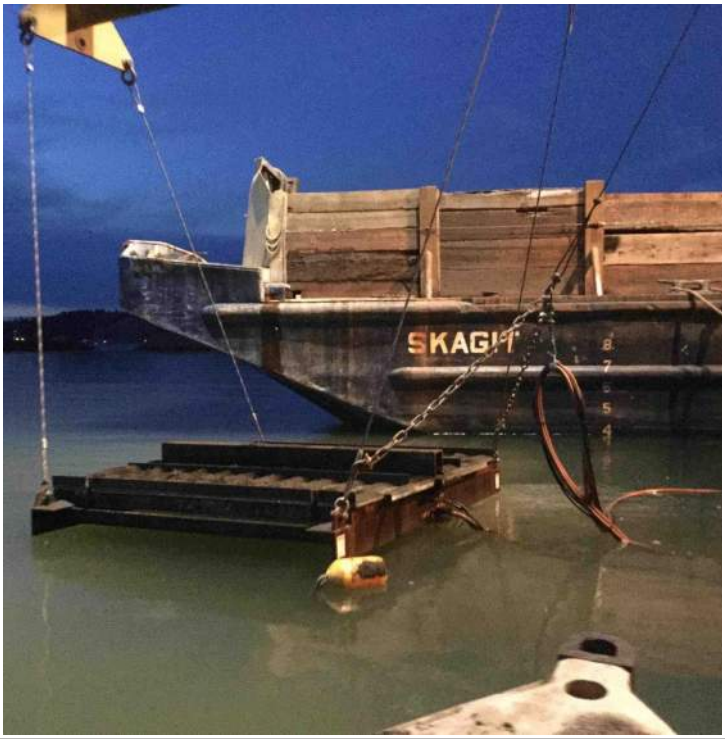
Time	Observations
13:31	Crew arrives on site at shore transport area.
14:23	Arrive at a Db Snohomish.
14:55	Pick up spuds and mobilize into placement site.
15:02	Drop port spud to pivot bow to the north. Detected some movement and silt plume, may have dragged spud.
15:08	Pick up port spud to shift east.
15:10	Drop spuds.
15:18	Begin placement.
15:22	Noted one shoot of eelgrass drifting near the stern after ceasing motion, rhizome attached and in moderate to poor health. ACC did not pass through eelgrass as mapped en route.
15:56	Aaron departs for metered water quality monitoring.
16:13	Aaron returns from water quality monitoring, passes criteria
16:33	Lester departs to place rain bucket 25.
17:11	Pick up spuds to shift position. Swinging bow to the south.
17:12	Drop spuds.
17:13	Pick up port spud to pivot. Replace spud.
17:31	Jessica discussed spudding locations with Lester and Greg, Jessica advised against spudding in transplant mitigation area which is adjacent to current placement location. Lester acknowledged and agreed to move spudding location away from eelgrass in transplant area.
19:17	Aaron departs for ebb tide water quality monitoring.
19:39	Aaron returns from water quality monitoring.

Time	Observations
19:42	Lester, Jess, and Sam depart for rain bucket #25 reading. Measured at 1" of material placed= pass within 1" tolerance.
19:51	Pick up starboard spud to shift bow south using skiff.
19:53	Drop spuds, resume placement.
19:56	Aaron returns to the DB snohomish.
20:43	Cease placement. Approximately 46 "tables" placed.
20:59	Pick up spuds to move to staging area.
21:08	Drop spuds in overnight staging location.
21:27	Left barge for dock, convened at parking lot area.

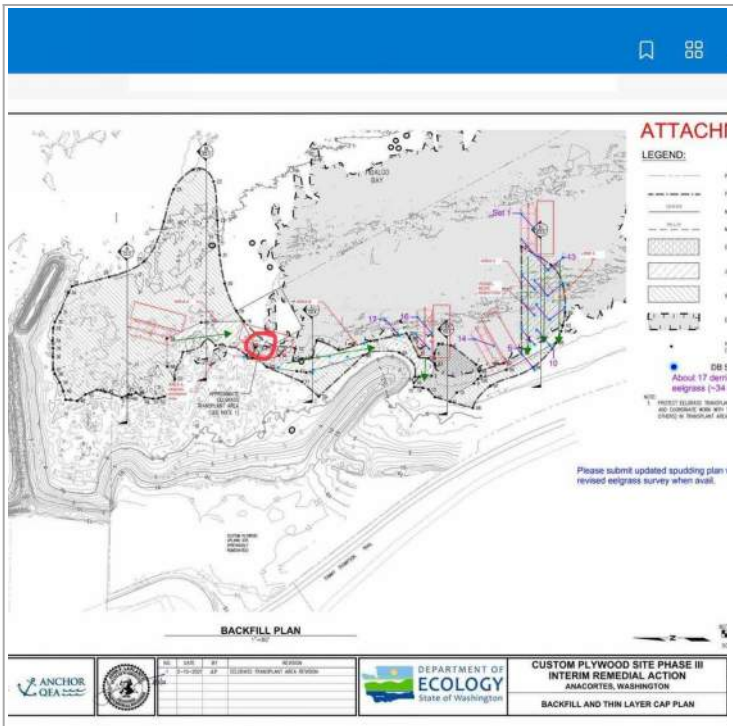
Photos



Rain bucket measurement, within 1-inch tolerance.



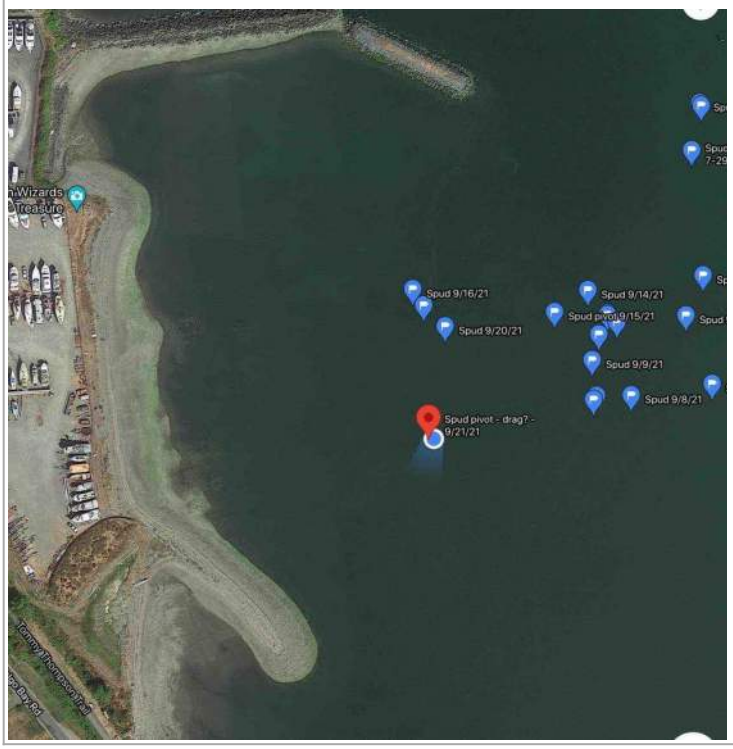
Rain bucket buoy adjacent to shaker table.



Spud plan overview.

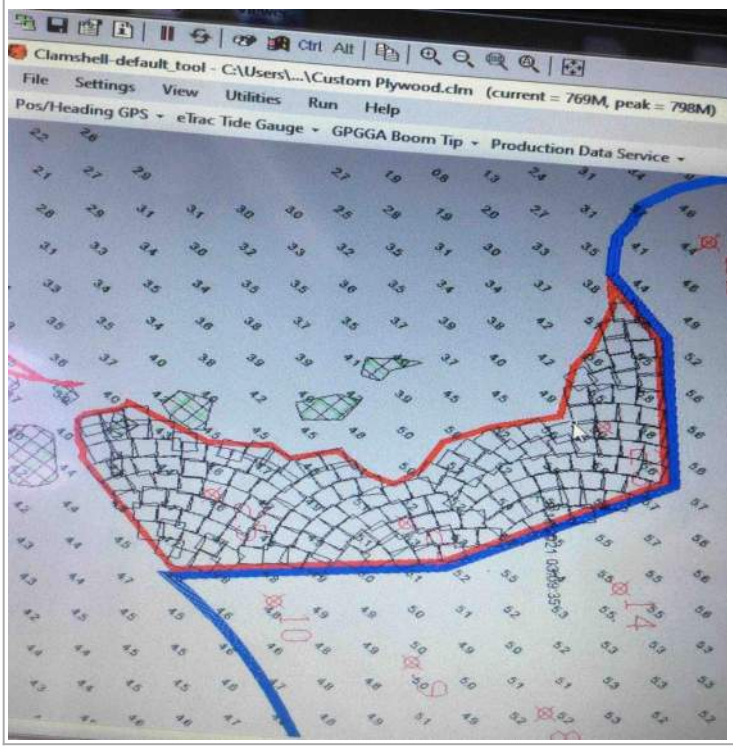
Aaron taking water quality measurements during flood tide.

Floating rhizome visible in the water.



Approximate GPS locations of dropped spuds.

End of day draft level (photo captured 9/22 first thing)



End of day photo of placed "tables."

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/22/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	
Tailgate Meeting:	Conducted by H&A staff	Weather:	Cloudy
Work Summary:		Temperature:	61
Field Rep:	Sam Fisher	Remarks:	High tide of 7.7'@18:28
Field Rep Time In:	13:05	Start Draft Level:	3.8
Field Rep Time Out:	22:10	End Draft Level:	3.5
Volume Equation:			

Crew

Worker Name	Work Accomplished	Time In	Time Out
Lester Jones	Project Support	13:37	21:59
Chad Morrison	Deck Hand Apprentice	13:37	21:59
Aaron McMahill	Project Engineer	13:37	21:59
Arlan Henderson	Deck Hand Apprentice	13:37	21:59
Greg Lybeek	Operator	13:37	21:58
Arianne Fernandez	Project Supervisor	13:37	22:01

Equipment

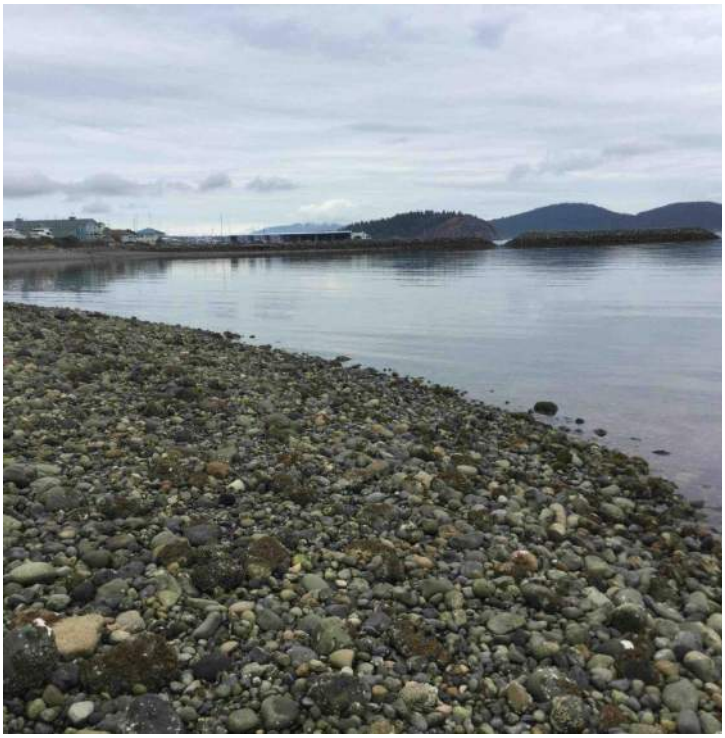
Equipment Used	Start Time	End Time
DB Snohomish	13:45	21:58
Skagit	13:45	21:58
Victory (tug)	13:45	21:58
Shaker table	15:51	21:45

Daily Observations

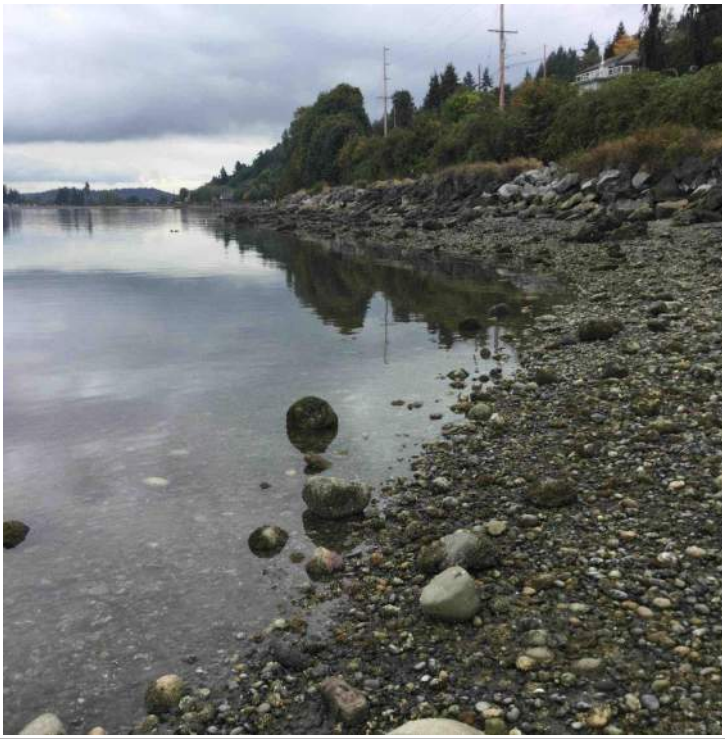
Time	Observations
13:09	Sam Fisher conducted a beach walk prior to the start of work to assess the amount of eelgrass washed up along shore. Minimal eelgrass visible, zero rhizomes seen.
14:46	Port and starboard spuds retracted as mobilization begins.
15:09	Starboard spud dropped to pivot into eelgrass.
15:17	SPUD #1 - Starboard spud dropped within eelgrass (numbering begins for counting purposes) to aid in positioning.
15:25	SPUD #2 dropped - port side, to straighten out within the eelgrass.
15:32	SPUD #3 - starboard side dropped to stabilize and begin placement.
15:49	Placement of 2-inch TLC within eelgrass resumed using shaker table.
16:00	Conversation with Ecology and American regarding concerns over the abundance of rhizomes visible after the first 3 dropped spuds (approximately 10-15 shoots counted off port side). Potential options discussed -- 1) Divers on site to collect them and replant in the AM. 2) Move to another area and work on 8-inch TLC, waiting for Chris and the Survey Boat to better finesse deck positions and minimize eelgrass shoot uprooting. 3) Continue on and just try to minimize what is possible, cognizant that this was going to happen and to address "damage" after the fact. Ultimately option 3 is decided on for now by Ecology.
16:54	Aaron and Sam checked the flood tide water quality measurements. Cut eelgrass strands do not appear to be impacting foam dissipation rates.
17:13	Both spuds pulled to reposition boat. SPUD #4 and #5 placed to continue TLC placement. Approximately 2 shoots with rhizomes visible afterwards.
17:21	Rain bucket #36 placed.
19:35	Water quality measurements taken again during ebb tide.
21:06	Rain bucket pulled to assess placement; 1.75-inches recorded, within tolerance. 58 total "tables" placed.

Time	Observations
21:24	Both spuds removed for parking outside of the eelgrass overnight, zero shoots observed in the water afterwards.
21:27	Both spuds placed outside of eelgrass area overnight (not counted).
21:40	Crew demobilizes for the evening.

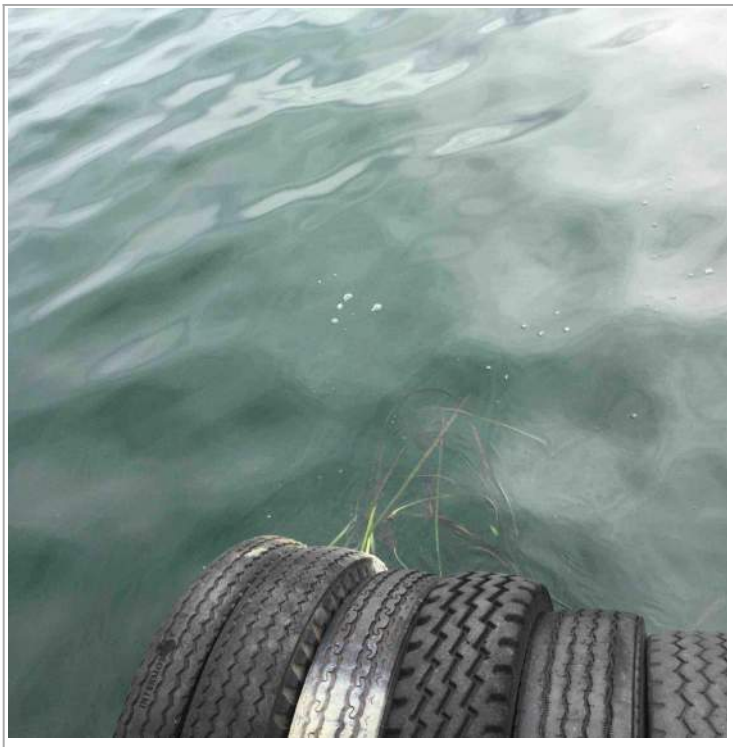
Photos



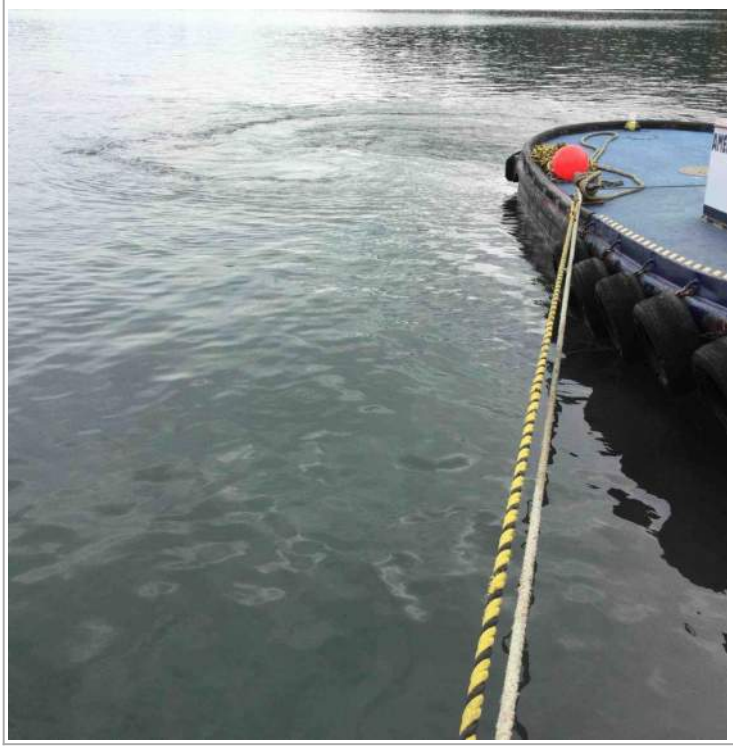
Beach prior to the start of work, adjacent to yesterday's areas of activity.



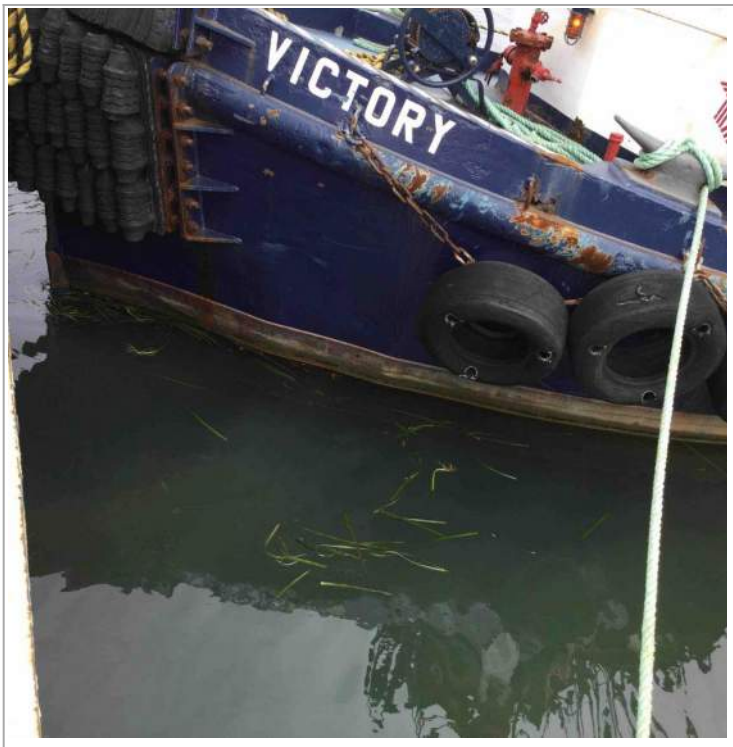
Baseline photo adjacent to the day's planned area.



Uprooted eelgrass with rhizomes attached observed on port side shortly after boarding.

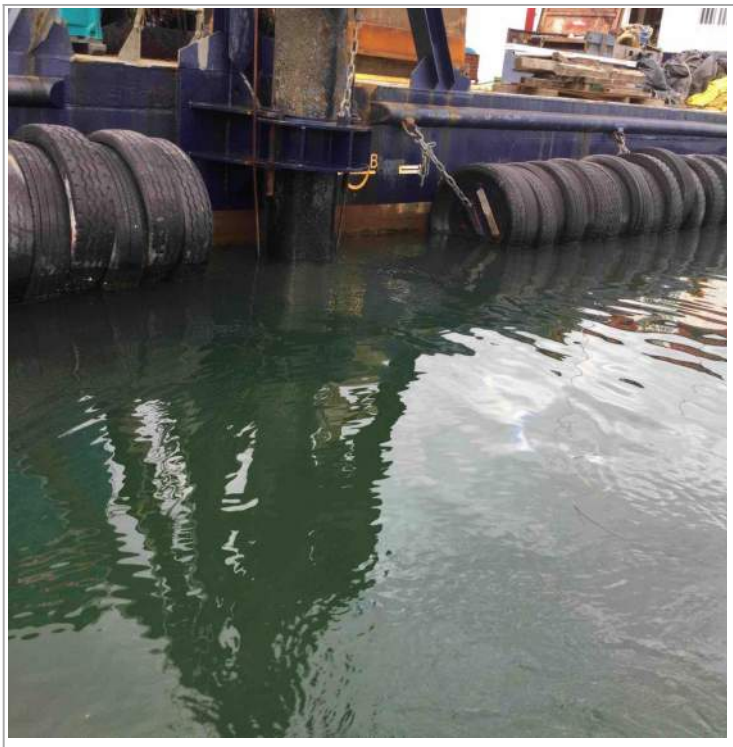


SPUD #1 dropped, view looking at the back of the Victory.



SPUD #2 and #3 placed to begin 2-inch TLC placement. Approximately 10-15 rhizome shoots visible floating in the water afterwards.

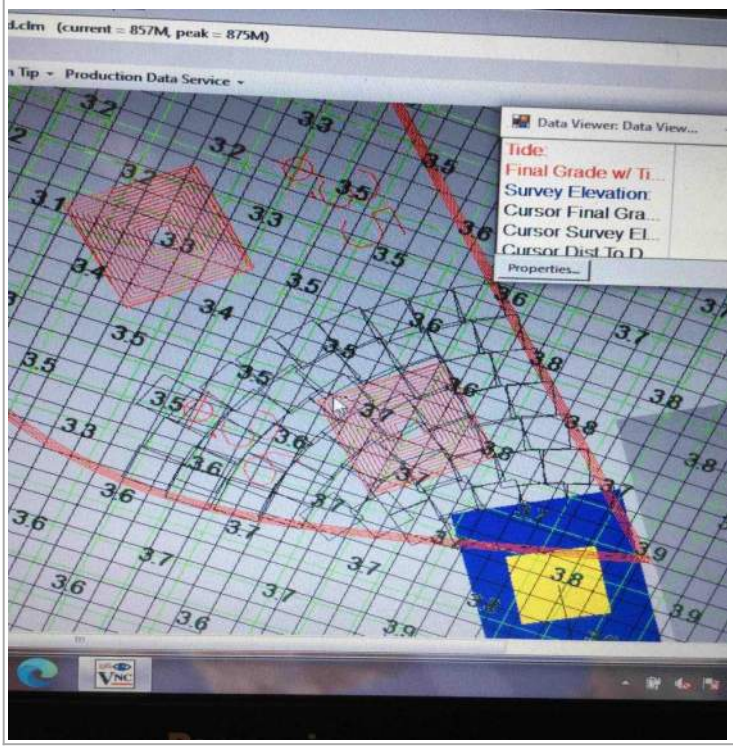
Eelgrass rhizomes visible floating after the placement of spuds #2 and #3.



Cut eelgrass blades do not appear to be impacting foam dissipation, view from the skiff.

Eelgrass with rhizomes visible floating after spud placement (#4 and #5).

View of measuring tool inside of rain bucket #36.



End of day (EOD) screen capture.
Large red squares are eelgrass density monitoring locations to be avoided with rain buckets.

EOD draft level.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/23/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	
Tailgate Meeting:	H&A staff attended briefing by others	Weather:	Partly Cloudy
Work Summary:		Temperature:	64
Field Rep:	Sam Fisher	Remarks:	High tide of 9.7'@ 19:28
Field Rep Time In:	12:57	Start Draft Level:	3.3
Field Rep Time Out:	22:11	End Draft Level:	2.9
Volume Equation:			

Crew

Worker Name	Work Accomplished	Time In	Time Out
Aaron McMahill	Project Engineer	13:40	22:08
Greg Lybeek	Operator	13:40	22:07
Lester Jones	Project Support	13:40	22:07
Chad Morrison	Deck Hand Apprentice	13:40	22:07
Arlen Henderson	Deck Hand Apprentice	13:40	22:07

Equipment

Equipment Used	Start Time	End Time
Skiff	13:50	22:05
Victory	14:00	22:00
Skagit	14:00	22:00
DB Snohomish	14:00	22:00
Shaker Table	15:21	21:25

Daily Observations

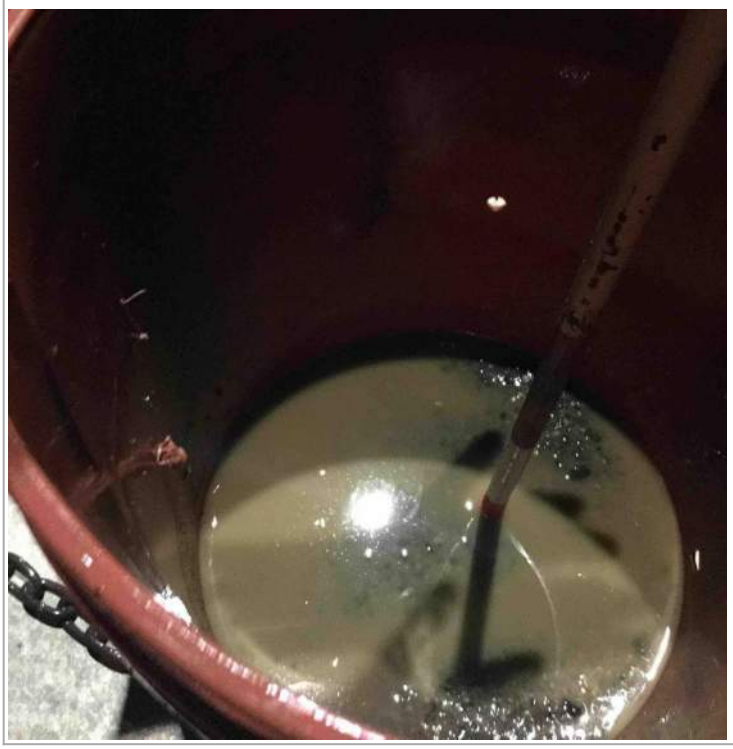
Time	Observations
12:58	Sam Fisher walked beach closest to eelgrass beds (that the crew was in last night) to see if any disturbed shoots are now on shore. Approximately 5-10 cut blades observed but no rhizomes.
13:45	Crew mobilizes.
15:05	Both spuds pulled up as crew moves into eelgrass beds. The skiff is used to bump and guide as possible.
15:17	Both spuds (#6 and #7 within the eelgrass beds) now dropped to resume 2-inch TLC placement. Some rhizomes (approximately 10) counted from the activity.
15:21	Placement of 2-inch cap resumed using the shaker table.
17:36	Rain bucket #35 placed.
18:02	Water quality measurements visually taken during flood period.
20:06	Decision made to not move and reposition spuds in the eelgrass beds again tonight, but to maximize boom swings in the set location currently.
20:29	Rain bucket #35 measurement taken; 2 1/4-inch measured, within tolerance.
21:17	Placement halted and spuds lifted to move out of eelgrass beds overnight. Approximately 66 "tables" placed.
21:31	Both spuds lowered outside of sensitive areas overnight. Crew departs.

Photos

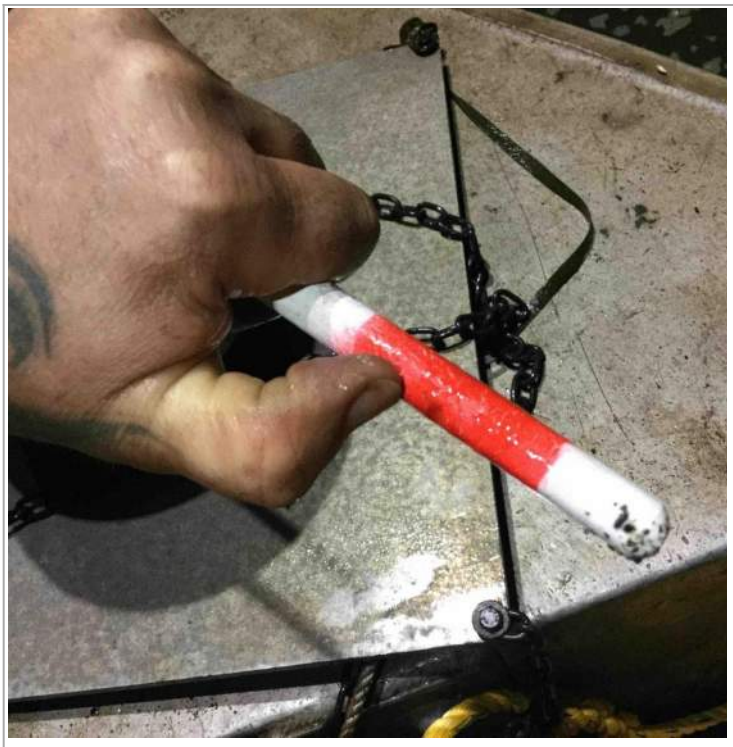
No evidence that the eelgrass presence on the shore was elevated by activity of the previous night's work. No rhizomes were observed on shore.

Skiff used to assist the Victory as it lined up to enter the eelgrass beds.

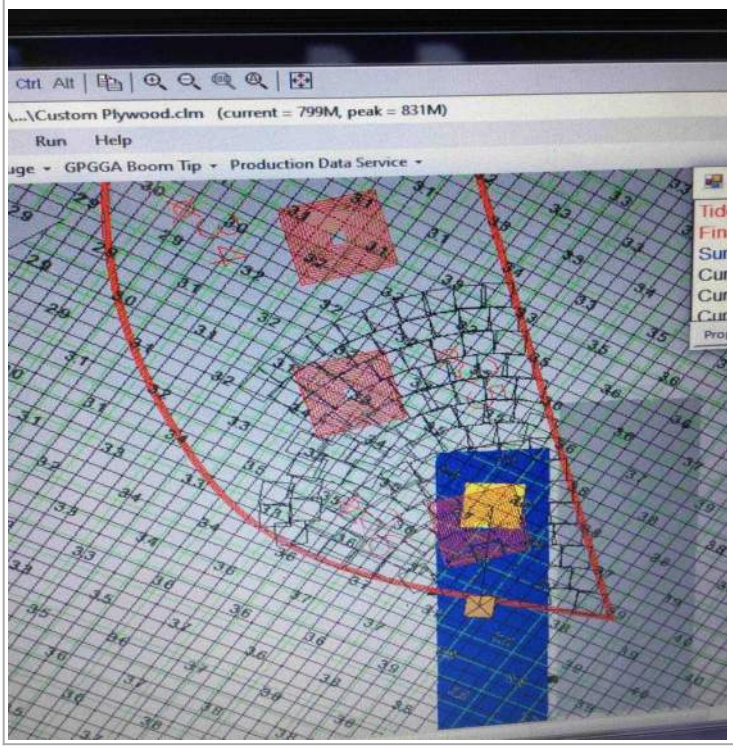
Eelgrass rhizomes visible floating after the placement of spuds #6 and #7, approximately 10 shoots counted.



Rain bucket #35 measured.



2 1/4" measured.



EOD screen.

EOD draft level.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/24/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	
Tailgate Meeting:	H&A staff attended briefing by others	Weather:	Sunny
Work Summary:		Temperature:	65
Field Rep:	Sam Fisher	Remarks:	High tide of 7.4' @ 7:08
Field Rep Time In:	12:30	Start Draft Level:	2.9
Field Rep Time Out:	22:44	End Draft Level:	2.4
Volume Equation:			

Crew

Worker Name	Work Accomplished	Time In	Time Out
Aaron McMahill	Project Engineer	13:15	22:36
Greg Lybeek	Operator	13:15	22:36
Lester Jones	Project Support	13:15	22:36
Chad Morrison	Deck Hand Apprentice	13:15	22:36
Arlan Henderson	Deck Hand Apprentice	13:45	22:36

Equipment

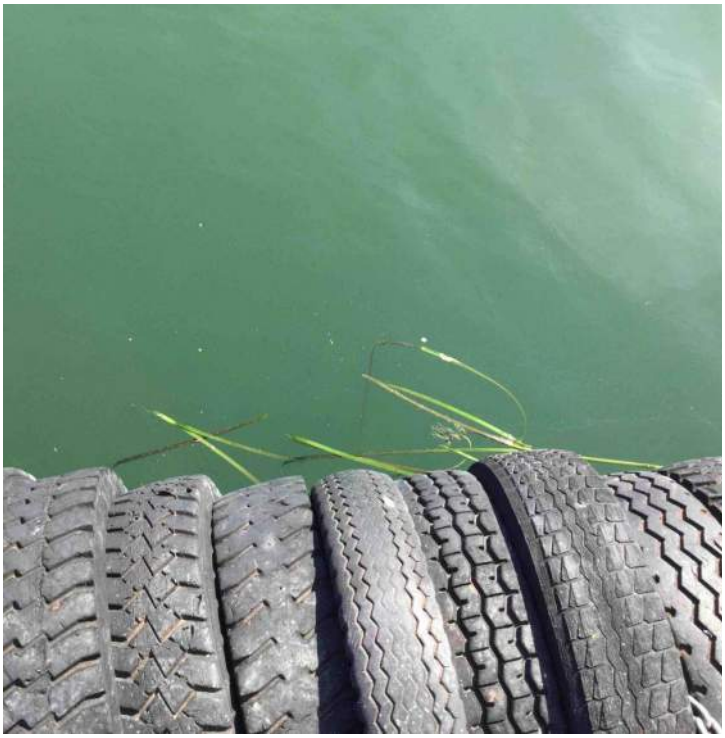
Equipment Used	Start Time	End Time
Skiff	13:20	22:34
DB Snohomish	13:33	22:08
Skagit	13:34	22:08
Victory	13:36	22:08
Shaker table	15:02	21:41

Daily Observations

Time	Observations
12:31	Sam Fisher inspected the adjacent shoreline for visible quantities of eelgrass. Fewer blades observed compared to the day previous (approximately 6 counted) and zero rhizomes seen.
13:23	Crew mobilizes.
14:10	Aaron remeasured the barge draft level.
14:25	Some eelgrass that was disturbed from the previous night's activities were seen attached to the sides of the tires on he DB Snohomish. These are of note so as not to recount them when lifting and dropping spuds gets underway.
14:33	Both spuds lifted as the boat is repositioned into eelgrass beds. The skiff is again utilized at the port side bow to aid in positioning.
14:45	Starboard SPUD #8 dropped during positioning, about 5 rhizomes visible on starboard side.
14:52	SPUD #8 lifted as they continue into the placement zone. Approximately 5 rhizomes again counted, nothing new visible.
14:53	SPUD #9 and #10 dropped within eelgrass beds. About 5 new rhizome shoots counted after this placement.
15:02	Placement of 2-inch TLC resumed using shaker table.
16:07	Water quality visually inspected by ACC.
18:32	Above average number of onlookers on the running path, up to 10 people at one time.
19:14	Port spud lifted and Skiff is used to reposition and continue placement.
19:18	SPUD #11 on port side dropped, #10 remained in place on starboard side. One new rhizome was counted on the starboard side after the repositioning activity.
21:41	Placement halted for the evening. Aaron collected the draft measurements to determine if the crew is mobilizing tomorrow. Approximately 77 "tables" placed.

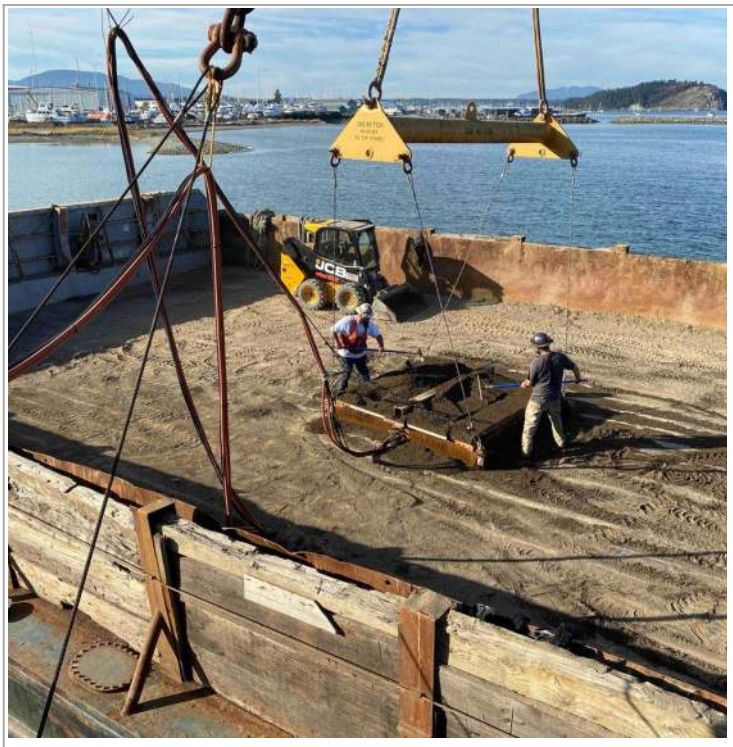
Time	Observations
21:53	Both spuds lifted to move out of the eelgrass beds for the weekend. Decision is made by ACC to not work tomorrow.
22:01	Both spuds dropped to park for the weekend.
22:21	Crew demobilizes.

Photos



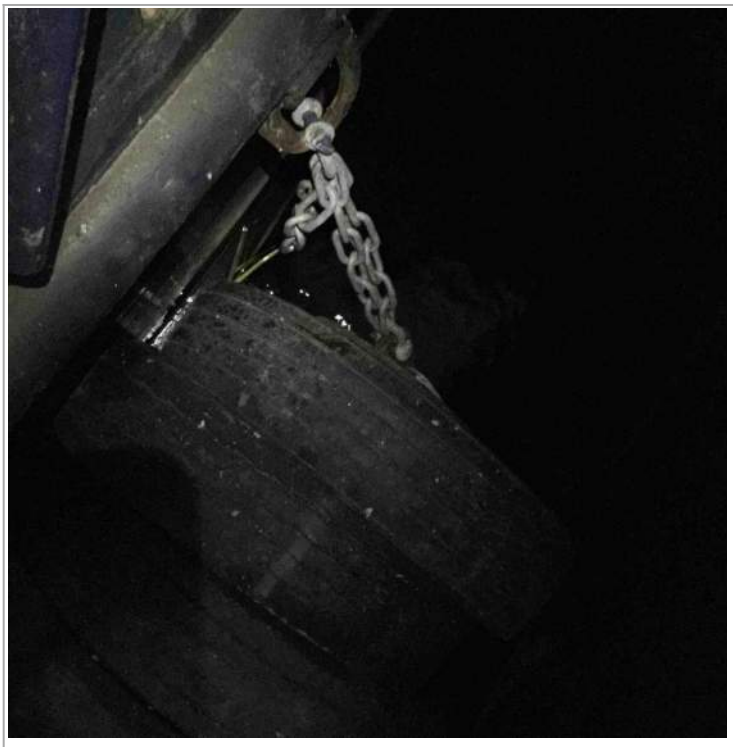
Floating eelgrass attached to the DB Snohomish port side from the previous evening of work.

Eelgrass counted off port side after spuds #9 and #10 dropped. Approximately 5-7 rhizome shoots counted from this positioning activity.



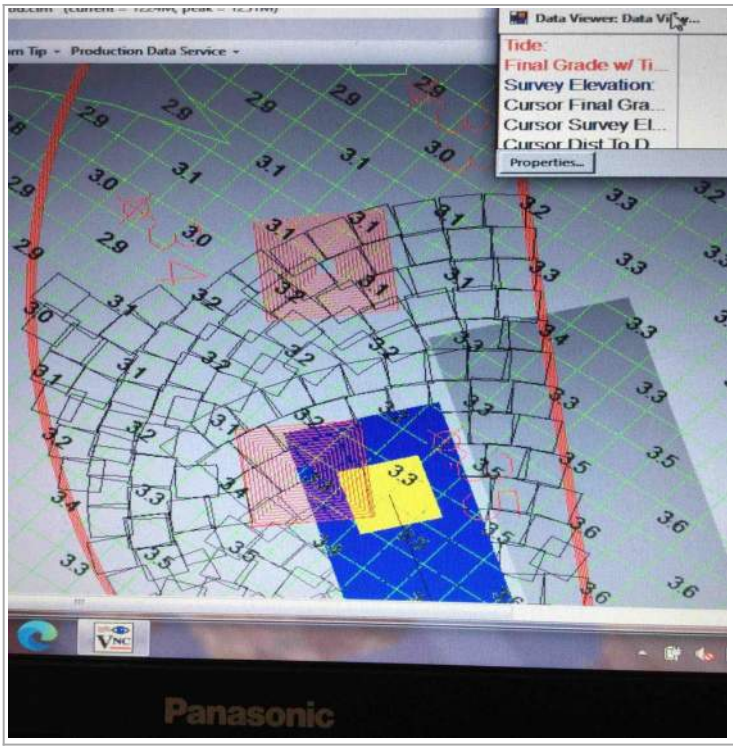
View from crane of table-loading process.

View from crane of table placing the 2-inch TLC.



Approximately 1 rhizome counted on starboard side after pivoting to place SPUD #11.

EOD draft level.



EOD screen of buckets placed.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/27/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" TLC in eelgrass
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Rain|High Winds
Work Summary:	2" TLC, ~78 "tables" placed.	Temperature:	62
Field Rep:	Jessica Blanchette	Remarks:	Low tide 6.5'@16:20. Visual water quality monitoring.
Field Rep Time In:	13:30	Start Draft Level:	2.5
Field Rep Time Out:	22:24	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	22:24
Greg Lybeek	Operator	13:00	22:24
Lester Jones	Project support	13:00	22:24
Chad Morrison	Deck Hand Apprentice	13:00	22:24
Arlen Henderson	Deck Hand Apprentice	13:00	22:24

Equipment

Equipment Used	Start Time	End Time
DB Snohomish	13:00	22:24
Survey vessel	13:00	22:24
Victory	13:00	22:23
Skagit	13:00	22:23
Skiff	13:00	22:23
Shaker table	13:00	22:23

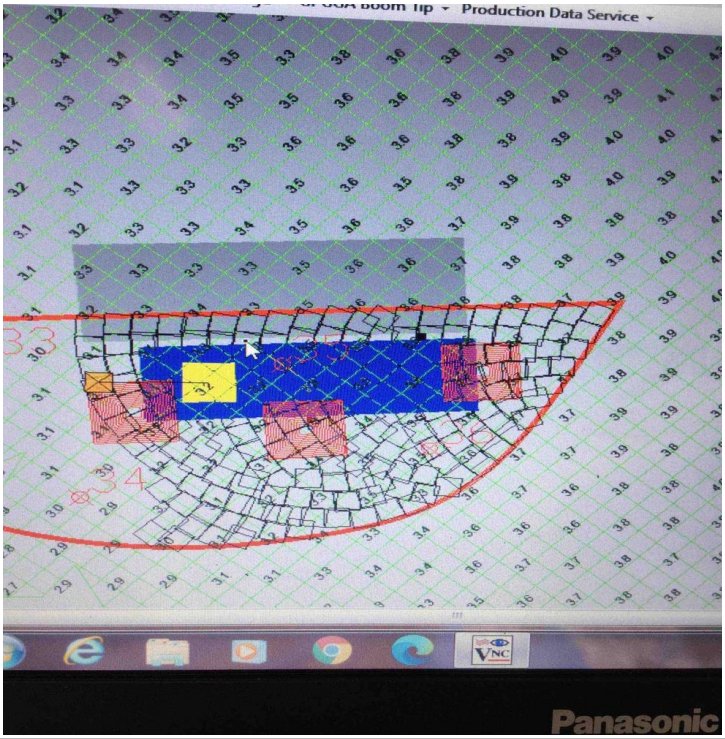
Daily Observations

Time	Observations
13:30	HC rep on site after crew launches survey vessel and parks trailer. Greg, Chad, and Arlen are already on the barge getting set up for the day.
13:45	Jessica, Les, and Chris arrive at the DB snohomish.
14:01	Chris departs in survey vessel and DB Snohomish picks up spuds.
14:14	Drop starboard spud. (SPUD 12)
14:17	Drop port spud. (SPUD 13) observed no new eelgrass emerging from bottom, no eelgrass with rhizomes were observed.
14:25	Begin loading table and placing.
15:00	Lester sets rain bucket #33
18:02	Lester and Jessica depart to read rain bucket #33, pass at 1 3/4".
18:10	Lester sets rain bucket #34 en route back to barge.
18:15	Pick up starboard spud to pivot. Chris departs in survey vessel to push stern to the north.
18:16	Drop starboard spud (SPUD 14). Chris returns to Db Snohomish. Resume placement.
21:24	Lester and Jess depart to check rain bucket #34.
21:27	Rain bucket #34 passes at 2.75". Placement ceases for evening. Placed 78 "tables"
21:32	Lester and Jess return to the DB Snohomish. Crew demobilizes for evening and prepares to move out of site.
21:47	Chris departs in survey vessel. Pick up spuds and use Victiry to navigate out of the site. Tide gauge reads 6.76 at time of departure.

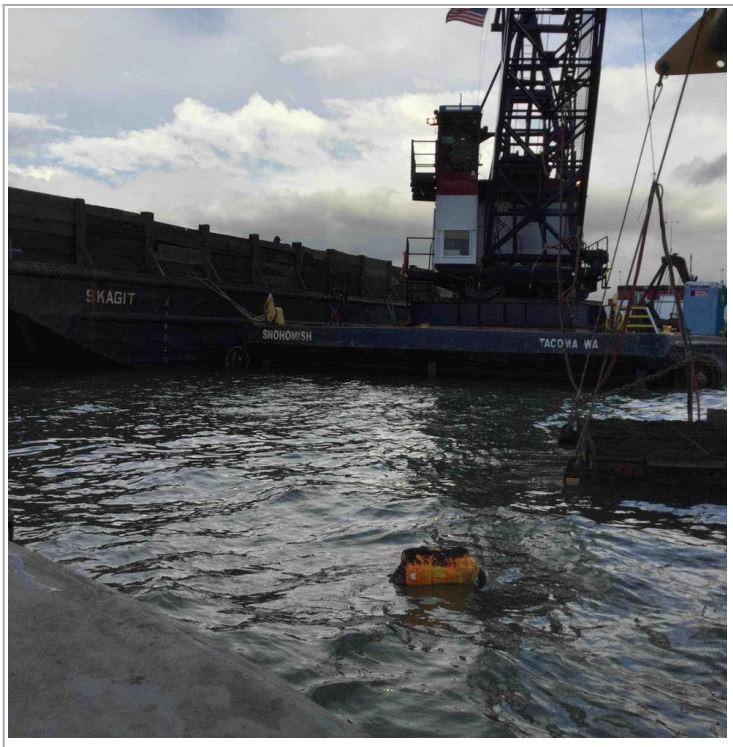
Time	Observations
21:54	HC rep observed 3 shoots of eelgrass with rhizomes attached in prop wash off of bow while reversing out of the zone (too dark for photos).
21:56	Drop spuds in overnight staging area.
21:58	Chris returns to barge, HC rep communicates observation of eelgrass shoots in prop wash.
22:09	Depart barge for shore transport dock.
22:23	Arrive at shore and depart for day.

Photos

Rain bucket #33 measurement (1.75"= pass)

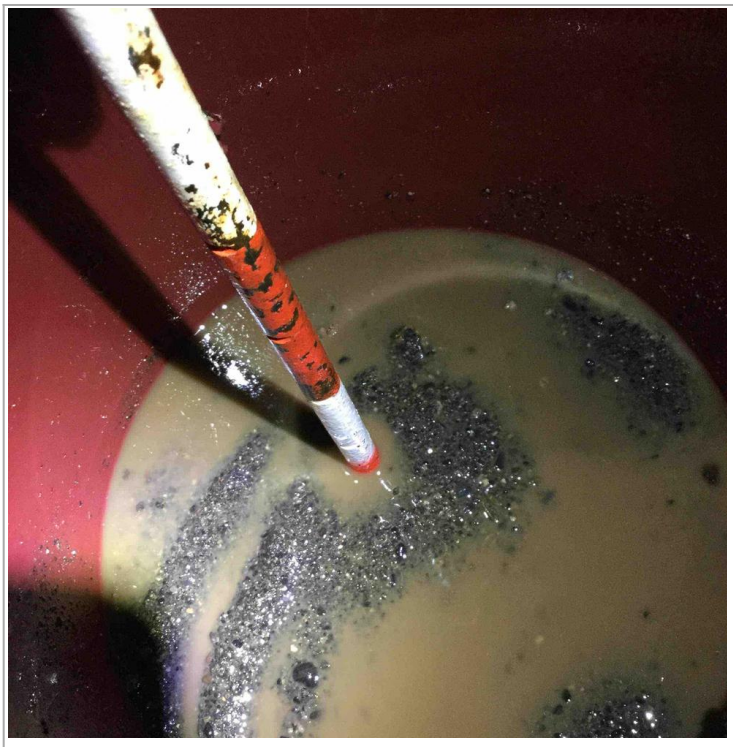


Barge and barge position at start of placement.

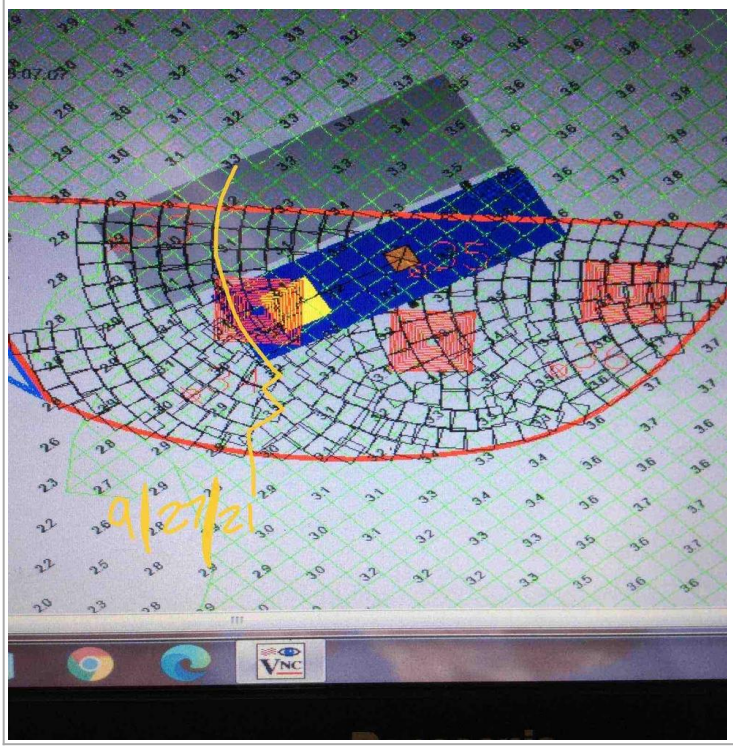


Active placement while picking up rain bucket #33.

Rain bucket #33 measurement (1.75"= pass)



Rain bucket #34 measurement (2.75" = pass)



End of day bucket map and position.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	09/28/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" TLC in eelgrass
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|High Winds|Cold
Work Summary:	2" TLC in eelgrass (Area "C")	Temperature:	55
Field Rep:	Jessica Blanchette	Remarks:	Visual WQ monitoring, some eelgrass drift noted.
Field Rep Time In:	13:00	Start Draft Level:	2
Field Rep Time Out:	22:21	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	22:21
Greg Lybeek	Operator	13:00	22:21
Lester Jones	Project support	13:00	22:21
Chad Morrison	Deck Hand Apprentice	~~01:00~~ 13:00	22:21
Arlan Henderson	Deck Hand Apprentice	13:00	22:21

Equipment

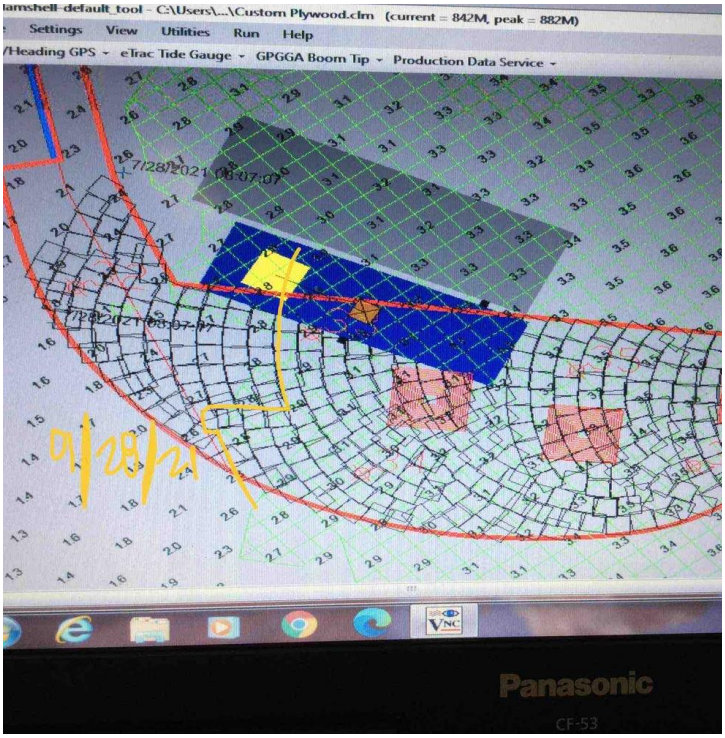
Equipment Used	Start Time	End Time
Survey vessel	13:00	22:21
DB Snohomish	13:00	22:21
Skiff	13:00	22:21
Victory	13:00	22:21
Skagit	13:00	22:21
Shaker table	13:00	22:21

Daily Observations

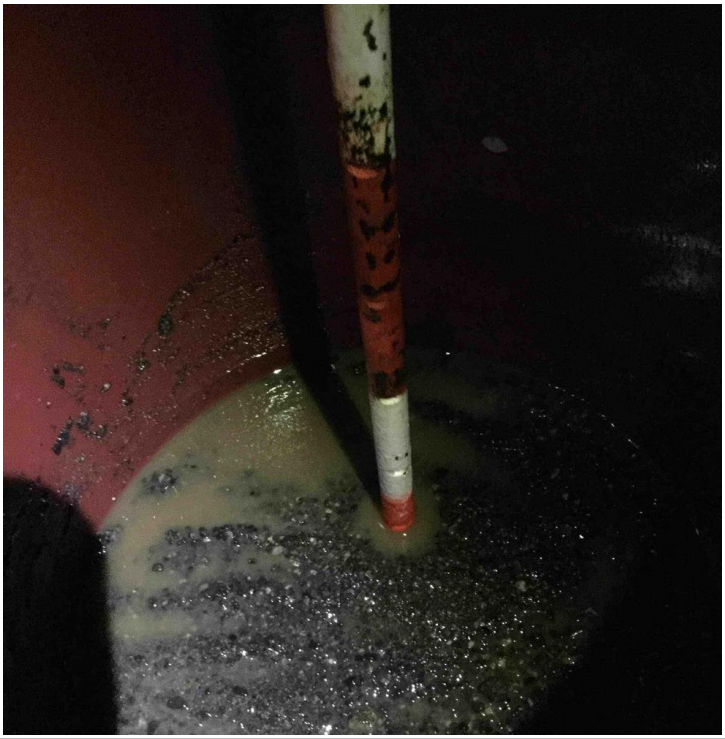
Time	Observations
13:00	Arrive on site for shore transport.
13:57	Arrive on Db Snohomish. Crew mobilizes for day and warms up equipment.
14:40	Pick up spuds to mobilize into site. Chris departs in survey vessel.
14:54	Drop spuds (SPUD 15&16). Chris returns to barge in survey vessel.
15:03	Begin placement.
17:33	Pick up spuds to shift barge due west. Chris departs in survey vessel.
17:34	Drop spuds. (SPUD 17 & 18)
17:40	Chris returns in survey vessel, placement resumes.
18:55	Lester departs to place rain bucket #32.
19:01	Lester returns to barge from bucket placement.
20:10	Lester and Jess depart to check rain bucket #32.
20:14	Rain bucket #32 passes at 2" measured placement. Placement resumes.
20:20	Pick up port spud to pivot. Drop spud (SPUD 19).
21:18	Placement ceases, prepare for mobilizing out of site and staging. Move skiff onto barge and secure crane for weather tomorrow 9/29. Placed 79 "tables".
21:36	Pick up spuds to mobilize out of site.
21:36	Chris departs in survey vessel to facilitate navigation.

Time	Observations
21:42	** HC rep observed approximately 5 eelgrass shoots with rhizomes attached drifting from the bow while backing through the eelgrass bed. Several sections of drift eelgrass pieces were observed without rhizomes. Too dark for photos.
21:47	Drop starboard spud to pivot.
21:50	Drop port spud.
22:14	Depart dredge for shore.
22:21	Depart for day. Plan for no placement tomorrow 9/29, crew will be moving barge out to channel to ship out for reloading. Placement of 8" to resume Thursday 9/30.

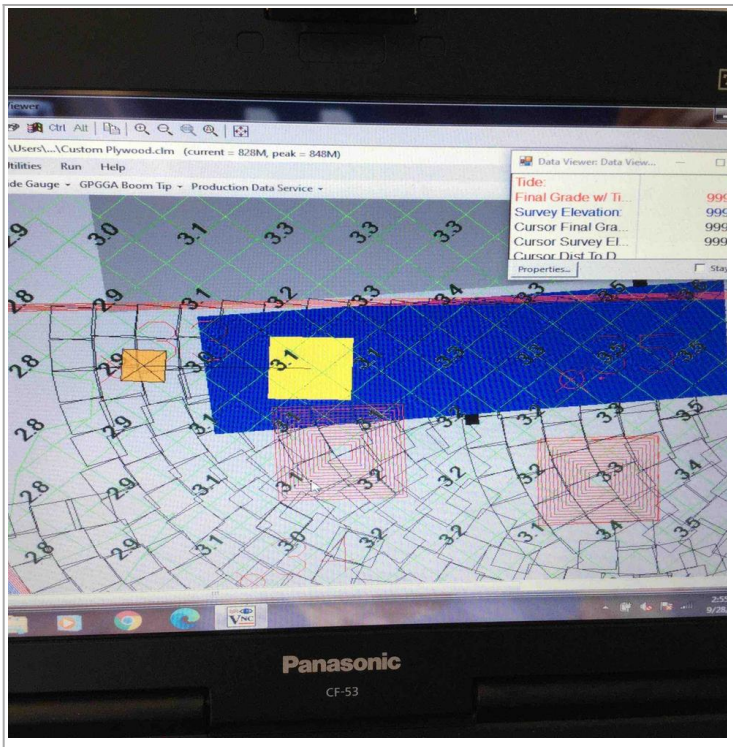
Photos



End of day bucket map for 9/28/21.



Rain bucket #32 measurement = 2" (pass).



Start of placement barge location.

Start of day barge and draft.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	09/30/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Rain|Cold
Work Summary:	Receive new barge load, place 8" TLC.	Temperature:	55
Field Rep:	Jessica Blanchette	Remarks:	Lost rain bucket; water quality elevation noted.
Field Rep Time In:	13:00	Start Draft Level:	4
Field Rep Time Out:	20:24	End Draft Level:	2.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	20:24
Greg Lybeek	Operator	13:00	20:23
Lester Jones	Project support	13:00	20:23
Chad Morrison	Deck Hand Apprentice	13:00	20:23
Arlan Henderson	Deck Hand Apprentice	13:00	20:23

Equipment

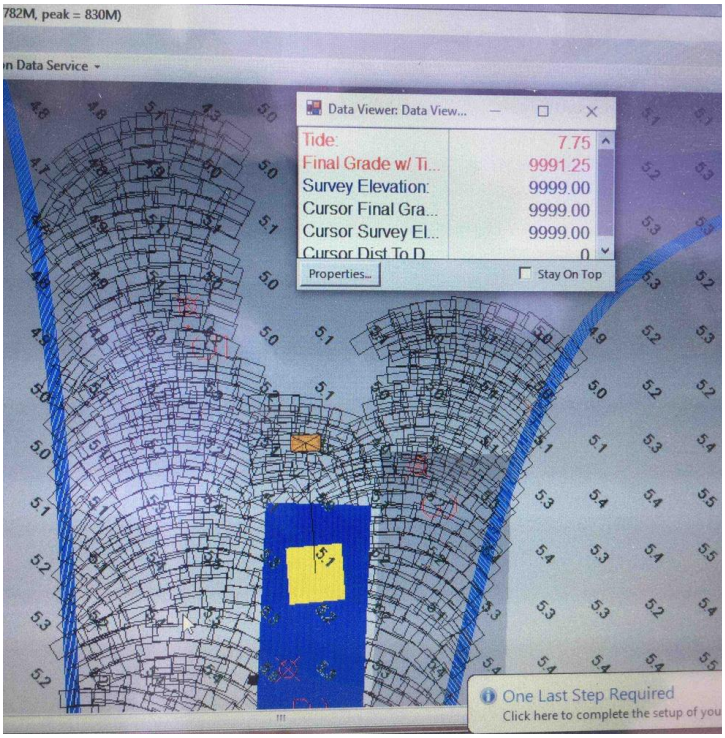
Equipment Used	Start Time	End Time
Survey vessel	13:00	20:14
DB Snohomish	13:00	20:14
Victory	13:00	20:14
Skiff	13:00	20:14
4 CY Rehandle	13:00	20:14
Skagit	13:51	20:14

Daily Observations

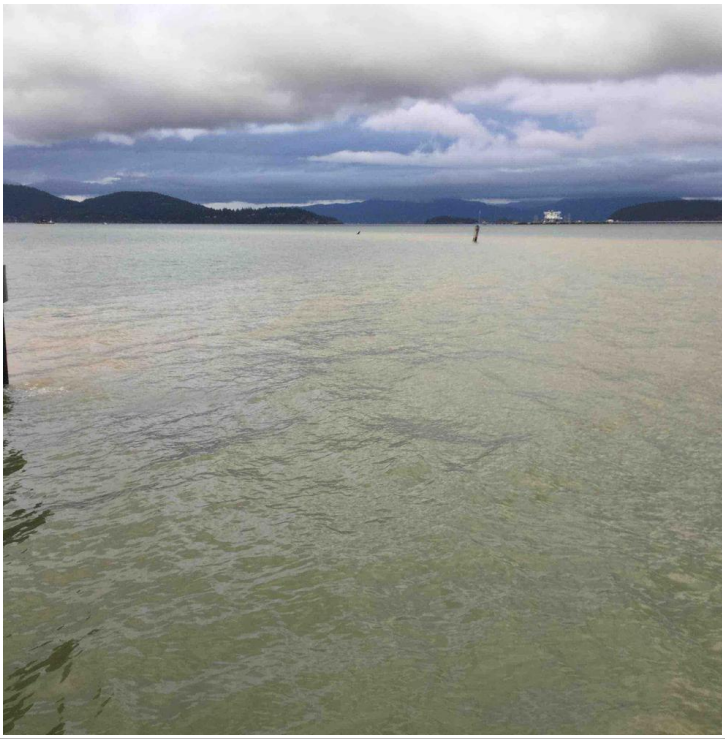
Time	Observations
13:00	Arrive at shore transport area
13:28	Arrive at DB Snohomish, Skagit not yet on site.
13:51	Crew departs in Victory to pick up Skagit from channel
14:14	Chris departs to support navigation with the Skagit
14:24	Crew returns with Skagit.
15:15	Pick up spuds to mobilize into site. Chris departs in survey vessel to facilitate navigation.
15:23	Drop starboard spud.
15:25	Pick up starboard spud. Continue into 8" TLC.
15:29	Drop port spud.
15:32	Drop starboard spud.
15:34	Pick up port spud.
15:35	Drop port spud
15:40	Pick up spuds to shift forward using bucket.
15:41	Drop spuds, begin placement of 8" TLC.
16:03	Pick up port spud to pivot.
16:04	Pick up starboard spud
16:05	Drop both spuds.

Time	Observations
16:42	Pick up port spud to pivot using bucket.
16:43	Drop port spud. Re-pick up spud to shift forward.
16:45	Drop port spud and resume placement.
16:50	Lester and Chad depart to place rain bucket.
16:53	Lester and Chad return from bucket placement.
17:30	Lester, Chad, and Jessica depart to check rain bucket #4. Discovered that notes from 9/15/21 are inaccurate and actually represent rain bucket #5.
17:32	When attempting to pick up bucket, line separated and the rain bucket is remaining on the bottom. Crew places new bucket. *** ACC may need support in retrieving bucket from bottom. ACC crew believes the bucket to be of sufficient weight to not travel around the site.
17:41	Pick up spuds to shift bow north.
17:42	Drop spuds.
17:43	Pick up port spud. Replace port spud.
17:49	HC rep observed a plume of turbidity from the barge extending north that appeared to be longer than 300ft by eye and notified Chris of its presence. Chris calibrates sonde CY plume with instrument.
17:58	Chris and HC rep depart to collect water quality readings within the plume and measure distance.
18:16	Background levels read -0.5 NTUs, proceeded with sampling to capture plume. 150' early warning read ~15 NTUs and trigger slowing of cycle. Checking the point of compliance showed a slight elevation at the surface but sample may have been collected adjacent to the plume rather than in it. HC rep requested measuring the visible plume in addition to previous points, measured at approx 600' downstream of activity read 8 NTUs at surface and 2-3 NTUs at mid depth.
18:17	Given elevation at early warring and location of point of compliance sample relative to plume and tasks for the day, crew paused work to read rain bucket 4 and re-structure the barge to switch back to 2" placement. Re-sampling to occur in an hour.
18:27	Lester and Chad retrieved rain bucket 4 while Chris and Jessica were checking water quality. Measured at 8" (pass).
18:53	Pick up spuds to move out of site, Greg in survey vessel pushing from bow, Chad pushing from skiff.
18:57	Drop spuds in over staging area. Crew demobilizes for evening.
20:14	Depart dredge.
20:24	Depart for day.

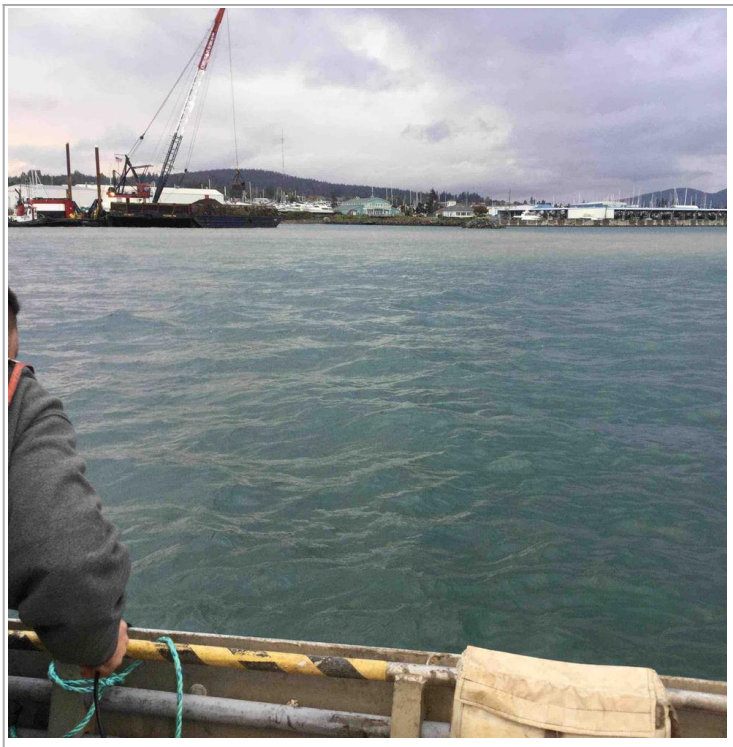
Photos



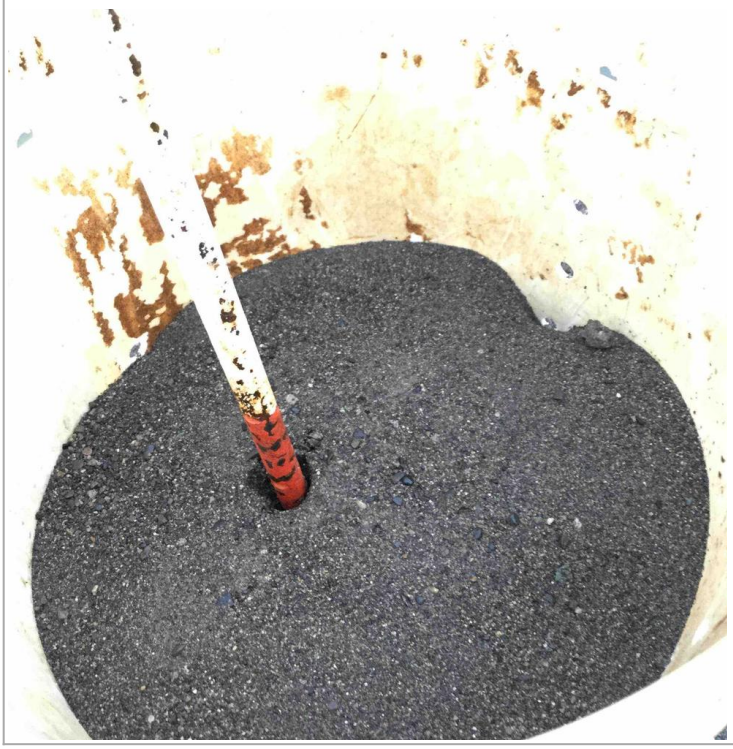
Start of day position.



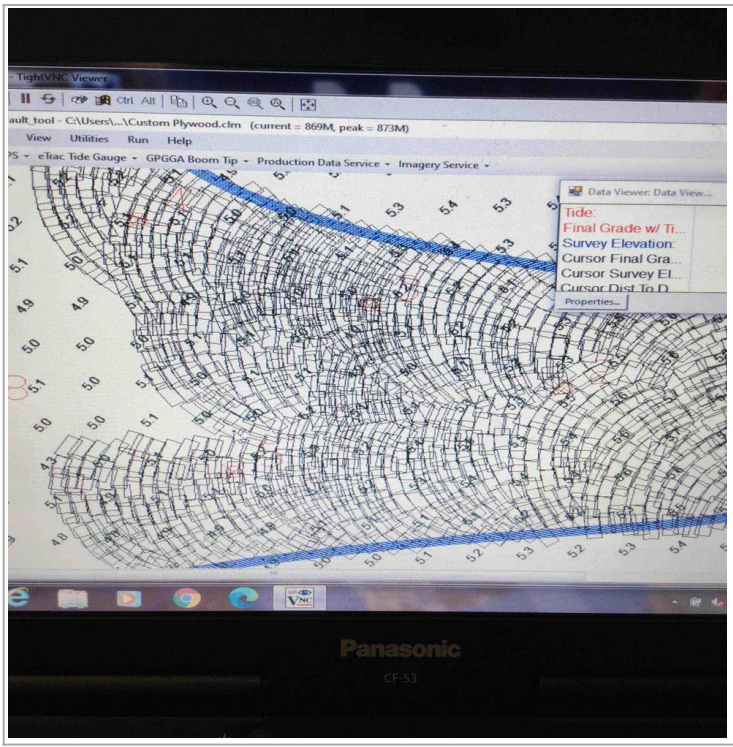
Plume from the barge facing north. Upon observation, HC rep notified ACC.



Plume from the barge while collecting background reading.



Measurement of rain bucket 4 = 8" (pass)



End of day coverage.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/01/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2"TLC
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Sunny
Work Summary:	Placement of 2" TLC.	Temperature:	55
Field Rep:	Jessica Blanchette	Remarks:	Flood tide WQ reading event was missed. High tide: 7.8'@15:39; low tide: 5.7@21:35.
Field Rep Time In:	12:30	Start Draft Level:	2.5
Field Rep Time Out:	20:48	End Draft Level:	2.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	12:45	20:48
Greg Lybeek	Operator	12:45	20:48
Lester Jones	Project support	12:45	20:48
Chad Morrison	Deck Hand Apprentice	12:45	20:48
Arlan Henderson	Deck Hand Apprentice	12:45	20:48

Equipment

Equipment Used	Start Time	End Time
Survey vessel	13:00	20:48
DB Snohomish	13:00	20:48
Victory	13:00	20:48
Skiff	13:00	20:48
Shaker table	13:00	20:48

Daily Observations

Time	Observations
12:30	HC rep walks the beach to note eelgrass quantities. Noted more eelgrass in the southern portion of site near dredge prism and south of southernmost jetty. No rhizomes were observed and eelgrass in lowest high tide line appeared to be green but slightly desiccated, may have washed ashore in the last few days. Storms and high winds have occurred since Saturday 9/25.
12:33	Observed broken plexiglass below sign post where project sign previously stood.
12:54	Depart shore transport area for dredge.
13:02	Arrive on DB Snohomish. Crew mobilizes for day.
14:07	Pick up port spud to mobilize into site for 2" TLC.
14:09	Pick up starboard spud, Chris departs to facilitate navigation.
14:16	Drop starboard spud to pivot, (SPUD 20)
14:18	Drop port spud (SPUD 21). HC rep observed no new shoots arise when placing either spud.
14:19	Begin placement of 2" TLC in RFI-added area west of Area C. See Figures 1 & 2 on page 2.
14:36	Observed some drift shoots, one with rhizomes attached, unknown origin.
16:27	Pick up port spud to pivot on starboard (spud 20). Chris departs in survey vessel.
16:29	Drop port spud (outside of eelgrass)
16:31	Pick up starboard spud from location "spud 21". Observed one eelgrass shoot on surface with large rhizome.
16:32	Drop spuds (both). Port spud is out of eelgrass, starboard spud is in eelgrass (SPUD 22). Resume placement.

Time	Observations
18:38	Pick up port spud to pivot. Chris departs to push bow and collect water quality readings with survey boat. Flood tide reading was missed.
18:40	Pick up starboard spud.
18:41	Drop port spud (outside of eelgrass, v close to boundary)
18:42	Drop starboard spud in eelgrass (SPUD 23). No observed drifting eelgrass during lifting or dropping.
18:48	Placement resumes.
19:51	Tide appears to be dropping faster than predicted, crew makes decision to place one more table then move to overnight staging area. (Gauge reads 5.77')
19:55	Chris departs in survey vessel to mobilize out of site. Cease placement. (Places 75 "tables"). Water depth of 8' by Victory.
19:55	Pick up spuds to depart. Observed 3 shoots of eelgrass with rhizomes in wake from pushing out of site with both the survey vessel and barge.
20:05	Drop spuds in overnight staging area. Chris returns to barge.
20:40	Depart dredge for shore transport.
20:47	Arrive at shore, depart for day. Plan to resume at 13:00 tomorrow 10/2.

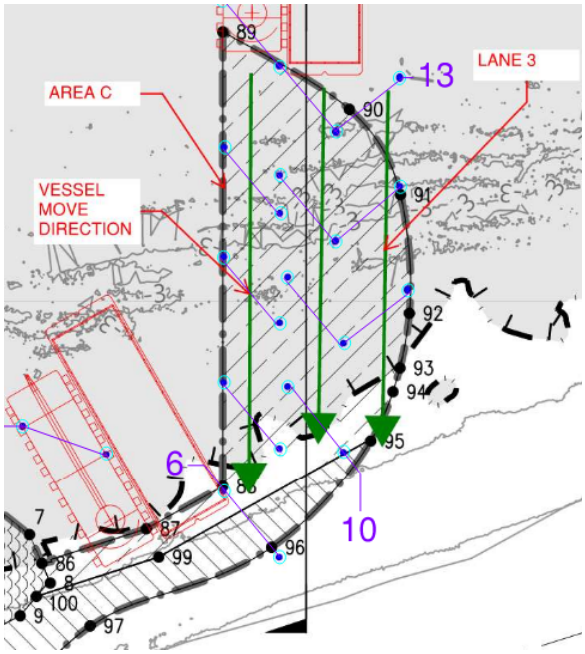


Figure 1

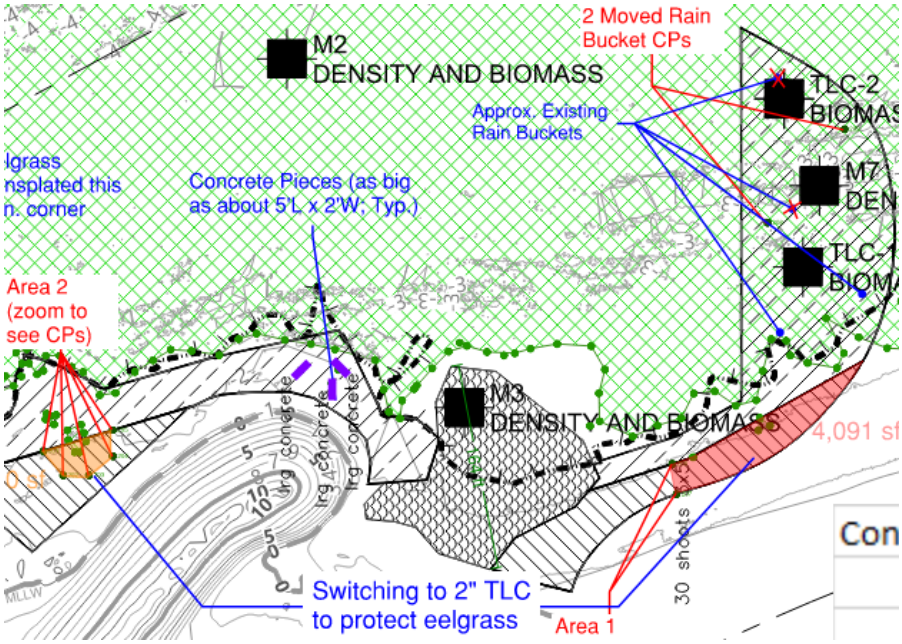
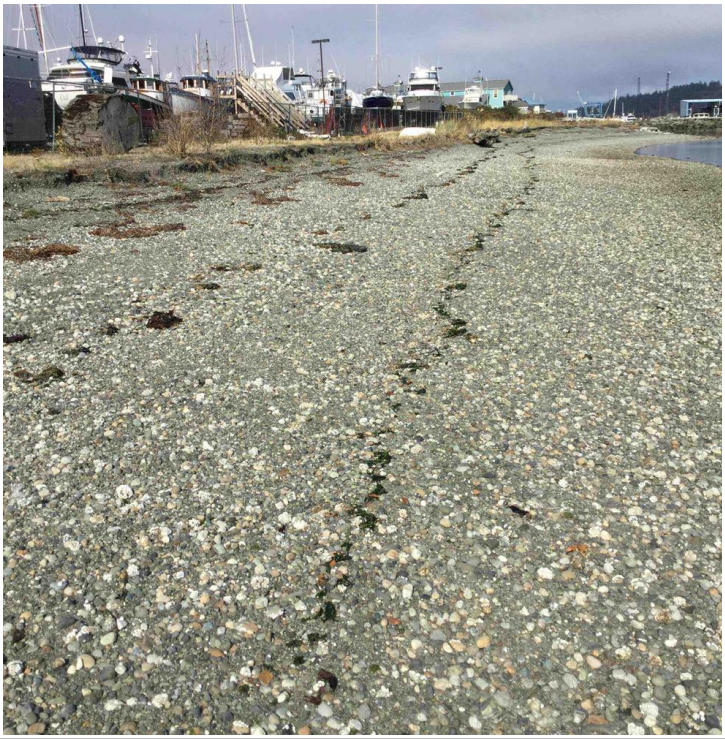


Figure 2

Photos

South end section of beach to observe wrack line, facing north. Note more eelgrass present than in north.

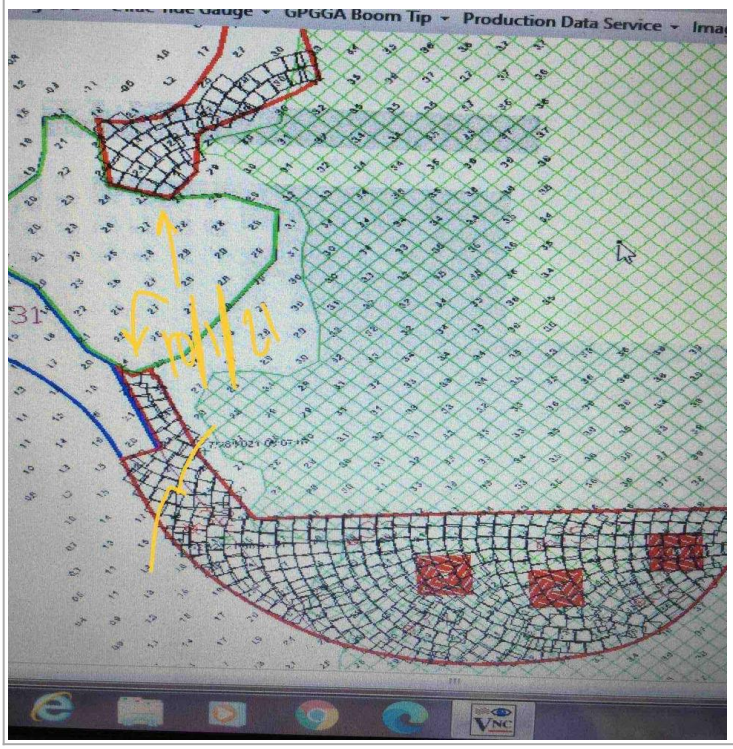


North end section of beach to observe wrack line, facing north.

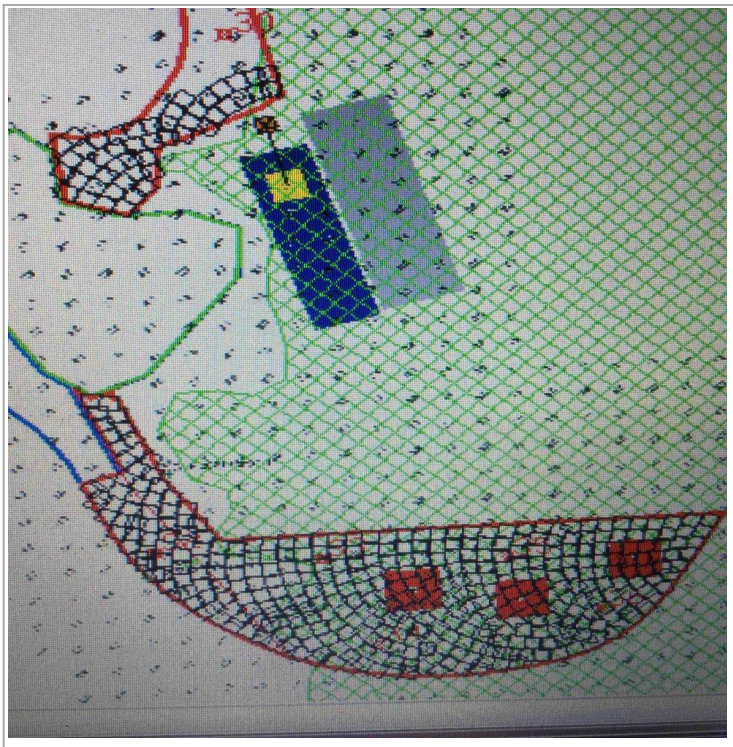
Drifting eelgrass after placement began, rhizomes attached, unknown origin.

Broken/torn down plexi glass from sign along Tommy Thompson trail.

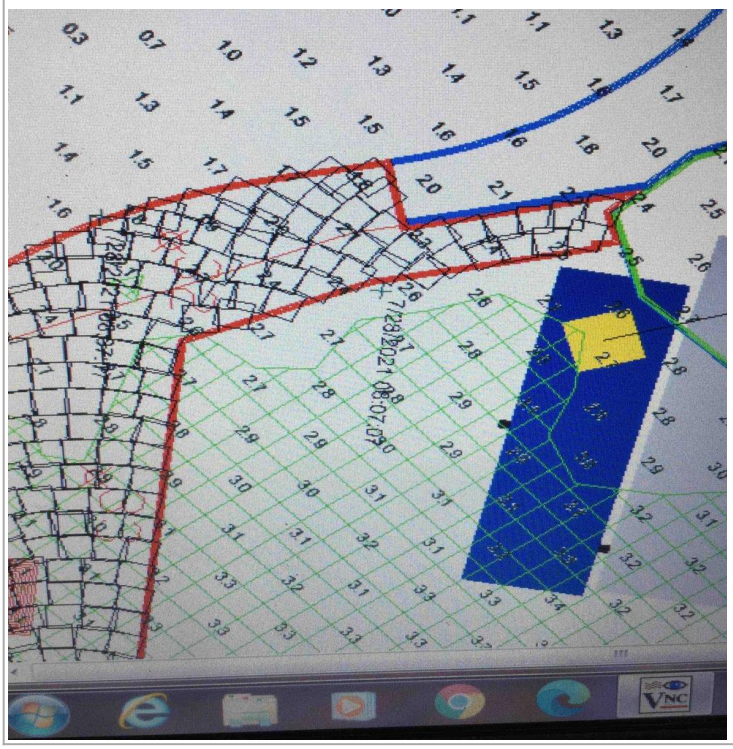
Shoot observed with rhizome after spud movement.



End of day bucket map for 10/1/21.



Second position of barge relative to bed.



First position of barge relative to bed.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/02/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" TLC
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Partly Sunny
Work Summary:	Placement of 2"TLC.	Temperature:	59
Field Rep:	Jessica Blanchette	Remarks:	Visual WQ monitoring.
Field Rep Time In:	12:45	Start Draft Level:	2.5
Field Rep Time Out:	20:17	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	20:17
Greg Lybeek	Operator	13:00	20:17
Lester Jones	Project support	13:00	20:17
Chad Morrison	Deck Hand Apprentice	13:00	20:17
Arlan Henderson	Deck Hand Apprentice	13:00	20:17

Equipment

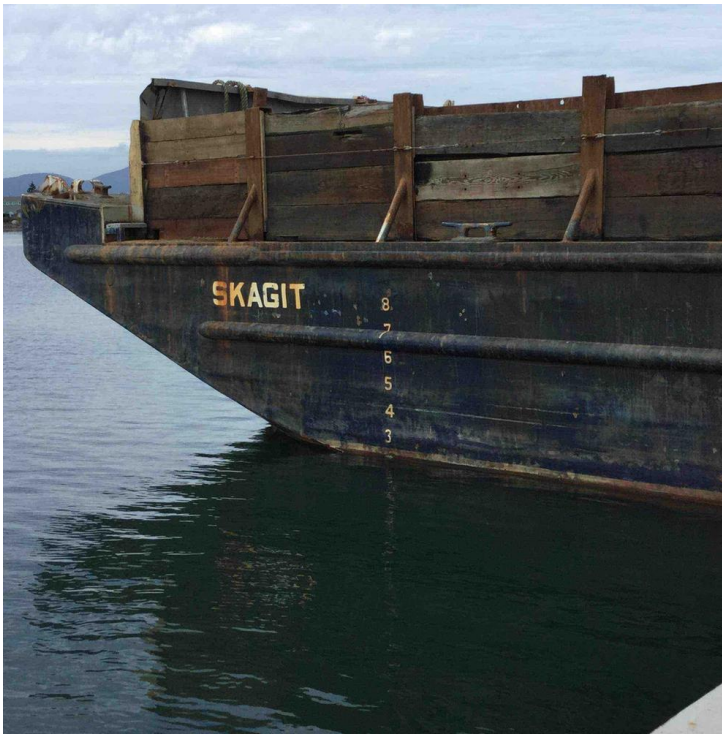
Equipment Used	Start Time	End Time
Survey vessel	13:00	20:17
DB Snohomish	13:00	20:17
Skagit	13:00	20:17
Victory	13:00	20:16
Skiff	13:00	20:16
Shaker table	13:00	20:16

Daily Observations

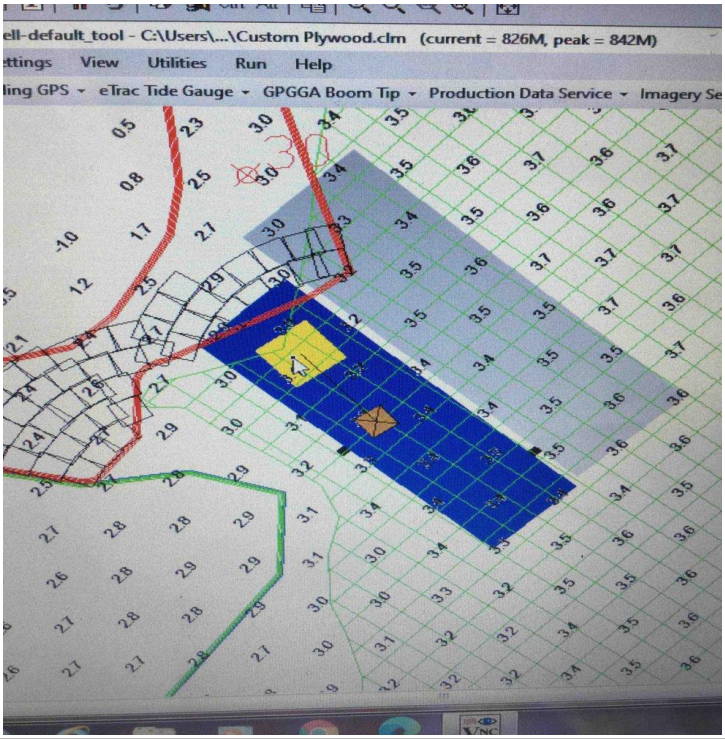
Time	Observations
13:05	Depart shore for DB Snohomish
13:16	Arrive at DB Snohomish, crew mobilizes for day. Tide reads approx 5.6', barge may not be able to enter site yet but crew plans to start work earlier to avoid being "kicked out" early by tide this evening.
13:25	Pick up starboard spud.
13:26	Pick up port spud to mobilize into site. Chris departs in survey vessel.
13:38	Drop port spud in eelgrass (SPUD 24), pivot on port.
13:40	Drop starboard spud in eelgrass (SPUD 25).
13:43	Lester departs dredge to place rain bucket #30.
13:46	Begin placement.
15:45	Lester and a Jessica depart to measure rain bucket #30.
15:52	Pull up rain bucket #30, measurement reads 2" (pass). Evidence of some material leaking through the lowest holes but majority/the center of the bucket stayed flat. Crew will seal bottom holes with tape to limit leakage.
15:55	Chris departs in survey vessel to facilitate moving the barge forward (north).
15:56	Pick up spuds, Chris pushing from stern. Observed two eelgrass shoots near the port spud but without rhizomes, may have been drift.
15:58	Drop port spud (outside of eelgrass boundary).
15:59	Drop starboard spud in eelgrass (SPUD 26). No new shoots observed. Resume placement.
16:54	Chris departs in survey vessel to shift forward (north).
16:55	Pick up spuds. No new eelgrass observed.

Time	Observations
16:57	Drop spuds. Port spud outside of eelgrass. Starboard spud in eelgrass (SPUD 27)
17:00	Chris returns to barge and placement resumes.
18:18	Chris departs in survey vessel to shift barge east and then north.
18:19	Pick up spuds. No new eelgrass observed.
18:21	Drop port spud to pivot. (SPUD 28)
18:24	Pick up port spud. No new eelgrass observed.
18:25	Drop spuds, both in eelgrass (SPUD 29&30). Chris returns to barge and placement continues.
19:31	Cease placement. Placed 76 "tables".
19:42	Chris departs in survey vessel. Pick up spuds.
19:47	Observed one eelgrass shoot with rhizome attached while backing out of site.
19:50	Drop spuds in overnight staging area. Noted dozens of shoots drifting in water surface at staging location, no rhizomes.
20:04	Depart barge for shore transport.
20:16	Arrive on shore and depart for day.

Photos



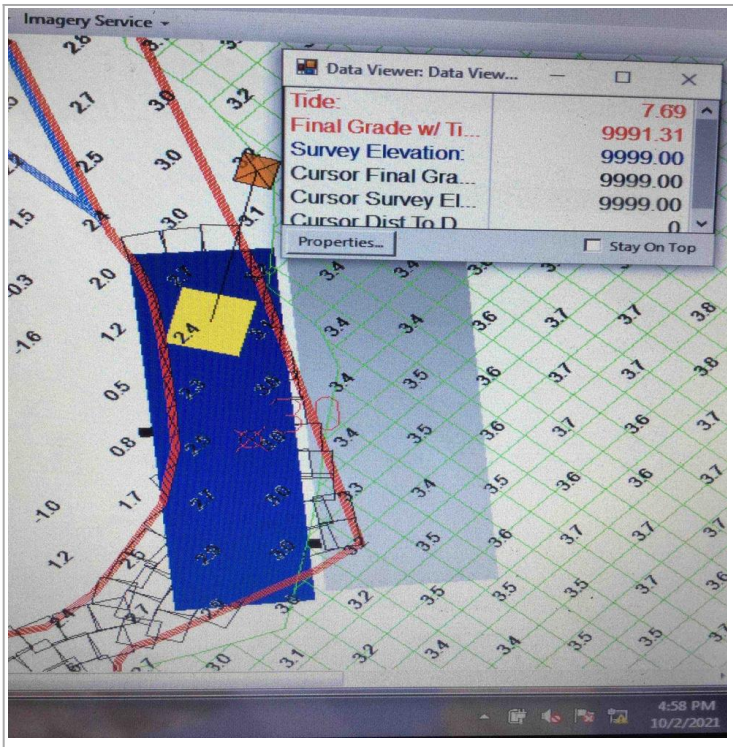
Start of day barge and draft level.



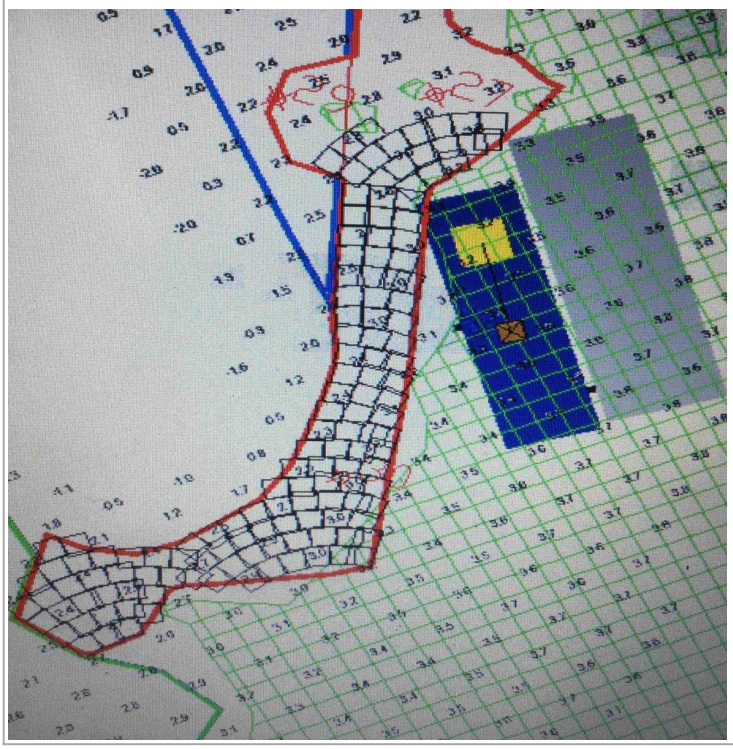
Start of day positioning.

Active placement

Measurement of rain bucket #30 (2"=pass)



Midday position.



End of day bucket map.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/04/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 2" backfill.
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy|Sunny|Warm
Work Summary:	2" TLC placement	Temperature:	60
Field Rep:	Jessica Blanchette	Remarks:	Eelgrass in barge wake. Visual water quality monitoring.
Field Rep Time In:	12:30	Start Draft Level:	2
Field Rep Time Out:	20:47	End Draft Level:	1.9

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:00	20:46
Greg Lybeek	Operator	13:00	20:46
Lester Jones	Project support	13:00	20:46
Chad Morrison	Deck Hand Apprentice	13:00	20:46
Arlan Henderson	Deck Hand Apprentice	13:00	20:46

Equipment

Equipment Used	Start Time	End Time
Survey vessel	13:00	20:46
DB Snohomish	13:00	20:46
Victory	13:00	20:46
Skiff	13:00	20:46
Skagit	13:00	20:46
Shaker table	13:00	20:46

Daily Observations

Time	Observations
12:30	HC rep walks beach for eelgrass observations. Noted multiple desiccated patches and almost no new shoots, three shoots were observed with rhizomes attached onshore.
12:50	Arrive at shore transport area, crew prepares to depart.
13:07	Arrive on a Db Snohomish, tide approx 4.19 according to predictions but tide board reads slightly less.
14:06	Pick up spuds to mobilize into site.
14:11	Chris departs in survey vessel to push bow. Tide gauge reads 5.31'.
14:14	Drop starboard spud in eelgrass. SPUD 31. Observed broken eelgrass and silt on surface near both spuds following dropping.
14:15	Pick up starboard spud to pivot.
14:16	Drop starboard spud (SPUD 32)
14:18	Drop port spud (SPUD 33).
14:20	Les departs to set rain bucket #27, Chris returns to barge.
14:24	Begin placement.
16:50	Les and Jess depart to retrieve rain bucket #27.
16:55	Rain bucket #27 measures at 1.75" (pass).
16:58	Pick up spuds to shift position forward. Chris departs in survey vessel. Observed no new shoots emerge when spuds lifted.
16:59	Drop port spud in eelgrass (SPUD 34)

Time	Observations
17:00	Drop starboard spud (SPUD 35) observed one damaged eelgrass shoot.
17:01	Continue placement, Chris returns to barge.
17:30	Lester and Jess depart to measure rain bucket #29.
17:35	Rain bucket #29 measures at 1.5" (pass).
18:32	Pick up port spud, pivot bow to the north using table as a "paddle". No eelgrass emerged.
18:34	Drop port spud in eelgrass (SPUD 36). Near border of eelgrass bed, no new observations of eelgrass drift. Resume placement.
19:19	Pick up port spud and pivot north using the table as a paddle.
19:21	Drop port spud in eelgrass right on western border (SPUD 37).
19:29	HC rep reminded ACC to avoid spudding in the transplant area within the mitigation box, Chris plans to draw in a shape on the ClamVision system for visual cue.
19:29	Placement resumes.
19:57	Cease placement for evening. Tide gauge reads 5.62. 2" not yet complete but will be finished tomorrow. Placed approximately 78 "tables" (82 total, some were half full to compensate for edges).
19:59	Pick up spuds to move out of site, Chris in survey vessel to push.
20:04	**observed 8 eelgrass shoots with rhizomes attached in wake of barge as backed through bed.
20:07	Drop spuds in overnight staging location. Chris returns to barge. Crew secures barge and skiff for evening, weather expected tomorrow.
20:37	Depart barge for shore.
20:45	Arrive on shore, depart for day. To resume at 15:00 tomorrow after weather, finish 2" TLC, then move barge out to channel for transport.

Photos

South side of southern spit facing north.

Northern beach near shipyard facing north.

North beach facing south.

Near Tommy Thompson trail facing south.

Eelgrass with rhizomes attached.

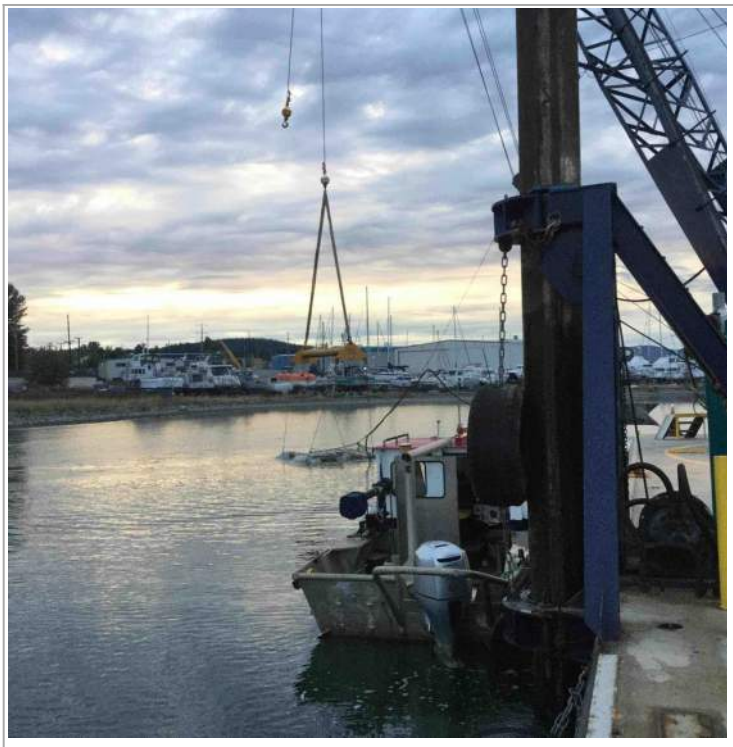
Eelgrass with rhizomes attached.

Eelgrass with rhizomes attached.

Example of representative frequently observed desiccated eelgrass patches.

Rain bucket #27 (1.75")

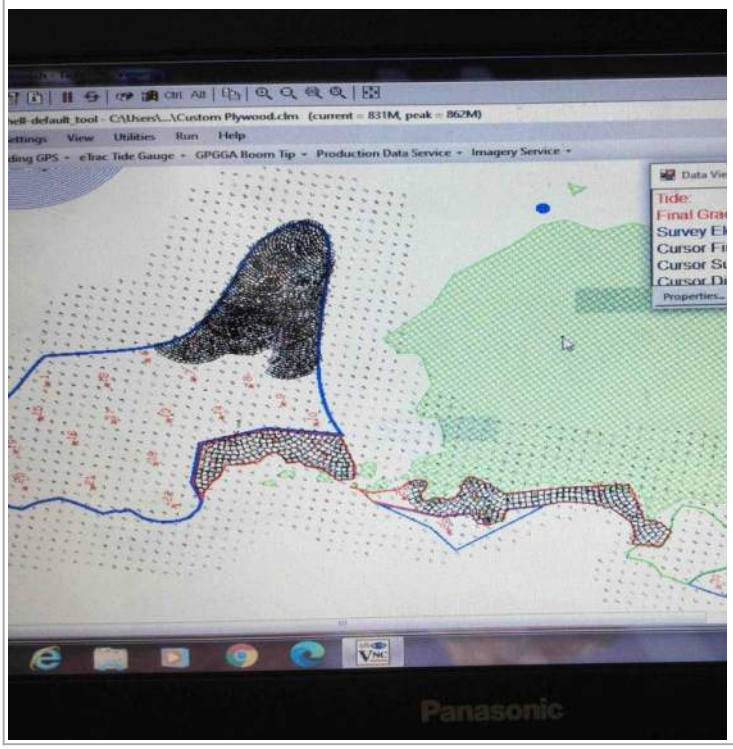
Rain bucket #29 (1.5")



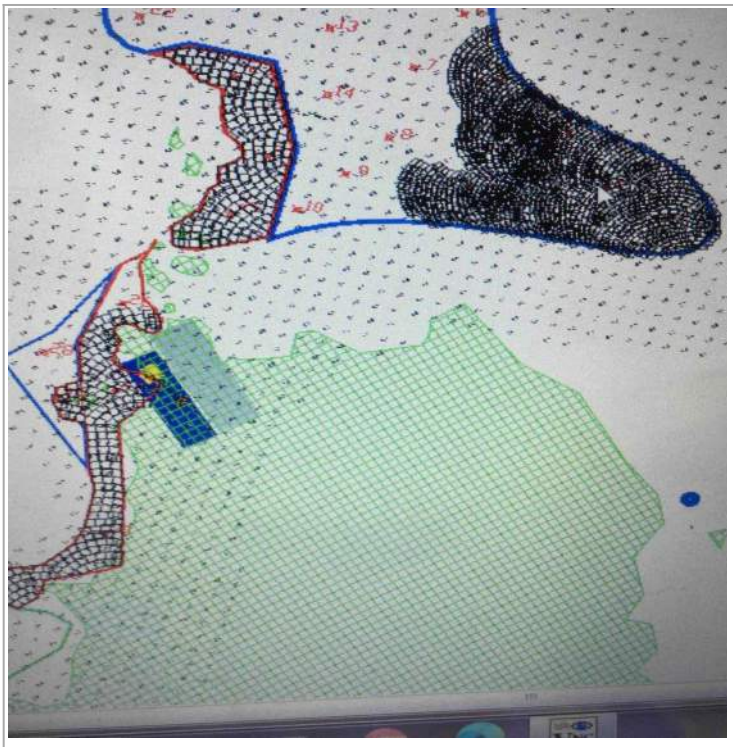
Using the table as a "paddle".

Active placement.

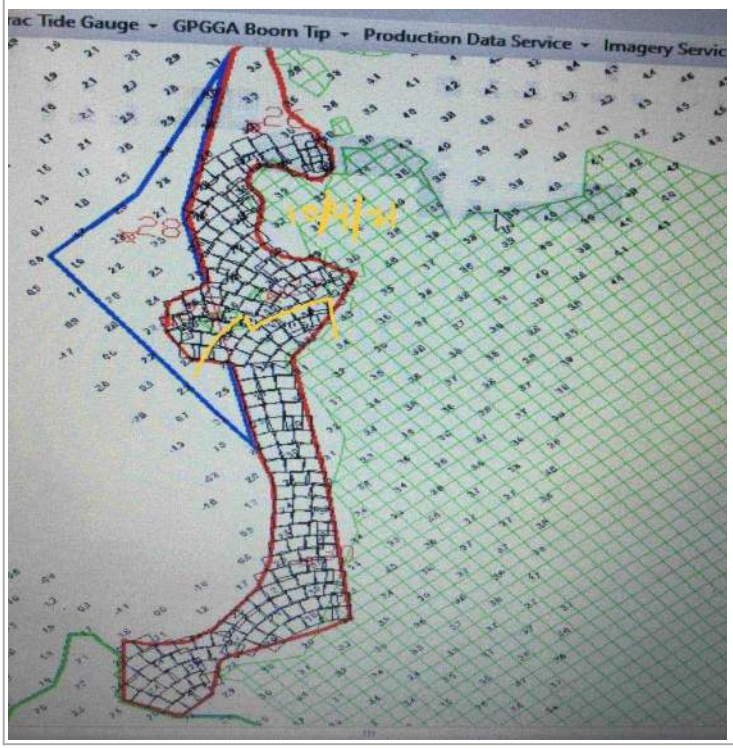
Floating eelgrass after moving spuds. Approx 3 shoots.



Progress to date, full area as of 10/4/21



Barge position for last placement position.



Bucket map of progress on 10/4

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	10/05/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe last of 2" TLC.
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Cold|High Winds
Work Summary:	Finish placement in 2" TLC.	Temperature:	57
Field Rep:	Jessica Blanchette	Remarks:	Visual water quality monitoring.
Field Rep Time In:	15:00	Start Draft Level:	1.9
Field Rep Time Out:	19:28	End Draft Level:	1.75

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	15:00	19:28
Greg Lybeek	Operator	15:00	19:28
Lester Jones	Project support	15:00	19:28
Chad Morrison	Deck Hand Apprentice	15:00	19:28
Arlan Henderson	Deck Hand Apprentice	15:00	19:28

Equipment

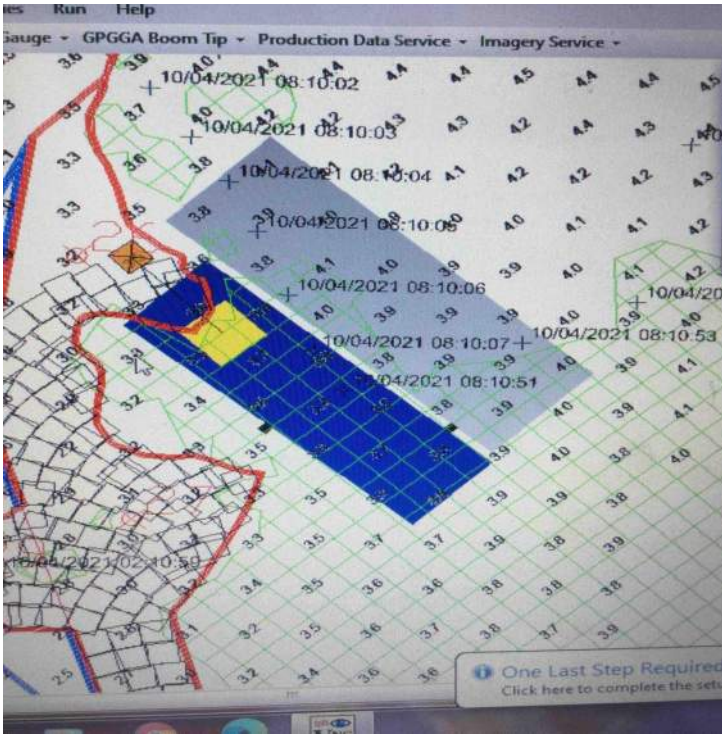
Equipment Used	Start Time	End Time
Survey vessel	15:00	19:28
DB Snohomish	15:00	19:28
Skiff	15:00	19:28
Victory	15:00	19:28
Skagit	15:00	19:28
Shaker table	15:00	19:28

Daily Observations

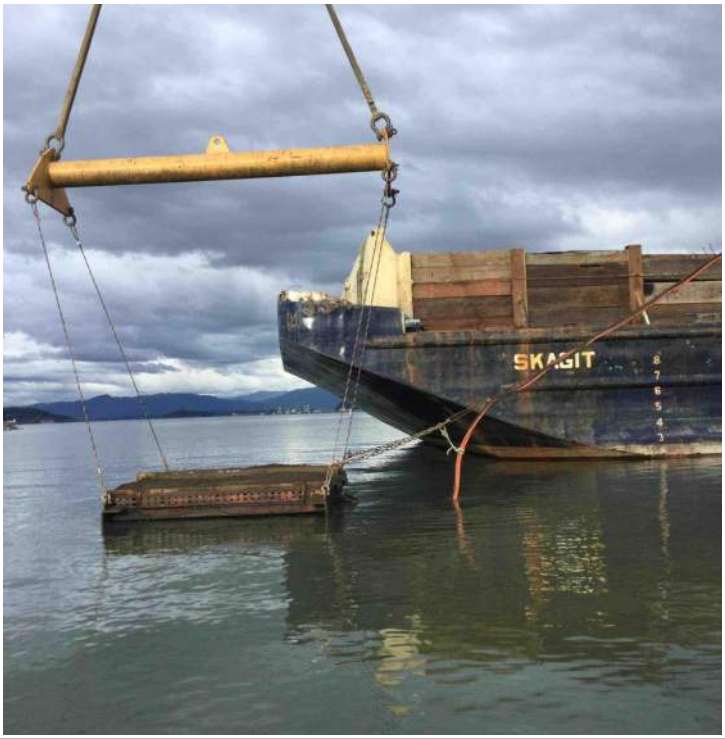
Time	Observations
15:00	Arrive at shore transport area. Winds starting to die down from predicted weather.
15:12	Arrive at a DB Snohomish, crew mobilizes for day.
15:41	Pick up starboard spud to mobilize into site.
15:42	Pick up port spud.
15:51	Drop starboard spud in eelgrass (SPUD 38).
15:52	Drop port spud in eelgrass (SPUD 39)
15:58	Lester departs to place rain bucket #26.
16:01	Begin placement.
16:54	Lester and Jessica depart to check rain bucket #26.
17:01	Rain bucket #26 measures at 1", pass within 1" threshold
17:07	Lester and Jess return to barge, Chris departs in survey vessel to move barge.
17:07	Pick up spuds. Noted eelgrass with rhizomes emerge from starboard spud.
17:09	Drop port spud (SPUD 40)
17:10	Drop starboard spud in eelgrass (SPUD 41). Chris returns to barge. No observed new eelgrass. Resume placement.
17:29	Pick up port spud to swing bow north.
17:30	Drop spud in eelgrass (SPUD 42). Resume placement. One table to be a "sliver" due to width of area.
17:41	Using table to place thicker layer of material in 8" TLC area directly adjacent to 2".

Time	Observations
18:03	Cease placement and disconnect table. Placed 35 total tables, 1 of which was a partial for a small area and 4 of which were layered in the 8" area.
18:33	Pick up port spud to pivot. Chris departs in survey vessel to push bow to the east.
18:34	Pick up starboard spud to mobilize out of site and bring barge to channel for transfer. No new eelgrass observed when spuds were lifted.
18:52	Drop starboard spud in overnight staging area/barge transfer location.
18:53	Drop port spud.
18:54	Pick up starboard spud to adjust positioning. Drop spud.
18:55	Pick up port spud to pivot.
18:56	Drop port spud in overnight staging location.
19:16	Depart barge for shore.
19:28	Arrive at shore and depart for day.

Photos



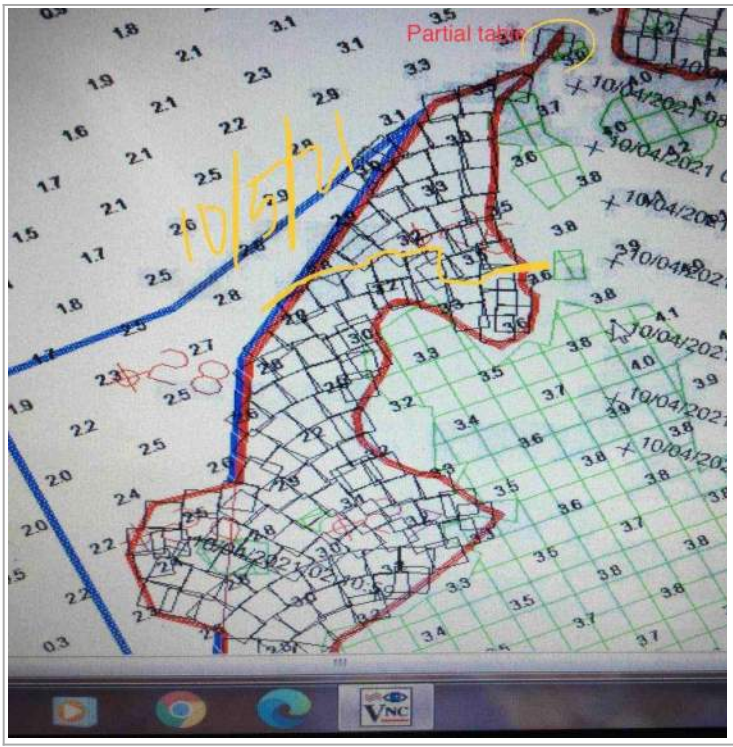
Starting day position.



Active placement.

Rain bucket 26 (1"=pass)

Damaged eelgrass from spud placement.



End of day bucket map.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/06/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Cold
Work Summary:	8"TLC placement. Transfer barge	Temperature:	55
Field Rep:	Jessica Blanchette	Remarks:	Outside of eelgrass. Hi tide 8.1'@17:25
Field Rep Time In:	13:40	Start Draft Level:	5
Field Rep Time Out:	21:15	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	13:50	21:15
Greg Lybeek	Operator	13:50	21:15
Lester Jones	Project Support	13:50	21:15
Arlan Henderson	Deck Hand Apprentice	13:50	21:15
Hun Seak Park & Josh Morman	Dept of Ecology site visit	16:00	18:37

Equipment

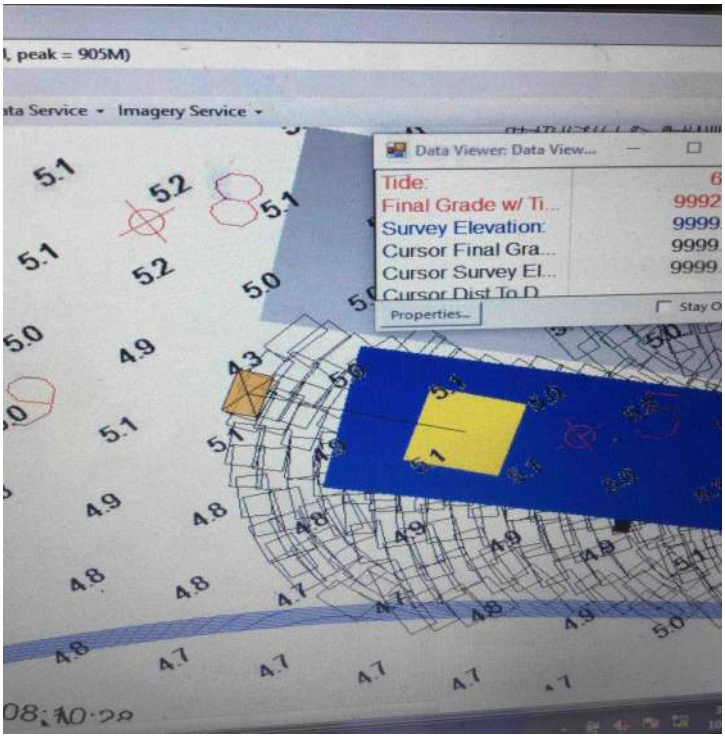
Equipment Used	Start Time	End Time
Survey vessel	13:50	21:15
DB Snohomish	13:50	21:15
Victory	13:50	21:15
Skiff	13:50	21:15
4 CY Rehandle	13:50	21:15
Skagit	13:50	21:15

Daily Observations

Time	Observations
13:40	Arrive on site at shore transport area.
13:55	Arrive at DB Snohomish, Skagit not yet on site.
14:55	Skagit arrives on site with Glenn Cove.
15:03	Glenn cove departs.
15:11	Pick up port spud to move into site.
15:12	Pick up starboard spud.
15:32	Drop spuds.
15:35	Begin placement with 4 CY Rehandle.
15:59	Chris departs in survey vessel to pick up Hun Seak Park from shore.
16:01	Pick up spuds to shift forward using bucket.
16:02	Drop spuds.
16:04	Pick up port spud to pivot bow north. Placement continues.
16:06	Lester departs to place rain bucket #9.
16:12	Chris arrives back on site with Hun Seak Park and Josh Morman.
16:16	Chris begins water quality monitoring with Hun Seak and Josh aboard the survey vessel.
16:30	Lester and Jess depart to check. Rain bucket #9
16:37	Rain bucket #9 fails at 4". Replace rain bucket with 4" of material to recheck after additional placement.

Time	Observations
16:41	Recheck rain bucket #9: measures at 5.5" (fail). Resume placement and remeasure.
16:53	Recheck rain bucket #9: measured at 11" (fail). May have had some interference with the bucket surface.
16:56	Pick up spuds to move forward with bucket.
16:57	Drop spuds. Continue placement.
17:29	Pick up spuds to move forward using bucket.
17:30	Drop spuds.
17:31	Pick up and drop port spud to pivot bow north.
17:36	Resume placement. Lester departs to place rain bucket #10.
18:11	Lester and Jess depart to inspect rain bucket #10.
18:14	Pulled up rain bucket to find it had been sideways, may have been knocked by material.
18:17	Lester and Jess return to barge.
18:20	Pick up spuds. Chris departs in survey vessel to push stern.
18:23	Drop spuds. Resume placement.
18:26	Chris departs with Hun Seak and Josh to return to shore.
18:55	Chris returns from dropping off Dept of Ecology reps and doing second water quality reading. Elevation detected at early warning (13 NTU) but dropped off at point of compliance (2 NTU)-- due to proximity of jetty likely getting interference near early warning point.
19:12	Pick up spuds to shift forward.
19:13	Drop spuds.
19:17	Lester sets rain bucket #8
19:35	Les retrieves rain bucket #8 though not enough material to pass over it. Retrieving to avoid leaving it overnight. Barge empty.
19:41	Cease placement. Lester measured 1.75" in rain bucket #8, will need to add this qty to tomorrow's measurements when bucket is replaced. Approximate 255 buckets placed.
19:52	Pick up spuds to mobilize out of site. Chris departs to support navigation.
20:12	Drop spuds in overnight/ barge transfer location. Chris returns to barge in survey vessel.
20:22	Glenn co on site, crew transfers Skagit.
20:27	Skagit departs with Glenn co.
21:00	Depart barge for shore.
21:15	Depart site for day.

Photos

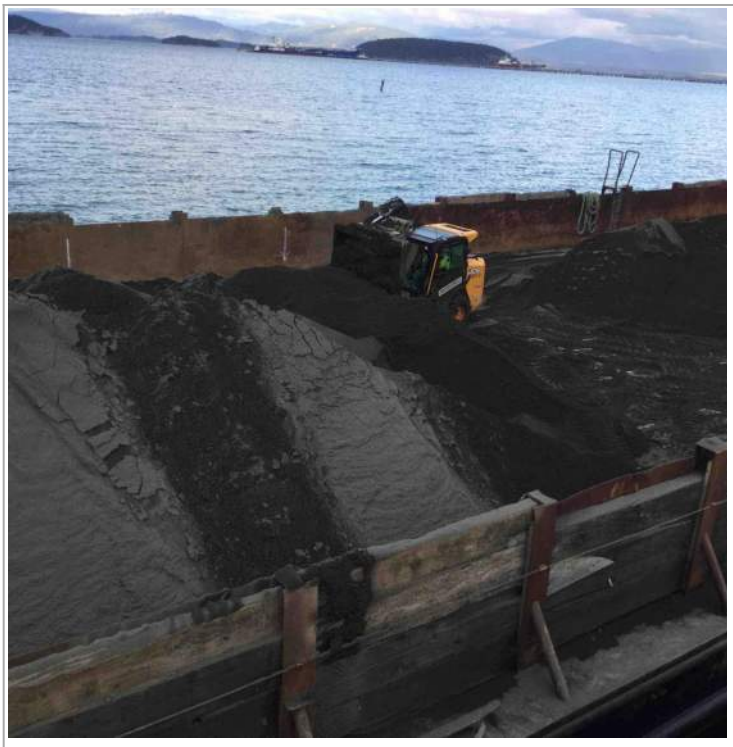


Beginning of day barge position relative to previous placement.

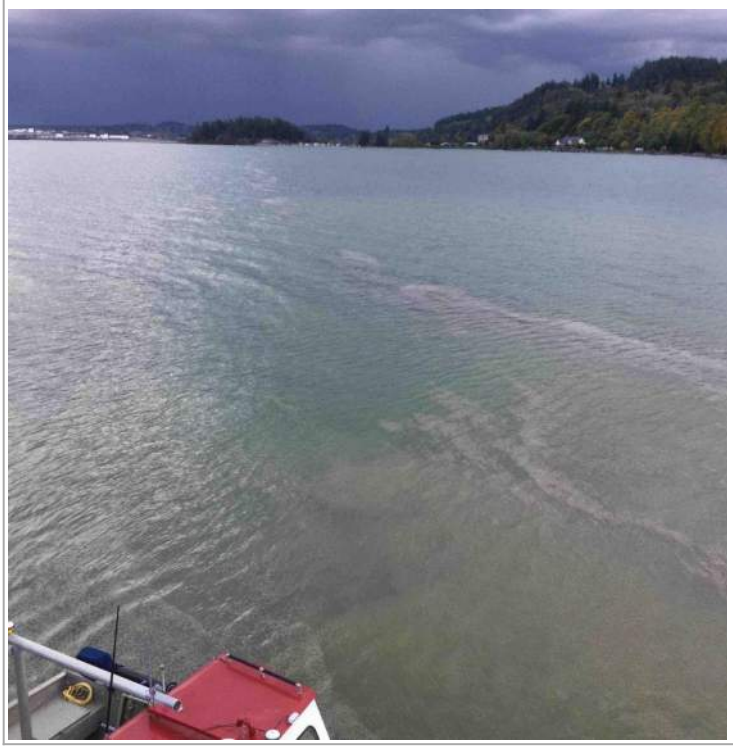
Survey vessel with dept of Ecology reps collecting water quality.

Active placement

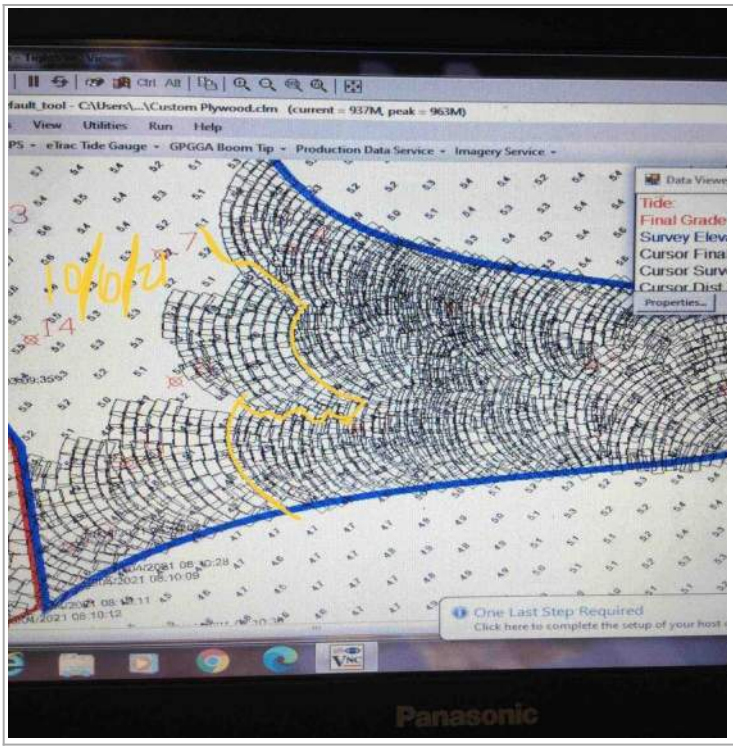
Third measurement of rain bucket #9, overflowing with 11".



Barge with material.



View of slight plume with turbidity within compliance.



End of day progress.

HC DFR with Crew and Equipment

Site: Custom Plywood Ph3

Project No.: 1960000

Date:	10/07/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Partly Cloudy
Work Summary:	Continue 8" TLC. Transfer barge.	Temperature:	54
Field Rep:	Jessica Blanchette	Remarks:	
Field Rep Time In:	13:45	Start Draft Level:	5
Field Rep Time Out:	20:25	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:35	20:25
Greg Lybeek	Operator	14:00	20:25
Lester Jones	Project support	14:00	20:25
Arlan Henderson	Deck Hand Apprentice	14:00	20:25

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	20:25
DB Snohomish	14:00	20:25
Victory	14:00	20:25
Skagit	14:00	20:25
Skiff	14:00	20:25
4 CY Rehandle	14:00	20:24

Daily Observations

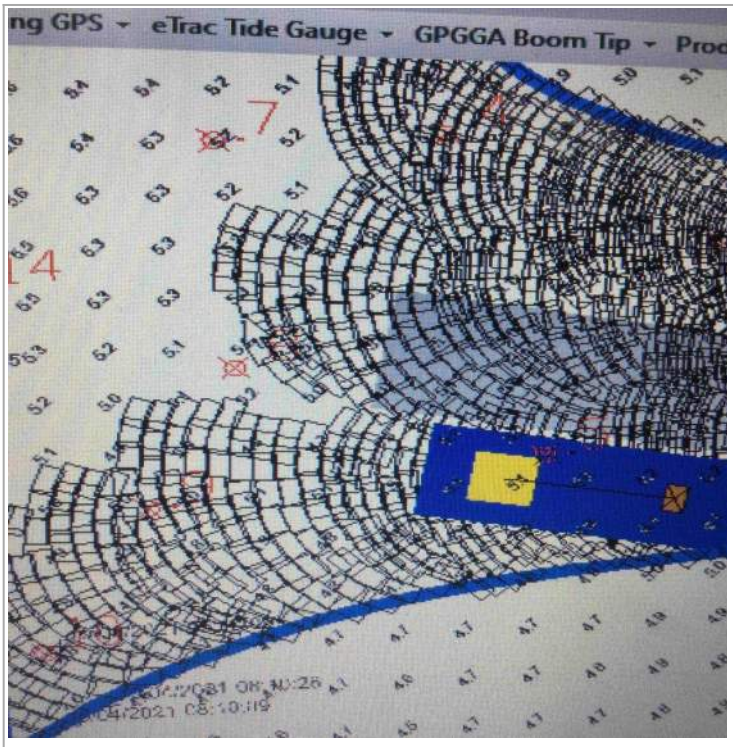
Time	Observations
13:45	Arrive at shore transport area
14:07	Arrive at DB Snohomish.
14:07	Glenn co arrives with Skagit, crew transfers barge.
14:22	Pick up spuds to mobilize into site.
14:31	Observed several (over 2 dozen) floating large clumps of what appears to be Ulva and eelgrass between Cap Sante marina and the refinery pier.
14:46	Drop starboard spud in work area to pivot bow north.
14:51	Drop port spud. Pick up starboard and port again.
14:53	Drop port spud.
14:54	Drop starboard spud.
15:02	Begin placement. Lester places rain bucket #8 (previously had 1.75" from yesterday, add to measurement)
15:52	Lester and Jess depart to measure rain bucket #8 (targeting a minimum of 4", max of 8")
15:55	Rain bucket #8 measures at 6.5" for a total of 8.25" (pass)
15:57	Return to barge.
15:57	Pick up both spuds to slide forward (west).
15:58	Drop spuds. Continue placement.
16:31	Lester places rain bucket #14.
16:42	Pick up spuds to slide forward (west) using bucket.
16:43	Drop spuds. Continue placement.

Time	Observations
17:10	Lester and Jess depart to check rain bucket #14.
17:15	Rain bucket #14 measures 5.5" (fail). Returned bucket as-is to add another two passes of material near bucket location.
17:26	Recheck rain bucket #14 - measures at 8.25" (pass).
17:28	Pick up starboard spud to pivot bow south.
17:29	Drop starboard spud. Continue placement
18:14	Pick up port spud.
18:15	Pick up starboard spud.
18:16	Drop spuds. Placement continues.
18:38	Pick up spuds.
18:39	Drop spuds.
19:03	Cease placement, barge empty. Approx 170 buckets placed
19:10	Pick up spuds to mobilize out of site.
19:11	Chris departs in survey vessel to support navigation.
19:37	Drop spuds in overnight staging/barge transfer location. Chris returns to barge. Glenn co waiting in area and crew transfers Skagit.
19:50	Glenn co departs with Skagit, crew demobilizes for evening.
20:10	Depart dredge.
20:24	Depart for day.

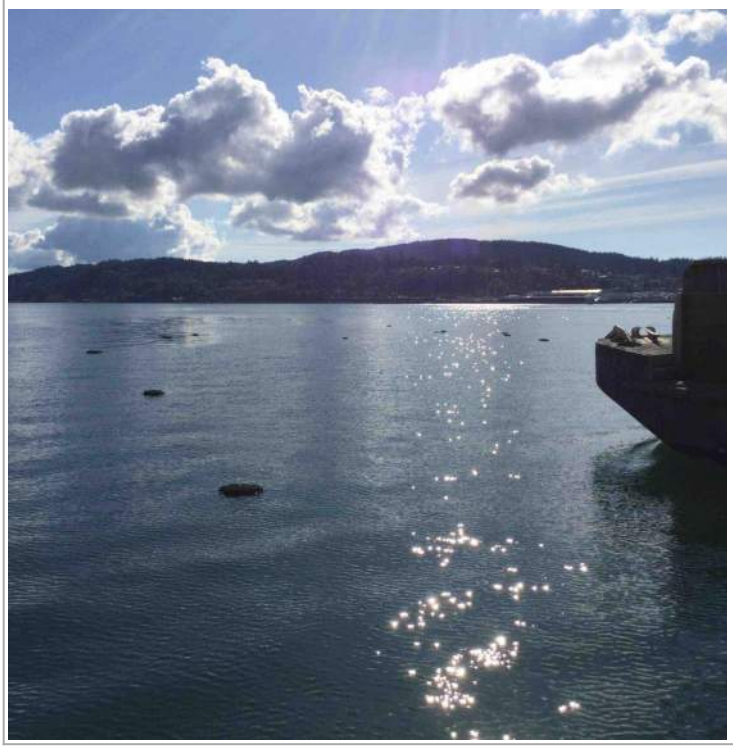
Photos

Active placement.

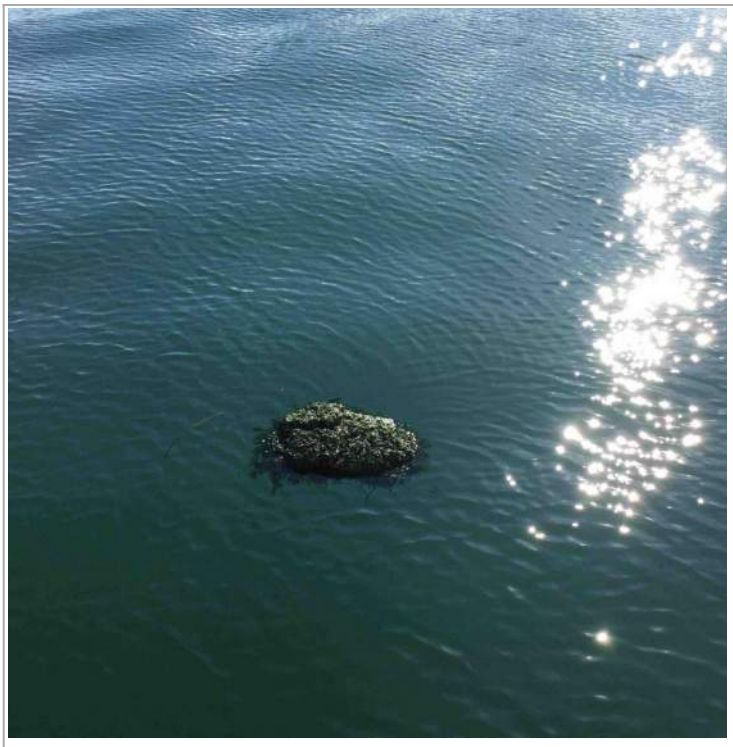
Measurement of RB #8 (6.5", 8.25" total)



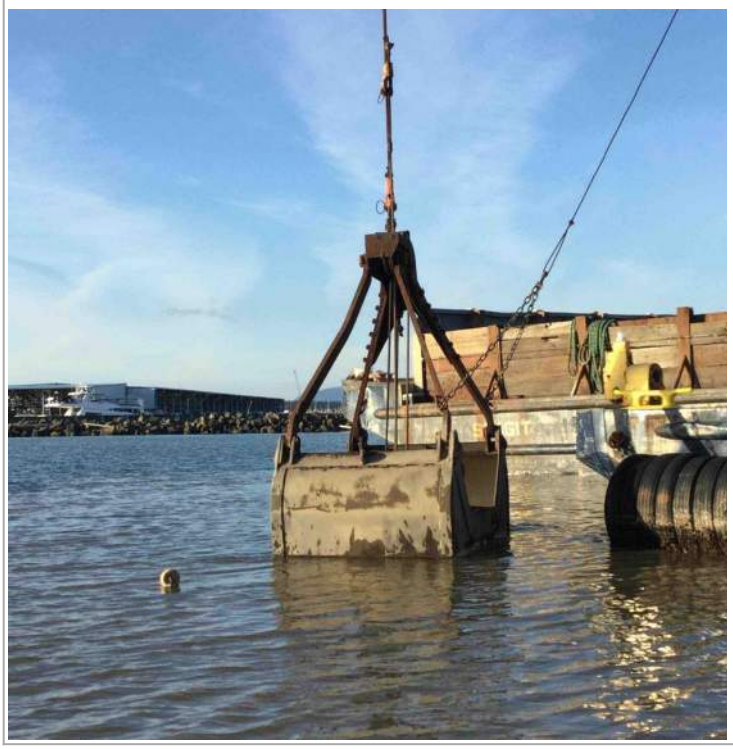
Start of day position.



Clumps of floating algae near channel.

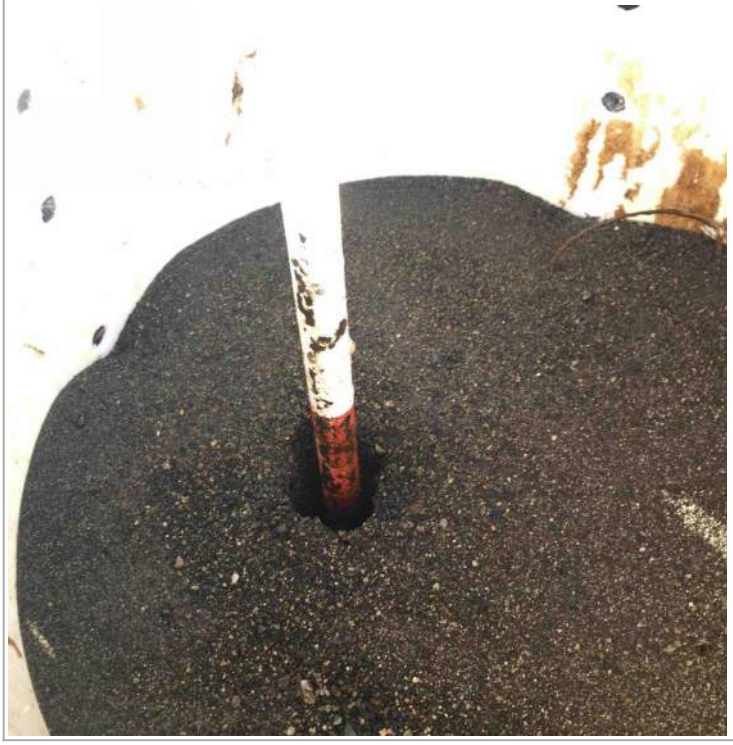


Clumps of floating algae near channel.

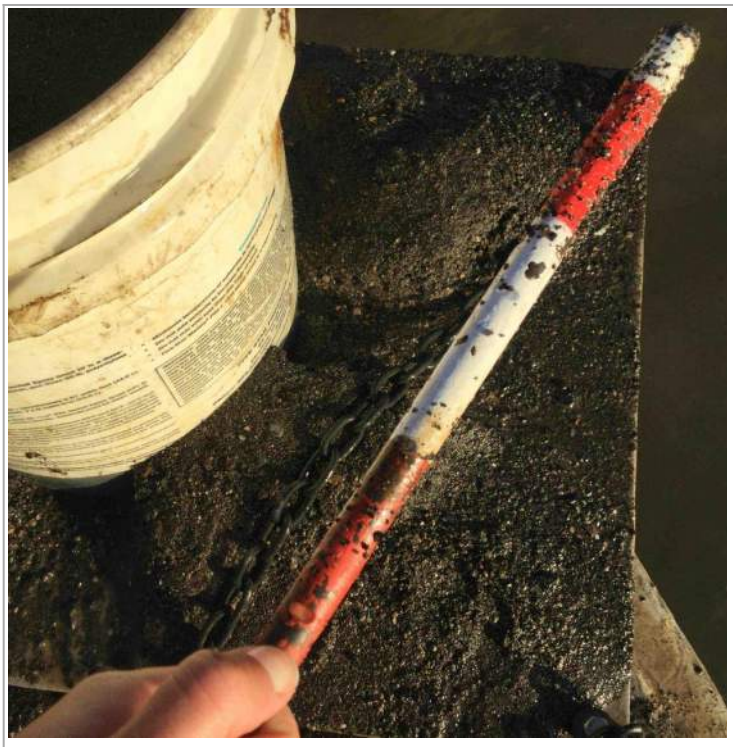


Active 8" TLC placement with 4CY bucket.

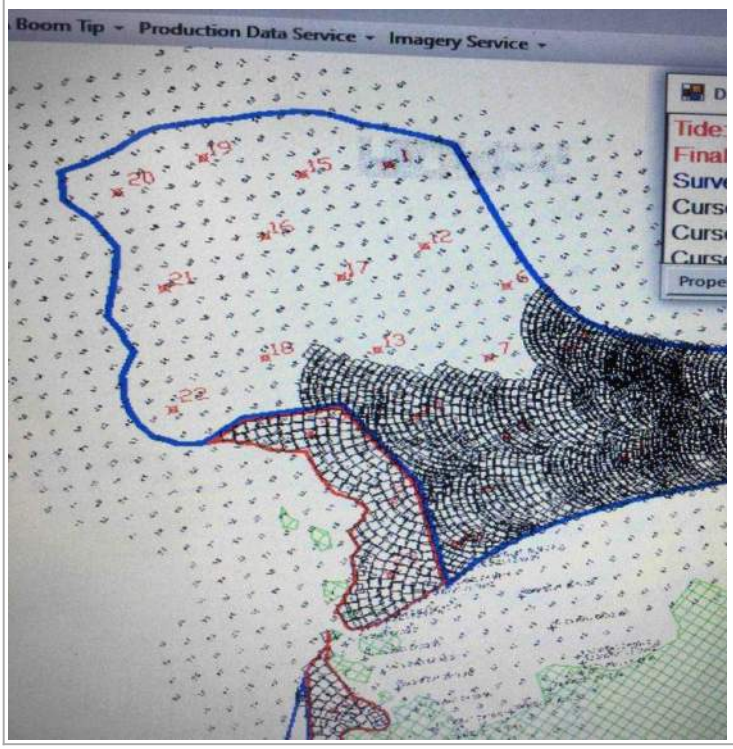
Measurement of RB #14 (5.5", fail)



Second measurement of RB #14 (8.25", pass)



Close up of second measurement of #14.



Progress of 8" TLC to date

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	10/08/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC
Tailgate Meeting:	Not conducted/Attended	Weather:	Sunny|Partly Cloudy
Work Summary:	Continue 8" TLC, transfer barge	Temperature:	55
Field Rep:	Jessica Blanchette	Remarks:	
Field Rep Time In:	14:00	Start Draft Level:	5.75
Field Rep Time Out:	21:11	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	21:11
Greg Lybeek	Operator	14:00	21:11
Lester Jones	Project support	14:00	21:11
Arlan Henderson	Deck Hand Apprentice	14:00	21:11

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	21:11
DB Snohomish	14:00	21:11
Victory	14:00	21:10
Skiff	14:00	21:10
Skagit	14:00	21:10
4 CY Rehandle	14:00	21:10

Daily Observations

Time	Observations
14:00	Arrive at shore transport area, depart for barge.
14:10	Arrive at DB Snohomish. Skagit not yet on site.
14:31	Skagit arrives via Glenn Cove and is transferred to Snohomish.
15:01	Pick up spuds to mobilize into site. Chris departs in survey vessel.
15:04	Glenn cove departs.
15:25	Drop starboard spud, pivot bow north.
15:27	Drop port spud.
15:34	Lester departs to place rain bucket #7.
15:37	Lester returns, placement begins.
16:01	Pick up spuds to slide forward (west).
16:02	Drop spuds. Continue placement.
16:29	Lester and Jess depart barge to check rain bucket #7.
16:36	Rain bucket #7 measures at 7" of material (pass). Return to barge.
16:36	Pick up spuds.
16:37	Drop spuds.
16:39	Pick up port spud to shift bow north.
16:39	Drop port spud. Resume placement.
17:14	Pick up spuds.
17:15	Drop spuds. Placement resumes.

Time	Observations
17:18	Lester places rain bucket #13.
18:08	Lester and Jess depart to measure rain bucket #13.
18:16	Rain bucket #13 measures at 8" (pass).
18:16	Pick up spuds.
18:17	Drop spuds.
18:19	Lester places rain bucket #17.
19:04	Lester and Jess check rain bucket #17 = measures material at 10" (pass). Continue placement.
19:07	Pick up spuds and move position with bucket.
19:08	Drop spuds. Continue placement.
19:40	Cease placement, barge empty.
20:13	Observed large patch of eelgrass adjacent to barge (barge has not passed over eelgrass in last two days). Did not observe any rhizomes present, appear to be broken shoots.
20:15	Pick up spuds to mobilize out of site.
20:35	Drop spuds in overnight staging/ barge transfer location.
20:38	Pick up spuds to adjust position.
20:39	Drop spuds.
20:51	Glenn cove arrives on site to transfer barge.
21:01	Depart barge for shore.
21:10	Depart for day.

Photos

Observed drift eelgrass mixed with narrower seagrass, may be young eelgrass or diff species.

Surface foam during active placement.

Rain bucket # 7 measurement = 7" (pass).

Close up of rain bucket #7 measurement.

Rain bucket #13 measurement= 8" (pass)

Rain bucket #17 measurement = 10" (pass)

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/11/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Partly Sunny|Cold
Work Summary:	Shallow 8" TLC placement	Temperature:	45
Field Rep:	Jessica Blanchette	Remarks:	Crossed eelgrass to access inshore areas.RB #31 failed high.
Field Rep Time In:	08:00	Start Draft Level:	6
Field Rep Time Out:	15:55	End Draft Level:	2

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	08:00	15:54
Greg Lybeek	Operator	08:00	15:54
Lester Jones	Project support	08:00	15:54
Arlan Henderson	Deck Hand Apprentice	08:00	15:54

Equipment

Equipment Used	Start Time	End Time
Survey vessel	08:00	15:54
DB Snohomish	08:00	15:54
Victory	08:00	15:54
Skiff	08:00	15:53
Skagit	08:00	15:53
4CY Rehandle	08:00	15:53

Daily Observations

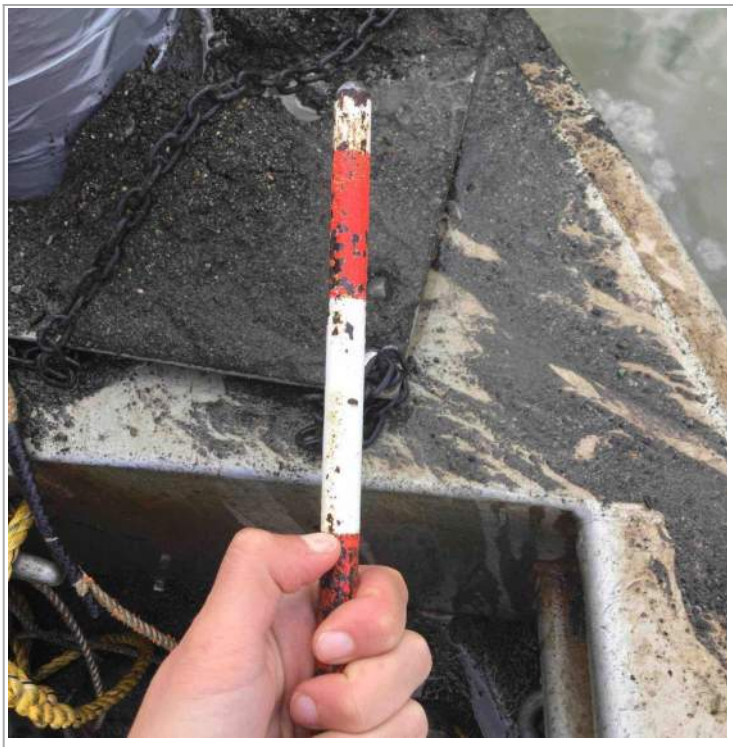
Time	Observations
08:00	Arrive at shore transport dock.
08:13	Arrive on DB snohomish, Skagit on site full of new shipment of material.
09:08	Pick up port spud to pivot.
09:10	Pick up starboard spud to mobilize into site.
09:32	Drop spuds in eelgrass (SPUD 43&44)
09:40	Begin placement.
10:04	Pick up port spud to pivot bow north. Pick up starboard spud.
10:06	Drop spuds. Port in eelgrass. (SPUD 45)
10:06	Pick up port spud
10:08	Drop port spud out of eelgrass. Continue placement.
10:34	Lester and Arlan place rain bucket #31.
10:42	Pick up both spuds.
10:43	Drop spuds. Both out of eelgrass.
11:00	Jess, Lester , and Arlan check rain bucket #31
11:01	Rain bucket #31 measures at 12.5" (fail). Return to barge.
11:02	Pick up port spud to move bow north.
11:06	Drop spuds outside of eelgrass to prepare move to second nearshore 8" TLC area.
11:08	Pick up spuds to move.

Time	Observations
11:14	Drop starboard spud in eelgrass (SPUD 46)
11:17	Pick up starboard spud.
11:19	Drop port spud outside of eelgrass.
11:20	Drop starboard spud in eelgrass (SPUD 47). Continue placement.
11:35	Pick up spuds. Observed some drift eelgrass shoots, no rhizomes. Approx 4 blades.
11:36	Drop port spud outside of eelgrass. Starboard spud in eelgrass (SPUD 48). Placement resumes.
11:55	Pick up spuds. Observed one eelgrass shoot with rhizome from starboard spud.
11:56	Drop port spud. Then starboard spud, in eelgrass. (SPUD 49)
11:58	Lester places rain bucket #28.
12:22	Pick up spuds to move forward.
12:23	Drop spuds. Neither are in eelgrass.
12:27	Les and Jess check rain bucket #28.
12:35	Rain bucket #28 measures at 6"(pass).
12:42	Pick up port spud.
12:44	Pick up starboard spud.
12:45	Drop spuds. Neither in eelgrass. Resume placement.
12:59	Pick up spuds to move to northernmost portion of 8" TLC.
13:07	Drop port spud out of eelgrass.
13:08	Drop starboard spud.
13:11	Lester places rain bucket #18. Continue placement.
13:16	(Lost painted probe for rain bucket measurement overboard)
13:46	Lester and Jess depart to check rain bucket #18.
13:49	Rain bucket #18 measures at 9" (pass).
13:50	Pick up spuds to shift forward (west)
13:52	Drop spuds. Continue placement.
14:23	Pick up spuds.
14:23	Drop spuds. Continue placement.
14:38	End placement, empty barge.
14:50	Pick up spuds to mobilize out of site to barge transfer location.
15:07	Drop port spud.
15:08	Drop starboard spud. Pick up port to pivot.
15:09	Both spuds lowered in staging area.
15:40	Depart barge for shore.
15:53	Depart for day.

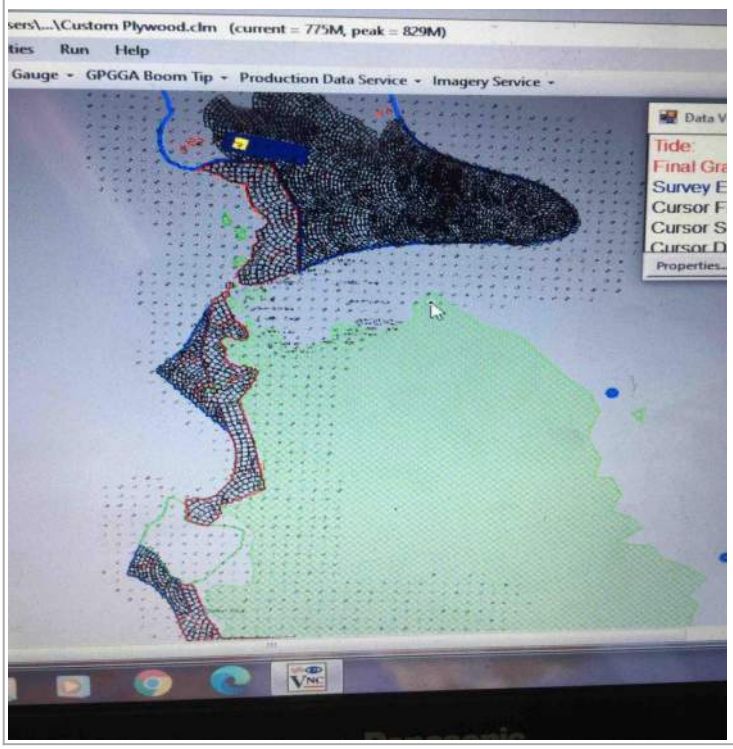
Photos

Measurement of rain bucket #18:9" (pass)

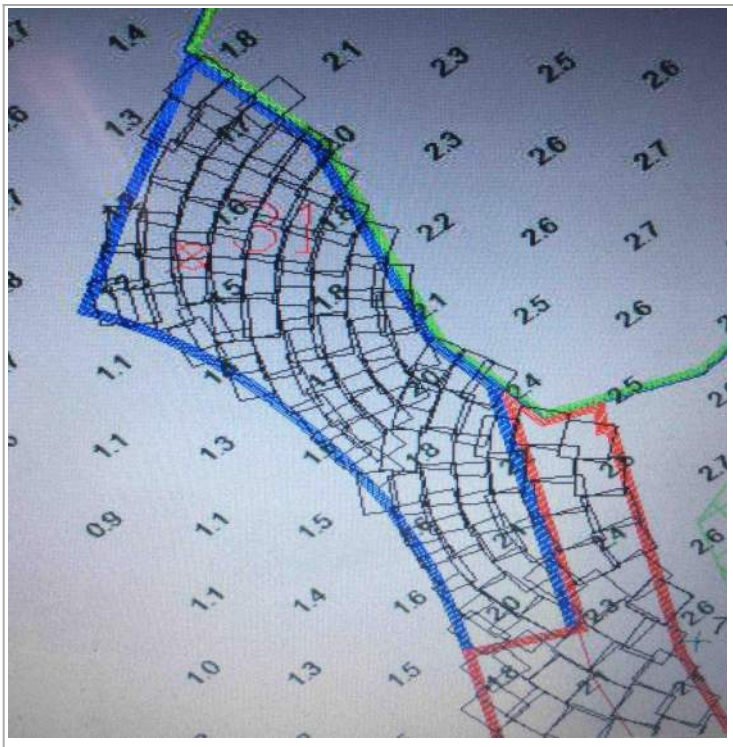
Measurement of rain bucket #31: 12.5" (fail)



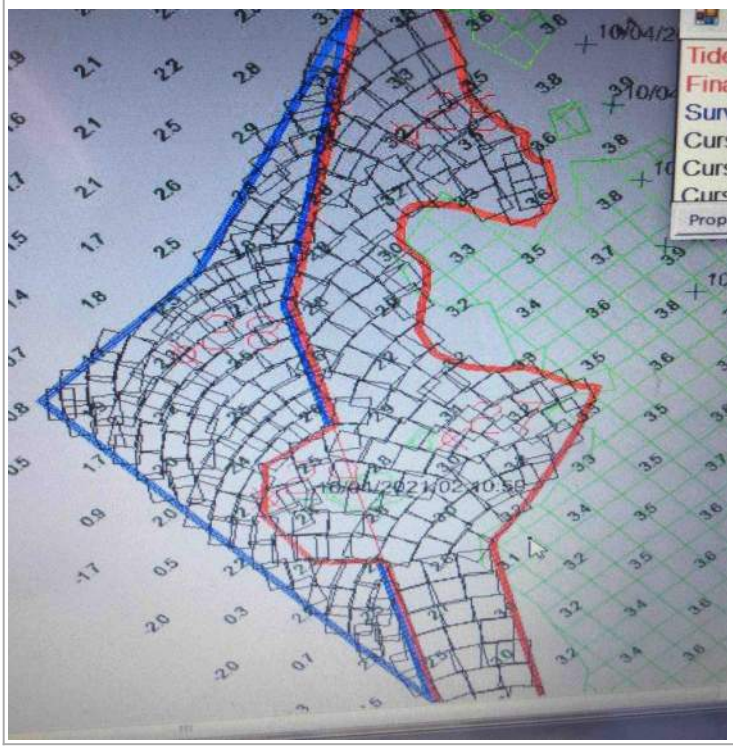
Rain bucket #28 measures at 6"(pass).



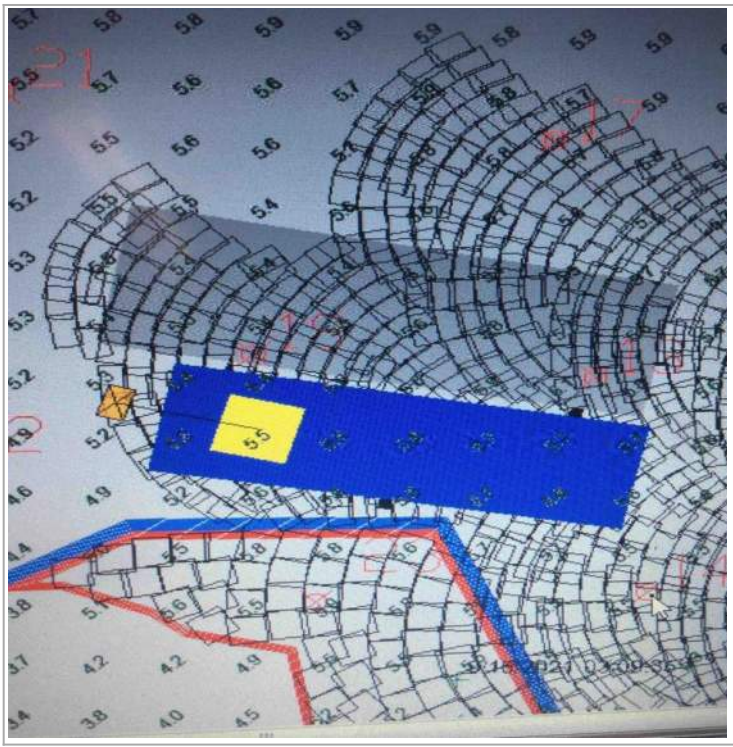
End of day progress.



Bucket map for southern 8" TLC.



Bucket map for central 8" TLC.



End of day bucket map for northern extent 8" TLC.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/12/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Observe 8" TLC.
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Rain|Cold|High Winds
Work Summary:	8" TLC placement in north.	Temperature:	53
Field Rep:	Jessica Blanchette	Remarks:	SHUT DOWN due to water quality and weather.
Field Rep Time In:	14:00	Start Draft Level:	5.75
Field Rep Time Out:	19:00	End Draft Level:	4.5

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	14:00	19:00
Greg Lybeek	Operator	14:00	19:00
Lester Jones	Project support	14:00	19:00
Arlan Henderson	Deck Hand Apprentice	14:00	19:00

Equipment

Equipment Used	Start Time	End Time
Survey vessel	14:00	18:45
DB Snohomish	14:00	18:45
Victory	14:00	18:45
Skagit	14:30	18:45
4CY Rehandle	14:30	18:45

Daily Observations

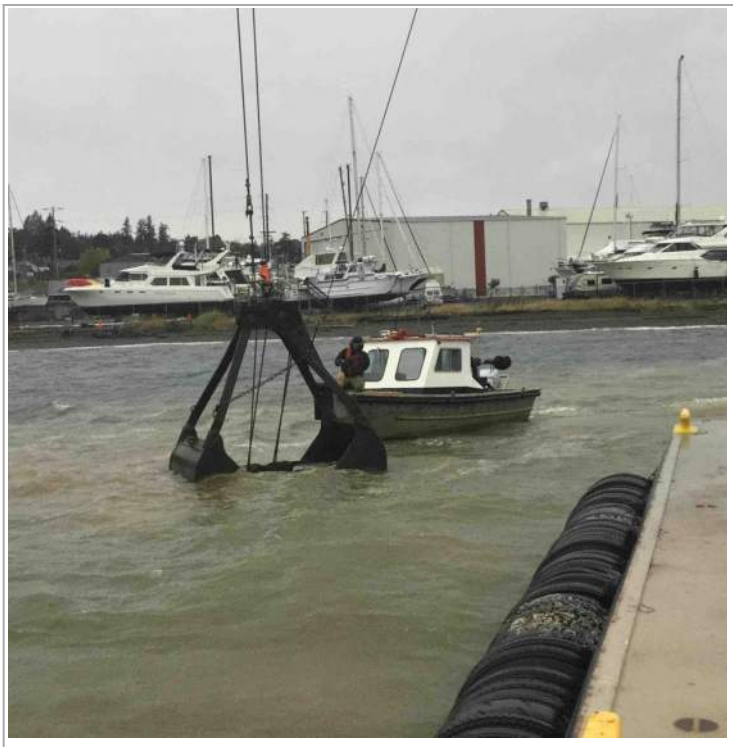
Time	Observations
14:00	Arrive on site and depart for barge. Noted some wind and white caps.
14:13	Arrive on DB Snohomish, Skagit not yet on site.
14:30	Skagit arrives via Glenn Cove. Transfer barge to Snohomish.
14:38	Glenn cove departs
14:40	Pick up port spud to pivot.
14:43	Pick up starboard spud and mobilize into site
15:05	Drop spuds, winds and wave causing navigation issues, port spud directly adjacent to transplant zone.
15:07	Pick up port spud to pivot on starboard.
15:12	Pick up starboard spud to move further into site.
15:18	Drop port spud.
15:20	Drop starboard spud.
15:21	Pick up spuds to slide forward.
15:23	Drop spuds in placement location.
15:36	Placement begins.
16:18	Pick up spuds to move forward.
16:19	Drop spuds. Lester and Chris place rain bucket #22. Waves requiring the survey vessel to be tied up against the north side of the Skagit.
16:28	Continue placement.
17:08	Retrieve rain bucket using combination of survey vessel and crane to lift bucket onto deck due to weather. Rain bucket #22 measures 7" of material (pass)
17:10	HC rep noted plume visible beyond early warning point and brought to Chris' attention.

Time	Observations
17:11	Pick up spuds to move position west.
17:12	Drop spuds.
17:14	Continue placement. Chris departs to check water quality.
17:30	Pick up port spud to pivot north and flip barge 180*. Decision to call work for the day due to water quality and weather, HC rep has not discussed water quality readings with Chris at this point in time.
17:33	Pick up starboard spud.
17:39	Drop starboard spud in overnight staging area. HC rep and Chris discuss water quality readings: confirmed exceedance at point of compliance and ceased work. Readings approx 400' from barge measured 11 NTU, background at 1.9 NTU.
17:40	Crew secures deck for evening. Approx 105 buckets placed.

Photos

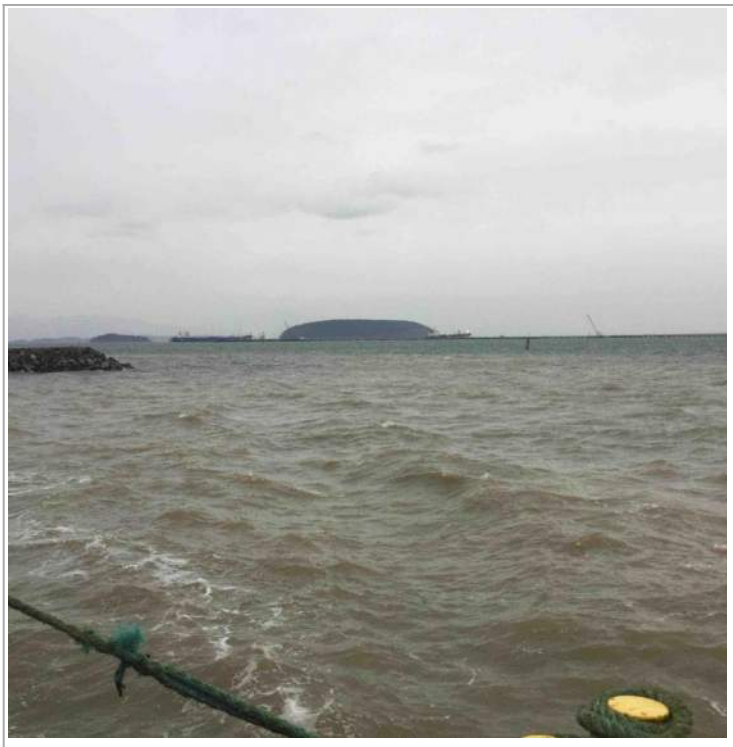
Rain bucket #22 measurement: 7" (pass)

Rain bucket #22 measurement: 7" (pass)

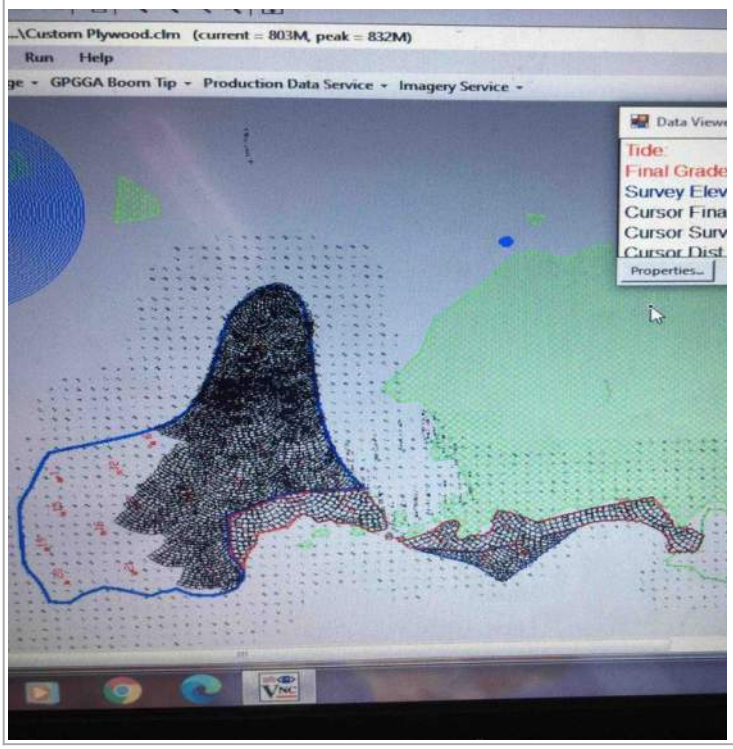


Lester and Chris retrieving rain bucket #22.

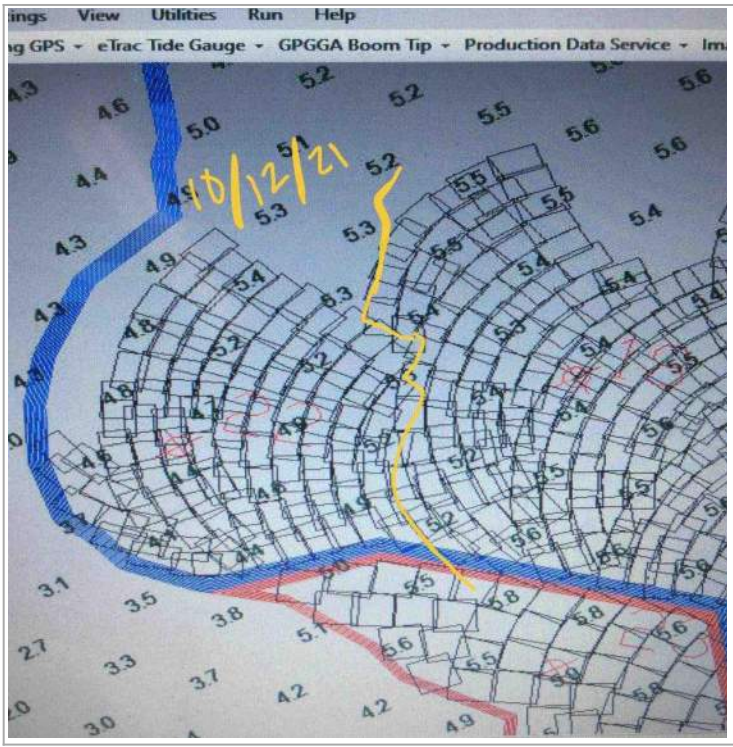
Crane pulling rain bucket.



Visible plume; addressed in notes above.



Progress to date as of end of day 10/12.



End of day bucket map.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/13/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Oversight
Tailgate Meeting:	H&A staff attended briefing by others	Weather:	Cloudy
Work Summary:		Temperature:	50
Field Rep:	Sam Fisher	Remarks:	
Field Rep Time In:	13:44	Start Draft Level:	4.5
Field Rep Time Out:	18:45	End Draft Level:	EMPTY

Crew

Worker Name	Work Accomplished	Time In	Time Out
Greg Lybeek	Operator	13:44	18:40
Chris Raymond	Project Engineer	13:44	18:40
Les Jones	Project support	13:44	18:40
Arlan Henderson	Deck Hand Apprentice	13:44	18:40
Arianne Fernandez	Department oh Ecology	13:53	18:40

Equipment

Equipment Used	Start Time	End Time
Skiff	13:54	18:40
Survey boat	13:54	18:40
DB Snohomish	14:00	18:30
Skagit	14:00	18:37
Victory	14:00	18:37

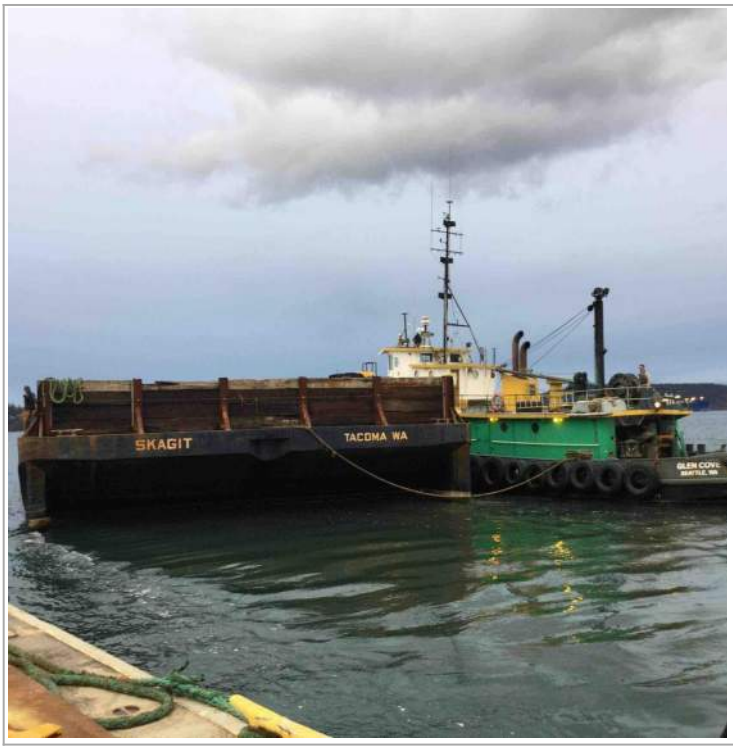
Daily Observations

Time	Observations
13:55	Crew mobilizes.
14:44	Port spud lifted as crew begins positioning.
14:48	Starboard spud lifted as the crew moves into position.
14:57	Both spuds dropped to begin placement.
15:01	Placement of 8-inch TLC begins.
15:20	Chris collected ebb tide water quality measurements.
15:29	Both spuds lifted and moved to continue placement.
16:01	Both spuds lifted and moved to continue placement.
16:29	Both spuds lifted and and moved to continue placement. The survey boat was used to facilitate this move.
17:11	Placement complete for the day. Approximately 80 buckets placed.
17:38	Both spuds dropped and parked overnight. DB Snohomish is outside of eelgrass mitigation area and avoided both parcels entirely when in transit.
18:26	The Skagit is taken to attain additional material.
18:37	Crew demobilizes.

Photos

Beginning draft level.

Location of DB Snohomish overnight relative to eelgrass mitigation areas.



Skagit taken by the tug for refilling.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/14/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Oversight
Tailgate Meeting:		Weather:	Cloudy
Work Summary:		Temperature:	52
Field Rep:	Sam Fisher	Remarks:	
Field Rep Time In:	13:40	Start Draft Level:	5.0
Field Rep Time Out:	19:26	End Draft Level:	EMPTY

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris	Project Engineer	13:47	19:24
Greg Lybeek	Operator	13:47	19:24
Les Jones	Project support	13:48	19:24
Arlan Henderson	Deck Hand Apprentice	13:48	19:24

Equipment

Equipment Used	Start Time	End Time
Skiff	13:50	19:20
Survey boat	13:50	19:20
DB Snohomish	14:00	19:15
Skagit	14:00	19:15
Victory	14:00	19:15

Daily Observations

Time	Observations
14:08	Crew mobilizes and meets to reaffix the now-filled barge.
14:29	Both spuds lifted and the crew begins to mobilize to resume placement of the 8-inch TLC.
14:52	Both spuds dropped to resume placement, both outside of eelgrass.
14:55	Rain bucket #6 placed.
14:58	Chris collected water quality measurements.
15:29	Rain bucket #6 measured within tolerance at 7 3/4".
15:30	Both spuds lifted and relocated for placement, both outside of the eelgrass beds.
16:00	Both spuds relocated for placement, rain bucket #12 placed.
16:12	Chris completed another set of water quality measurements due to visible plume; 3NTU compared with 0.3NTU background. Recommended slowing of placement, however, given visibility of plume.
16:35	Rain bucket #12 measured within tolerance at 6 3/4".
16:39	Both spuds lifted and relocated to resume placement.
17:07	Both spuds relocated to continue placement.
17:37	Both spuds lifted and relocated to continue placement.
17:55	Crew halted placement of TLC and moved out to have the barge filled once more. Approximately 117 buckets placed.
18:23	Chris took water quality following placement.
18:54	Both spuds parked overnight and barge is taken to be refilled. Eelgrass mitigation are avoided en route.
19:05	Crew demobilizes for the day.

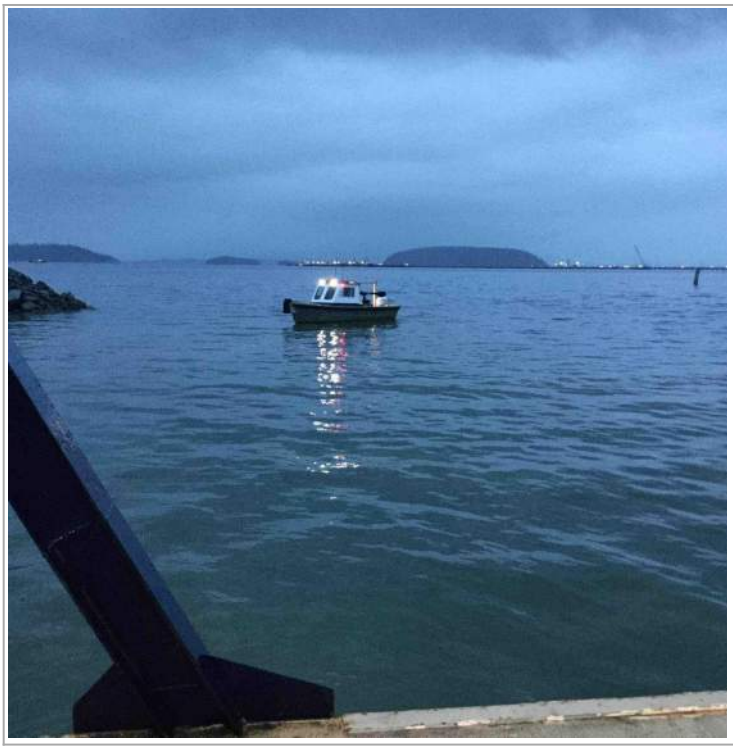
Photos

Rain bucket #6 within tolerance at 7 3/4"

View of turbid plume during Chris's ebb tide WQ measurements.

Rain bucket #12 measured within tolerance at 6 3/4"

View of plume at 17:10.



Chris took WQ measurements after placement ceased to see how the plume was settling out at 18:20.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Project No.: 1960000

Date:	10/18/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	
Tailgate Meeting:	H&A staff attended briefing by others	Weather:	Partly Cloudy|Clear
Work Summary:		Temperature:	55
Field Rep:	Sam Fisher	Remarks:	
Field Rep Time In:	13:28	Start Draft Level:	5.4
Field Rep Time Out:	21:21	End Draft Level:	EMPTY

Crew

Worker Name	Work Accomplished	Time In	Time Out
Arlan Henderson	Deck Hand Apprentice	13:33	16:30
Greg Lybeek	Operator	13:33	21:20
Les Jones	Project Support	13:33	21:19
Chris Raymond	Project Engineer	16:25	21:19

Equipment

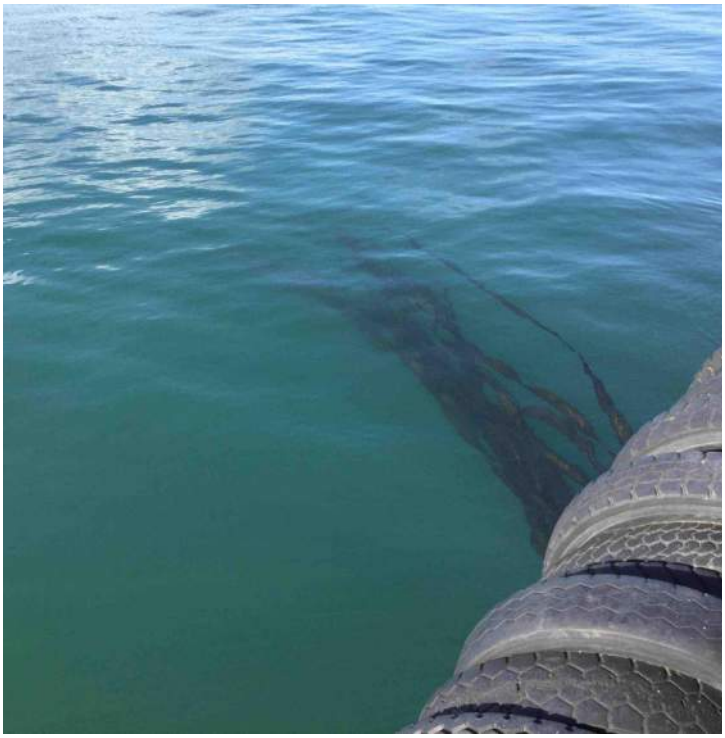
Equipment Used	Start Time	End Time
Survey boat	13:38	21:20
Skiff	13:38	21:10
DB Snohomish	13:53	21:10
Skagit	13:53	21:10
Victory	13:53	21:10

Daily Observations

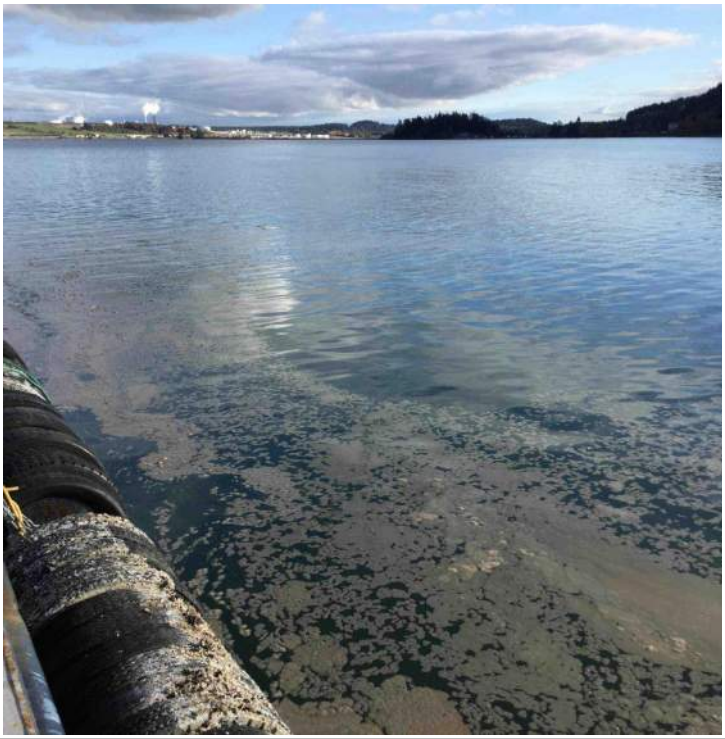
Time	Observations
13:56	Crew mobilizes and attaches the Skagit to the DB Snohomish.
14:21	Both spuds lifted and mobilization back to project area begins.
14:39	Starboard spud dropped to pivot into placement area.
14:52	Both spuds dropped to begin placement of 8-inch TLC, neither in eelgrass beds.
14:56	Barge is shifted forwards.
15:01	Rain bucket #16 placed.
15:25	Rain bucket #16 measured within tolerance at 7 1/2".
15:35	Both spuds moved to continue placement.
16:06	Both spuds moved to continue placement.
16:30	Chris collected water quality measurements.
16:40	Both spuds moved to continue placement.
17:12	Both spuds moved to resume placement.
17:20	Rain bucket #21 placed.
17:42	Rain bucket #21 checked. First measurement failed at 5 7/8". Bucket was replaced and additional material was added. Second measurement passed at 6 1/4".
17:56	Both spuds moved to continue placement.
18:21	Both spuds moved to continue placement.
18:26	Rain bucket #20 placed.
18:56	Rain bucket #20 measured within tolerance at 9 1/2". Chris took water quality measurements at this time as well.
19:03	Both spuds moved to continue placement.

Time	Observations
19:18	Both spuds moved to continue placement. The survey boat was used to pivot as well.
19:39	Placement halted, all material distributed. Approximately 158 buckets placed.
19:44	Crew mobilizes to the staging area for loading.
20:10	Both spuds dropped in staging area overnight.
21:04	Crew leaves for shore.

Photos



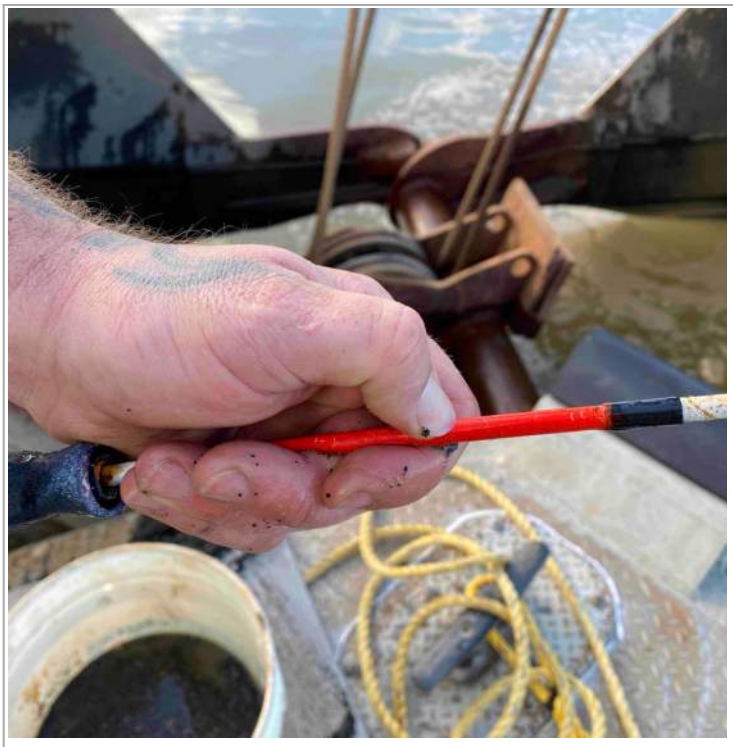
Floating vegetation (bull kelp) observed attached to barge after the turbulent weekend weather. No eelgrass was observed attached.



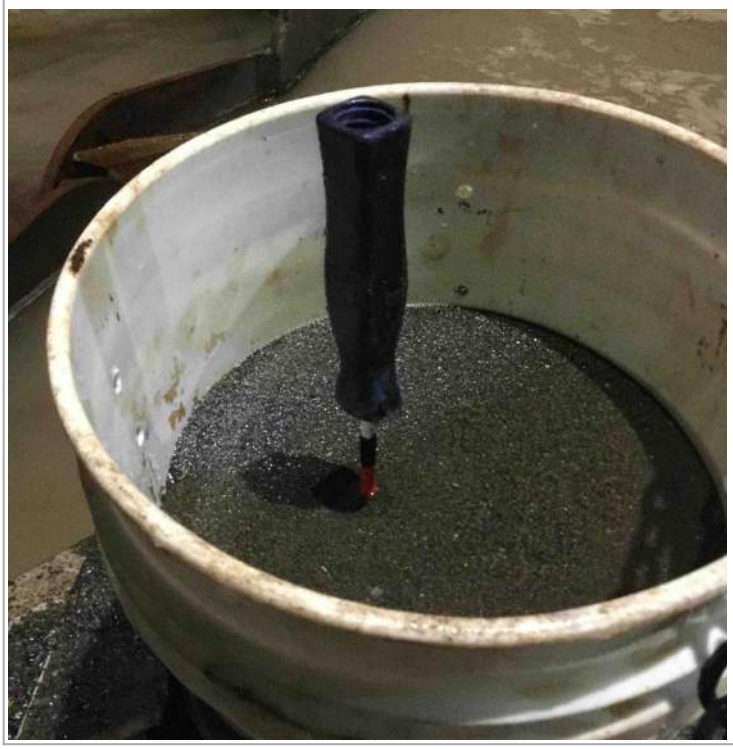
Surface bubbles visible immediately adjacent to placement area.

View of remaining surface bubbles from the back of the tug - largely dissipated, little turbidity observed.

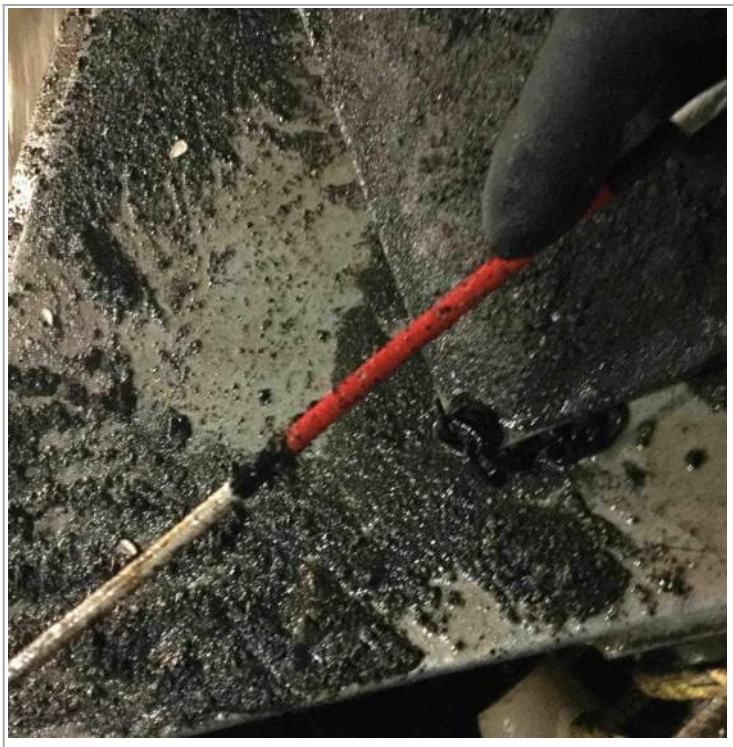
Rain bucket #21 remeasured and is now within tolerance at 6 1/4".



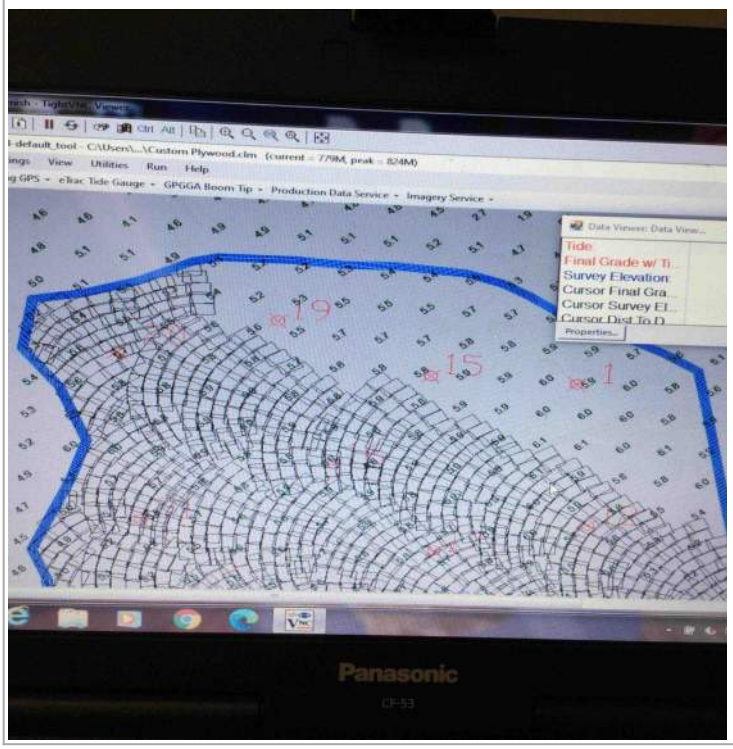
Rain bucket #16 measured within tolerance at 7 1/2".



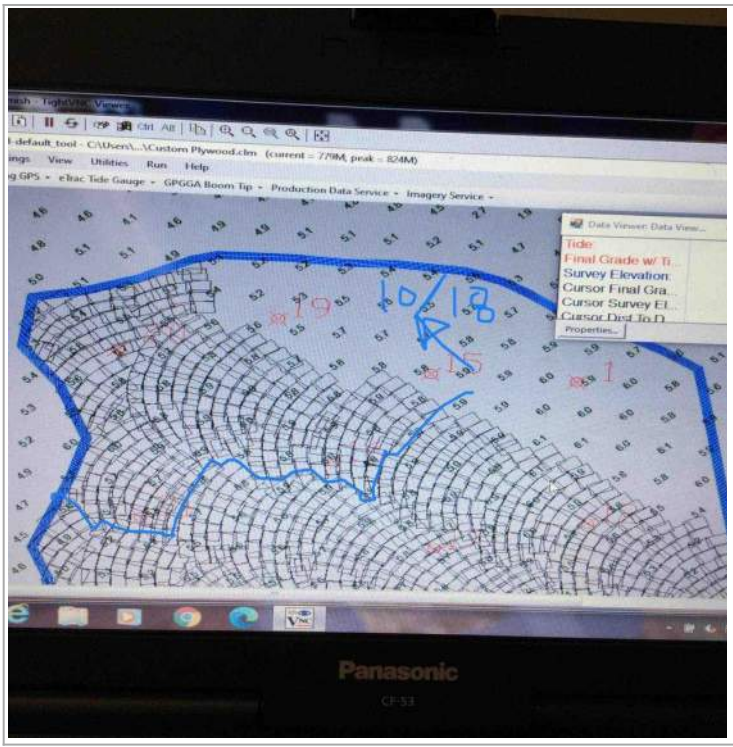
Rain bucket #20 with the measuring tool in the bucket,within tolerance at 9 1/2".



Rain bucket #20 measured within tolerance at 9 1/2".



EOD bucket map.



EOD bucket map.

HC DFR with Crew and Equipment
Site: Custom Plywood Ph3

Date:	10/19/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	
Tailgate Meeting:	H&A staff attended briefing by others	Weather:	Partly Cloudy
Work Summary:		Temperature:	57
Field Rep:	Sam Fisher	Remarks:	
Field Rep Time In:	13:35	Start Draft Level:	5.2
Field Rep Time Out:	21:01	End Draft Level:	EMPTY

Crew

Worker Name	Work Accomplished	Time In	Time Out
Les Jones	Project Support	13:42	21:00
Greg Lybeek	Operator	13:42	21:00
Chris Raymond	Project Engineer	13:55	21:00

Equipment

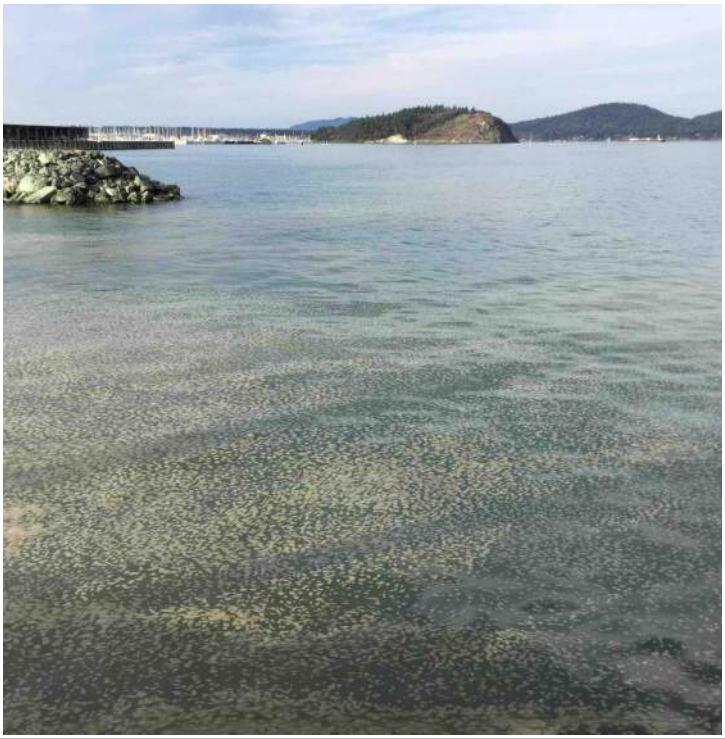
Equipment Used	Start Time	End Time
Survey boat	14:00	20:56
Skiff	14:17	20:19
DB Snohomish	14:17	20:50
Skagit	14:17	19:56

Daily Observations

Time	Observations
13:55	Crew mobilizes to DB Snohomish.
14:20	Skagit is affixed to the port side of the barge.
14:50	Both spuds lifted and barge begins moving into project area.
15:15	Both spuds dropped to resume placement of the 8-inch TLC.
15:44	Both spuds moved to continue placement.
16:18	Both spuds moved to resume placement. Rain bucket #1 placed.
16:26	Chris collected flood tide water quality measurements.
17:05	Rain bucket #1 measured within tolerance at 6 1/4".
17:09	Both spuds moved to resume placement.
17:40	Both spuds moved to continue placement.
17:42	Rain bucket #15 placed.
18:20	Rain bucket #15 measured within tolerance at 6 1/4".
18:23	Both spuds moved to continue placement.
18:53	Chris took ebb tide water quality measurements.
19:02	Placement finished, all material placed. Approximately 130 buckets placed.
19:15	Both spuds lifted and the survey boat is used to begin moving the barge back to the staging area.
19:48	Skagit is taken by the Seabold tug.
20:49	Crew leaves for shore.

Photos

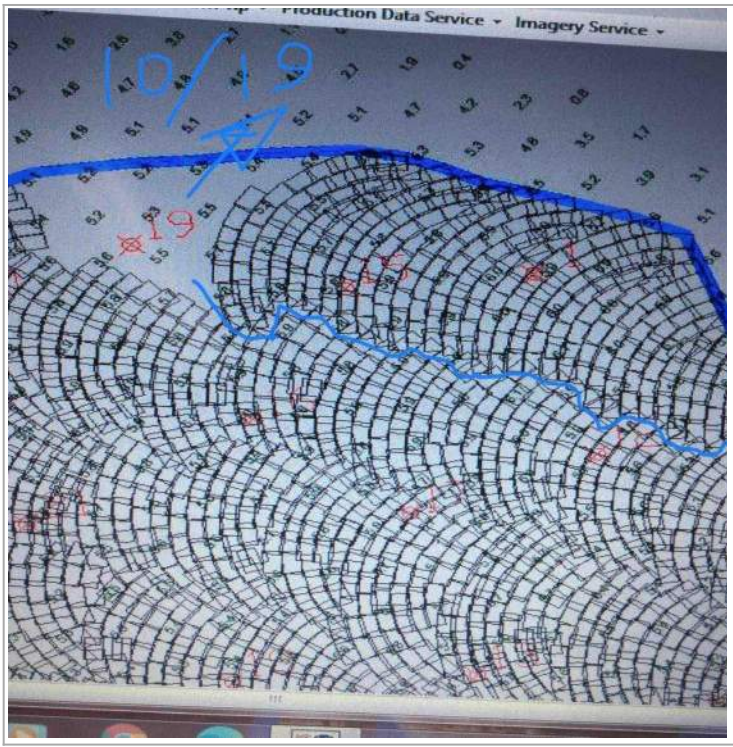
Skagit fully loaded, now affixed to port side.



Minimal turbidity plume observed.

Rain bucket #1 measured within tolerance at 6 1/4".

Rain bucket #15 measured within tolerance at 6 1/4".



EOD bucket placement screen.

HC DFR with Crew and Equipment

Site: Custom Plywood Ph3

Date:	10/27/2021	H&A File Number:	1960000
Client:	Dept of Ecology	Project Manager:	John Bingham
Contractor:	American Construction Company	Purpose of Site Visit:	Finish 8" placement
Tailgate Meeting:	Not conducted/Attended	Weather:	Cloudy|Cold
Work Summary:	Final placement of 8" TLC and final survey.	Temperature:	50
Field Rep:	Jessica Blanchette	Remarks:	
Field Rep Time In:	09:00	Start Draft Level:	3
Field Rep Time Out:	16:30	End Draft Level:	3

Crew

Worker Name	Work Accomplished	Time In	Time Out
Chris Raymond	Project Engineer	09:00	16:30
Greg Lybeek	Operator	09:00	16:30
Lester Jones	Project support	09:00	16:30

Equipment

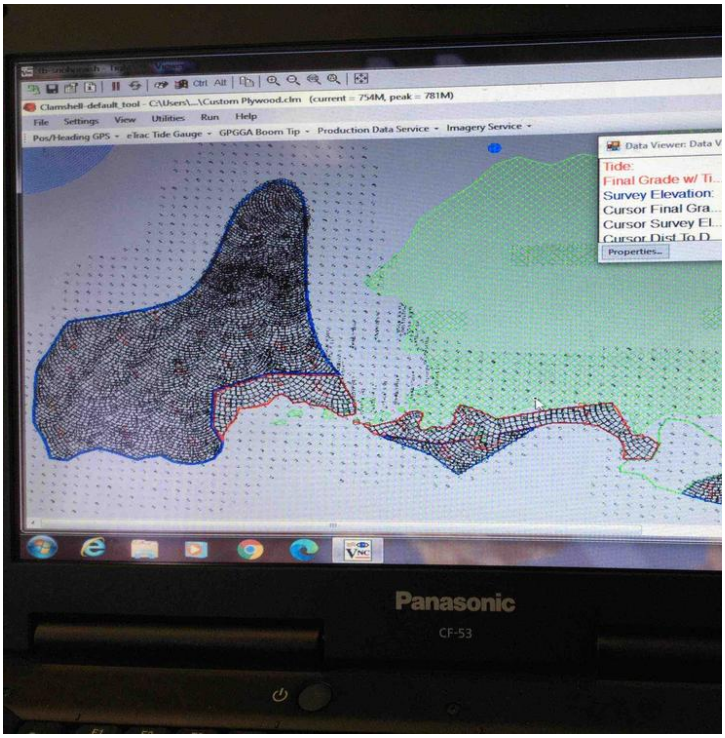
Equipment Used	Start Time	End Time
Survey vessel	09:00	16:30
DB Snohomish	09:00	16:30
Victory	09:00	16:30
Skagit	09:00	16:30
4 CY Rehandle	10:15	16:30

Daily Observations

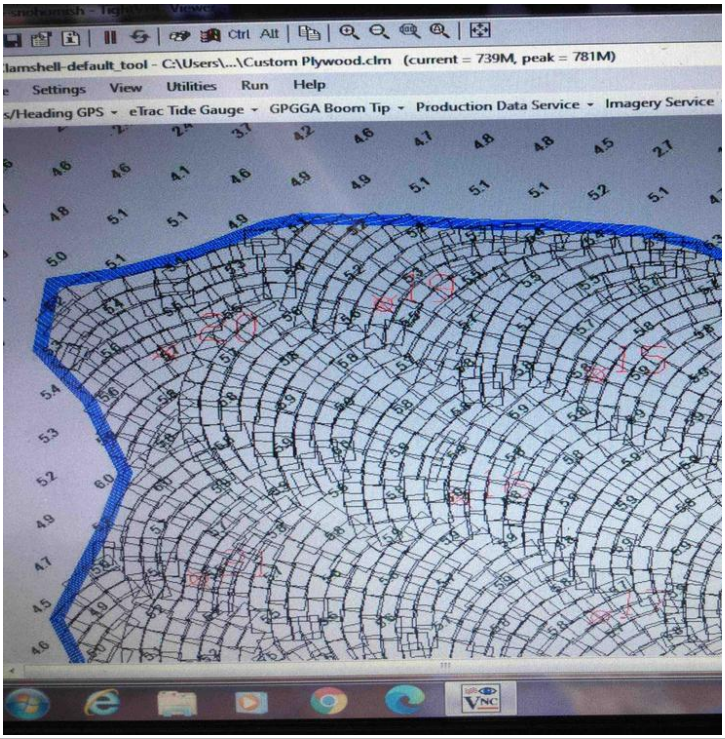
Time	Observations
09:00	Arrive at shore transport area.
09:30	Arrive on DB Snohomish.
10:21	Pick up starboard spud to pivot.
10:22	Pick up port spud to mobilize into site.
10:36	Drop starboard spud to pivot into site.
10:37	Drop port spud. Crew plans for day.
11:20	Pick up spuds to continue mobilizing to site.
11:25	Drop starboard spud then port.
11:26	Pick up port spud to pivot.
11:28	Drop port spud.
11:37	Lester places rain bucket 19.
11:38	Begin placement.
11:56	Pick up spuds to reposition.
11:57	Drop spuds. Pick up port spud to shift.
11:59	Drop port spud. Placement resumes.
12:25	Chris departs to collect water quality readings.
12:33	Chris and Lester check rain bucket #19= measured at 9 3/4" (pass)
12:38	Chris and Lester return to barge. Placement resumes.
12:46	Pick up spuds to shift forward.
12:47	Drop spuds. Placement resumes.

Time	Observations
13:15	Placement complete. Crew uses crane to move material on barge into a single stockpile and Chris processes survey results to determine if there is a suitable candidate area to place the remaining material before final survey.
14:10	Lester and Greg pick up surveyor from beach.
14:21	Lester, Greg, and surveyor arrive on the DB Snohomish.
14:49	Pick up spuds to move out of site. Chris surveys with surveyor.
14:55	Drop spuds in staging area. Chris finishing survey and will meet crew on barge before departing.
16:20	Depart site for day.

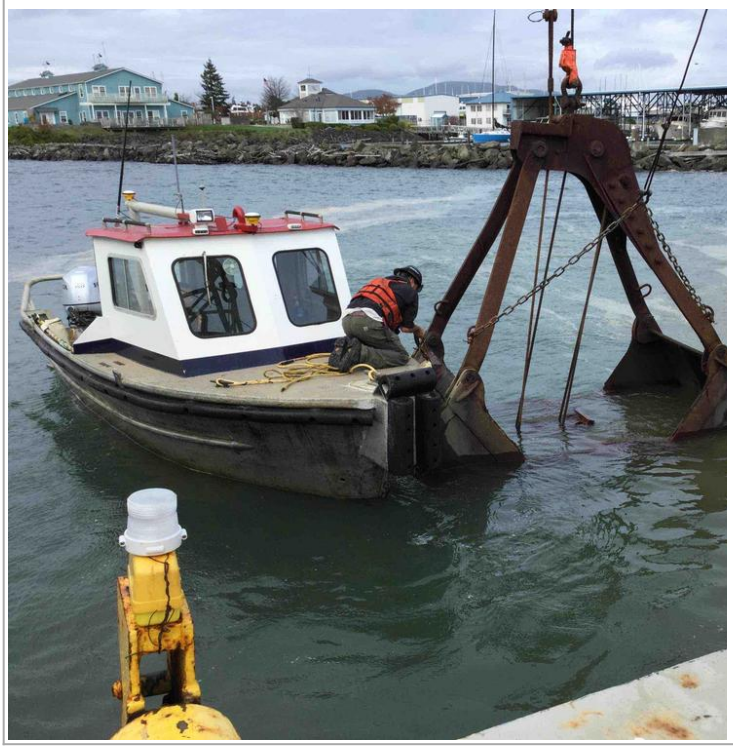
Photos



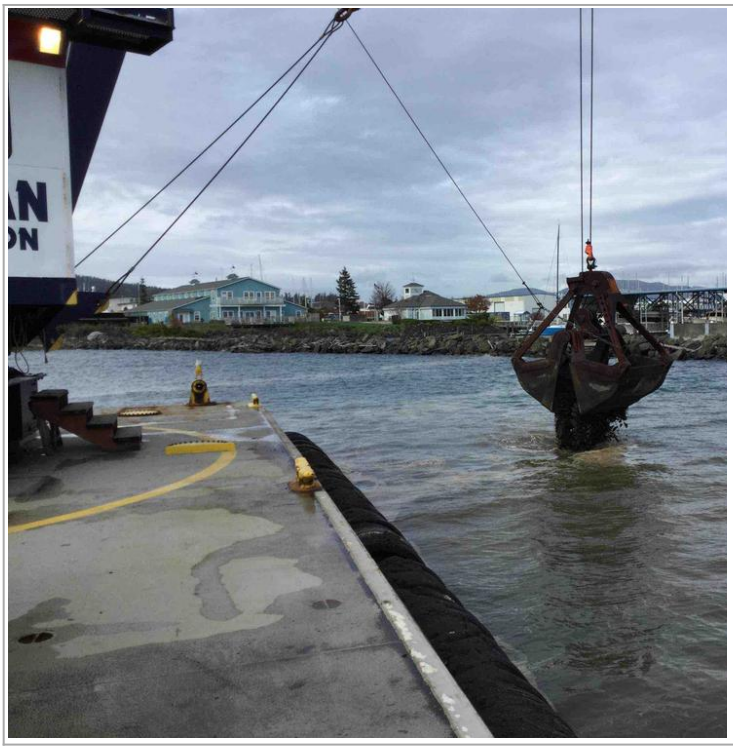
Final placement/ bucket map of entire site.



Rain bucket #19= measured at 9 3/4" (pass)



Crew managing rain bucket.



Active placement.

APPENDIX F
Off-Site Disposal and Import Scale Ticket Summary

F01 - Dredged Material Disposal

8th Avenue Reload Facility
7400 8th Ave S
Seattle WA, 98108

October 5, 2021

American Construction
1501 Taylor Was
Tacoma, WA 98421

CERTIFICATE OF DISPOSAL

Waste Management dba 8th Avenue Reload Facility received NON-HAZARDOUS Waste material from American Construction

Date Received:	August 2nd, 2021 to August 23rd, 2021
Profile #:	116185WA
Waste Description:	Dredge Sediments
Total Tons Received:	2071.83
Total Barges Received:	3
Trip Numbers:	001, 002, 003

I certify, on behalf of the above listed facility, that the above-described non hazardous waste was managed in compliance with all applicable laws.

Zach Jenkins

Zach Jenkins
WM District Operations Manager

Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased	
8/2/2021		8/3/2021		8/4/2021		8/5/2021		8/6/2021		8/7/2021		8/8/2021	
Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received
								HKRX 50122	8/9/2021				
								CEFX 31752	8/9/2021				
								CLFX 80036	8/9/2021				
								CLFX 80011	8/9/2021				
								CLFX 700029	8/9/2021				
								HKRX 50006	8/9/2021				

Note when gons are released, it may take up to 72 hours to arrive to the landfill

Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased	
8/9/2021		8/10/2021		8/11/2021		8/12/2021		8/13/2021		8/14/2021		8/15/2021	
Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received
		HKRX 50068	8/12/2021	NRLX 527576	8/13/2021			CLFX 80039	8/16/2021				
		CEFX 31826	8/12/2021	CLFX 55135	8/13/2021			CEFX 30451	8/16/2021				
		CLFX 80027	8/12/2021	CIGX 805347	8/13/2021								
		CLFX 54988	8/12/2021										
		HKRX 50003	8/12/2021										

Note when gons are released, it may take up to 72 hours to arrive to the landfill

Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased		Date Relased	
8/23/2021		8/24/2021		8/25/2021		8/26/2021		8/27/2021		8/28/2021		8/29/2021	
Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received	Gon #	Date Received
		HKRX 50049	8/26/2021										
		CLFX 54976	8/26/2021										
		CLFX 55151	8/26/2021										
		NRLX 526119	8/26/2021										
		CLFX 700000	8/26/2021										

Note when gons are released, it may take up to 72 hours to arrive to the landfill

Union Pacific Bill of Lading

This bill has been submitted to Union Pacific on 08/06/2021 13:02

Shipment type: Master bill of lading
Billing type: Multiple shipment billing

Commodities/STCC

Commodity	Description	Quantity
4029101	SOIL, CHEMICAL WASTE CONTAMINATED, NEC, DRY	6 Carload

Equipment

Equipment type: Rail car
Weight qualifier: Gross weight
Weight code: No weight required

Equipment ID	Weight (lbs)
HKRX50122	260,000
CEFX31752	260,000
CLFX80036	260,000
CLFX80011	260,000
CLFX700029	260,000
HKRX50006	260,000

Shipping route

Rail origin: SEATTLE , WA , US
Rail destination: GILLIAM , OR , US
Carrier: Road haul 1: UP
Junction:

Reference information

Reference	Type
8TH AVE TO GILL 114417WA	Bill of lading number

Payment

Payment type: Prepaid
Section 7: Not in effect

Authority	Issuing RR	Prefix	Reference	Tarrif

Parties to the Bill

Party type	Name	Address	City, State, Country	Zip	Contact
Shipper	WASTE MANAGEMENT 8TH AVE	7400 8TH AVE S	SEATTLE,WA,US	98108	Phone: (425)471-1050
Consignee	WASTE MANAGEMENT DISPOSAL SERV	18177 CEDAR SPRINGS LN	ARLINGTON,OR,US	97812	Phone: (541)454-2030
Party to receive freight bill	WASTE MANAGEMENT DISPOSAL SERV	18177 CEDAR SPRINGS LN	ARLINGTON,OR,US	97812	Phone: (541)454-2030

Empty pended disposition (optional)

These instructions for private cars are maintained for 90 days and will not apply to cars released empty after that time.

Carrier:
Junction:

Additional details

Embargo Number:
Embargo Permit:
Special Condition Codes:

Union Pacific Railroad Bill of Lading

Your bill has been received by Union Pacific Railroad.
Check **Acknowledgments** to verify that the bill was processed, and to obtain the waybill number.

Sender ID: Lori Mercer **Submitted At:** 08/10/2021 04:10 PM

Equipment:
Type & ID: Rail Car HKRX50068
Weight: 260000 Gross
Capacity Load Code: Full Visible Capacity

Rail Origin:
SEATTLE,WA

Rail Destination:
GILLIAM,OR

Bill of Lading:
BOL #: 8TH AVE TO GILL 114417WA, BM

Route:
Type: Shipper's Route

Shipment Information
Shipment Type: M - Master Bill of Lading Bill Type: M - Multiple Shipment Billing

Payment
Method: PP (Prepaid)
Section 7: Not in Effect

Reference Information:

Routing:
UP

Party Type	Name	Address
Shipper	WASTE MANAGEMENT 8TH AVE	7400 8TH AVE S, SEATTLE, WA, 98108
Consignee	WASTE MANAGEMENT	17629 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Party to Receive Freight Bill	WASTE MANAGEMENT	18177 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Notify Party	WASTE MANAGEMENT	GILLIAM, OR

Load:
Weight: Shipper's Weight Agreement
Packages: 5 Carload

Commodity Info

Code	Description	Quantity
4029101	NON RCRA WASTE ID=XTQL527	5 CLD

Multi Car Info:

Equipment	Buffer	Idler	Weight	Seals
CEFX31826	No	No	260000	
CLFX80027	No	No	260000	
CLFX54988	No	No	260000	
HKRX50003	No	No	260000	

Note:
Any notation made on the shipping order or receipt which is in any way inconsistent with the terms of the underlying price document(s) or which purport to enlarge, modify or change the underlying price document(s) are void and of no effect.

Union Pacific Railroad Bill of Lading

Your bill has been received by Union Pacific Railroad.
Check **Acknowledgments** to verify that the bill was processed, and to obtain the waybill number.

Sender ID: Lori Mercer **Submitted At:** 08/13/2021 03:05 PM

Equipment:
Type & ID: Rail Car CLFX80039
Weight: 260000 Gross
Capacity Load Code: Full Visible Capacity

Rail Origin:
SEATTLE,WA

Bill of Lading:
BOL #: 8TH TO GILL 114417WA, BM

Rail Destination:
GILLIAM,OR

Route:
Type: Shipper's Route

Shipment Information
Shipment Type: M - Master Bill of Lading Bill Type: M - Multiple Shipment Billing

Payment
Method: PP (Prepaid)
Section 7: Not in Effect

Reference Information:

Routing:
UP

Party Type	Name	Address
Shipper	WASTE MANAGEMENT 8TH AVE	7400 8TH AVE S, SEATTLE, WA, 98108
Consignee	WASTE MANAGEMENT	17629 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Party to Receive Freight Bill	WASTE MANAGEMENT	18177 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Notify Party	WASTE MANAGEMENT	GILLIAM, OR

Load:
Weight: Shipper's Weight Agreement
Packages: 2 Carload

Commodity Info

Code	Description	Quantity
4029101	NON RCRA WASTE ID=XTQL527	2 CLD

Multi Car Info:

Equipment	Buffer	Idler	Weight	Seals
CEFX30451	No	No	260000	

Note:
Any notation made on the shipping order or receipt which is in any way inconsistent with the terms of the underlying price document(s) or which purport to enlarge, modify or change the underlying price document(s) are void and of no effect.

Union Pacific Railroad Bill of Lading

Your bill has been received by Union Pacific Railroad.
Check **Acknowledgments** to verify that the bill was processed, and to obtain the waybill number.

Sender ID: Lori Mercer **Submitted At:** 08/11/2021 04:11 PM

Equipment:
Type & ID: Rail Car NRLX527576
Weight: 260000 Gross
Capacity Load Code: Full Visible Capacity

Rail Origin:
SEATTLE,WA

Bill of Lading:
BOL #: 8TH AVE TO GILL 114417WA, BM

Rail Destination:
GILLIAM,OR

Route:
Type: Shipper's Route

Shipment Information
Shipment Type: M - Master Bill of Lading Bill Type: M - Multiple Shipment Billing

Payment
Method: PP (Prepaid)
Section 7: Not in Effect

Reference Information:

Routing:
UP

Party Type	Name	Address
Shipper	WASTE MANAGEMENT 8TH AVE	7400 8TH AVE S, SEATTLE, WA, 98108
Consignee	WASTE MANAGEMENT	17629 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Party to Receive Freight Bill	WASTE MANAGEMENT	18177 CEDAR SPRINGS LANE, ARLINGTON, OR, 97812
Notify Party	WASTE MANAGEMENT	GILLIAM, OR

Load:
Weight: Shipper's Weight Agreement
Packages: 3 Carload

Commodity Info

Code	Description	Quantity
4029101	NON RCRA WASTE ID=XTQL527	3 CLD

Multi Car Info:

Equipment	Buffer	Idler	Weight	Seals
CLFX55135	No	No	260000	
CIGX805347	No	No	260000	

Note:
Any notation made on the shipping order or receipt which is in any way inconsistent with the terms of the underlying price document(s) or which purport to enlarge, modify or change the underlying price document(s) are void and of no effect.

Union Pacific Bill of Lading

This bill has been submitted to Union Pacific on 08/24/2021 16:01

Shipment type: Master bill of lading
Billing type: Multiple shipment billing

Commodities/STCC

Commodity	Description	Quantity
4029101	SOIL, CHEMICAL WASTE CONTAMINATED, NEC, DRY	5 Carload

Equipment

Equipment type: Rail car
Weight qualifier: Gross weight
Weight code: No weight required

Equipment ID	Weight (lbs)
HKRX50049	260,000
CLFX54976	260,000
CLFX55151	260,000
NRLX526119	260,000
CLFX700000	260,000

Shipping route

Rail origin: SEATTLE , WA , US
Rail destination: GILLIAM , OR , US
Carrier: Road haul 1: UP
Junction:

Reference information

Reference	Type
8TH AVE TO GILL114417WA	Bill of lading number

Payment

Payment type: Prepaid
Section 7: Not in effect

Authority	Issuing RR	Prefix	Reference	Tariff

Parties to the Bill

Party type	Name	Address	City, State, Country	Zip	Contact
Shipper	WASTE MANAGEMENT 8TH AVE	7400 8TH AVE S	SEATTLE,WA,US	98108	Phone: (425)471-1050
Consignee	WASTE MANAGEMENT DISPOSAL SERV	18177 CEDAR SPRINGS LN	ARLINGTON,OR,US	97812	Phone: (541)454-2030
Party to receive freight bill	WASTE MANAGEMENT DISPOSAL SERV	18177 CEDAR SPRINGS LN	ARLINGTON,OR,US	97812	Phone: (541)454-2030

Empty pended disposition (optional)

These instructions for private cars are maintained for 90 days and will not apply to cars released empty after that time.

Carrier: Junction:

Additional details

Embargo Number: Embargo Permit:
Special Condition Codes:

Displacement Survey Report

Date: 8/4/2021

Trip: Anacortes_001

Vessel: Skagit

Owner: American Construction

Cargo: Dredge Sediments

Shipper: Star Marine

Port From & To: Anacortes to DRF

Profile #: 116185WA

Place and Date Of Survey	Initial: 8/3/21 @ DRF Final: 8/4/2021 @ DRF						
Density of Water	1.0040	1.0045	1.0050	1.0060	1.0090	1.0105	1.005 1.009
Conditions	Clear						

	Initial Survey(A)		Final Survey(B)	
	FT-IN	Decimal Feet	FT-IN	Decimal Feet
Port Bow	5' 6 1/2"	5.5417	8' 8 3/4"	8.7292
Starboard Bow	5' 11"	5.9167	8' 8 7/8"	8.7396
Port Stern	5' 8 3/4"	5.7292	9' 0 3/4"	9.0625
Starboard Stern	5' 10 3/8"	5.8646	8' 9 3/4"	8.8125
Mean	[redacted]	5.763	[redacted]	8.836
Displacement Table Tonnage	[redacted]	927.65	[redacted]	297.72
Brackish Conversion	[redacted]	A 909.55	[redacted]	B 293.07

Total Tons Offloaded (A)-(B)= 616.48

Name: _____ WM Name Zach Jenkins

Signature: _____ WM Signat : Zach Jenkins

Date: _____ Date: 8/4/2021

Displacement Survey Report

Date: 8/10/2021

Trip: Anacortes_002

Vessel: Skagit

Owner: American Construction

Cargo: Dredge Sediments

Shipper: Star Marine

Port From & To: Anacortes to DRF

Profile #: 116185WA

Place and Date Of Survey	Initial: 8/9/21 @ DRF Final: 8/9/2021 @ DRF						
Density of Water	1.0085	1.0100	1.0150	1.0065	1.0080	N/A	1.011 1.007
Conditions	Clear						

	Initial Survey(A)		Final Survey(B)	
	FT-IN	Decimal Feet	FT-IN	Decimal Feet
Port Bow	4' 9 5/8"	4.8021	8' 8 5/8"	8.7188
Starboard Bow	5' 1 1/2"	5.1250	8' 9 1/4"	8.7708
Port Stern	5' 6 3/8"	5.5313	9' 0"	9.0000
Starboard Stern	5' 7 3/4"	5.6458	8' 9 1/8"	8.7604
Mean	[redacted]	5.276	[redacted]	8.813
Displacement Table Tonnage	[redacted]	1032.52	[redacted]	302.11
Brackish Conversion	[redacted]	A 1018.42	[redacted]	B 296.80

Total Tons Offloaded (A)-(B)= 721.62

Name: _____ WM Name Zach Jenkins

Signature: _____ WM Signat : Zach Jenkins

Date: _____ Date: 8/10/2021

Displacement Survey Report

Date: 8/25/2021

Trip: Anacortes_003

Vessel: Skagit

Owner: American Construction

Cargo: Dredge Sediments

Shipper: Star Marine

Port From & To: Anacortes to DRF

Profile #: 116185WA

Place and Date Of Survey	Initial: 8/23/21 @ DRF Final: 8/23/2021 @ DRF Final Clean						
Density of Water	1.0080	1.0110	1.0120	1.0060	1.0075	1.0080	1.010 1.007
Conditions	Clear						

	Initial Survey(A)		Final Survey(B)	
	FT-IN	Decimal Feet	FT-IN	Decimal Feet
Port Bow	5' 0 3/4"	5.0625	8' 9 1/8"	8.7604
Starboard Bow	5' 7 3/4"	5.6458	8' 9 1/4"	8.7708
Port Stern	5' 1 1/2"	5.1250	8' 10 7/8"	8.9063
Starboard Stern	5' 5 1/2"	5.4583	8' 11 1/2"	8.9583
Mean	[redacted]	5.323	[redacted]	8.849
Displacement Table Tonnage	[redacted]	1022.26	[redacted]	295.14
Brackish Conversion	[redacted]	A 1007.30	[redacted]	B 289.96

Total Tons Offloaded (A)-(B)= 717.34

Name: _____ WM Name Zach Jenkins

Signature: _____ WM Signat : Zach Jenkins

Date: _____ Date: 8/25/2021

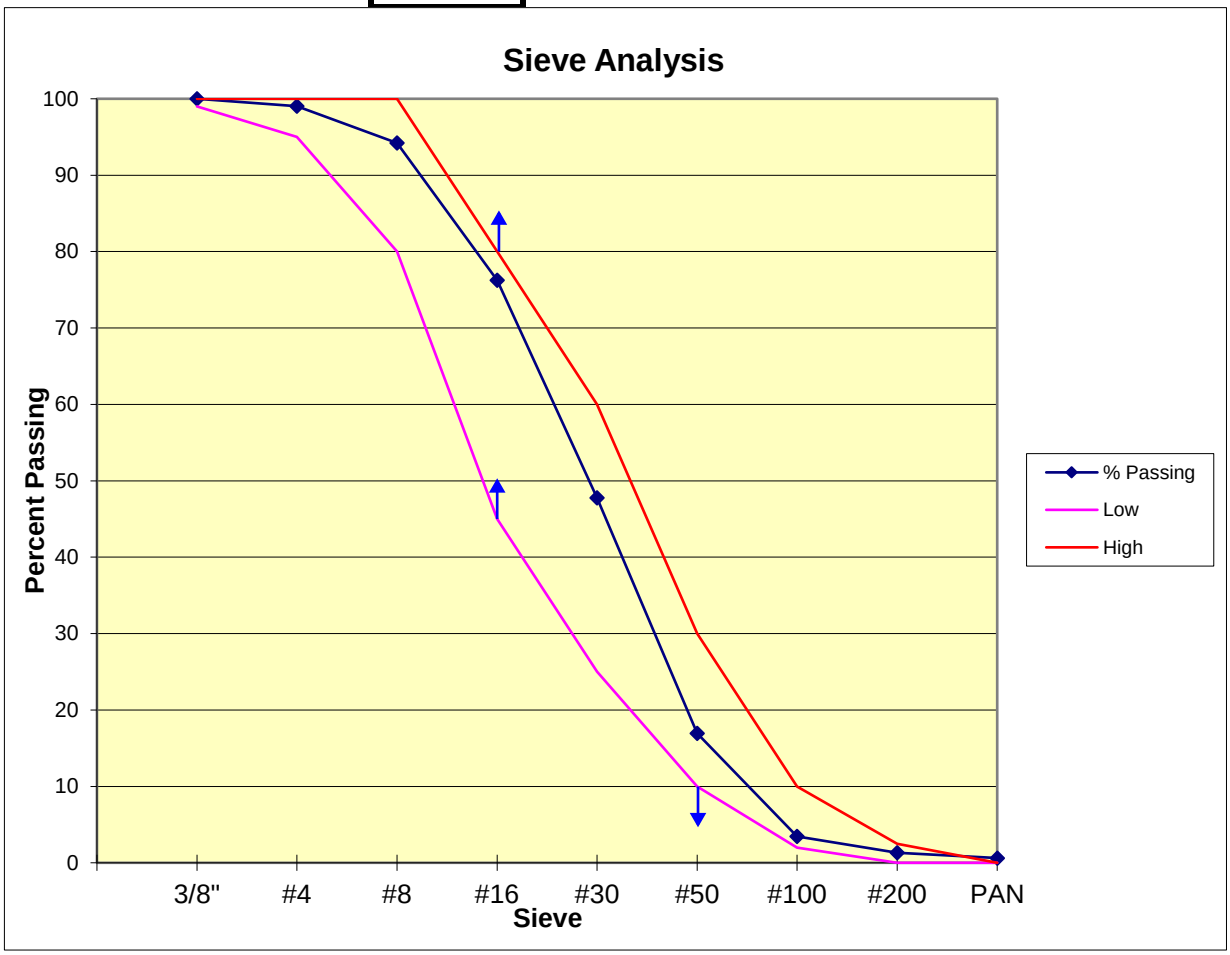
F02 - Import TLC, Backfill

Singer Pit F160
THIN LAYER CAP MATERIAL

Sample:	**Sand**
Date:	**23-Jun-21**

Sieve	Weight Retained Grams	Percent Retained	Cumulative % Retained	Cumulative % Passing	Low	High
3/8"	0.0	0.00	0.00	100.00	99	100
#4	17.0	0.96	0.96	99.04	95	100
#8	86.0	4.84	5.80	94.20	80	100
#16	319.0	17.95	23.75	76.25	50	85
#30	506.0	28.47	52.22	47.78	25	60
#50	548.0	30.84	83.06	16.94	5	30
#100	240.0	13.51	96.57	3.43	2	10
#200	38.0	2.14	98.71	1.29	0	2.5
PAN	12.0	0.68	99.38	0.62	-	-
Wash Weight	11.0	0.62				
Total Weight	1777.0					

Fineness Modulus =	**2.62**
Wash 200 mesh=	**NA**

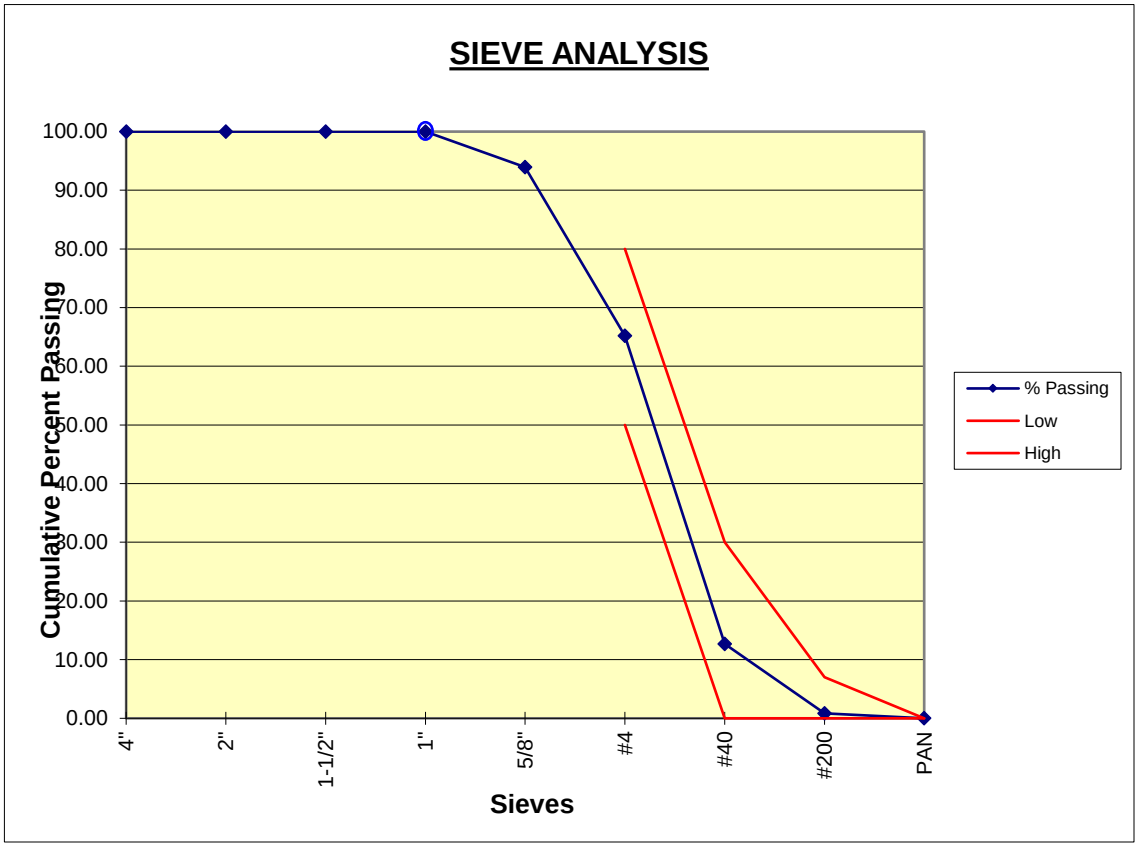


COWDEN
GRAVEL & READY MIX

Singer Pit F160
DREDGED AREA BACKFILL MATERIAL

Sample:	**DREDGED**
Date:	**24-Jun-21**

Sieve	Weight Retained	Percent Retained	Cumulative % Retained	Cumulative % Passing	Low	High
4"	0.0	0.00	0.00	100.00		
2"	0.0	0.00	0.00	100.00		
1-1/2"	0.0	0.00	0.00	100.00		
1"	0.0	0.00	0.00	100.00	100	100
5/8"	457.0	6.04	6.04	93.96		
#4	2179.0	28.78	34.82	65.18	50	80
#40	3974.0	52.49	87.31	12.69	0	30
#200	898.0	11.86	99.17	0.83	0	7
PAN	63.0	0.83	100.00	0.00		
Total	7571.0	**Sand Equivalent 64% - Dust Ratio .065**				



Import Material: Cowden Load Tickets 8-23 to 10-20-21								Cumulative	ACC	ACC CDR	
Ticket Date	Product	Units	Gross	Tare	Net	Invoice #	Batch #	(tons)	Barge ID	(tons)	Diff.
Thin Layer Cap Material											
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.64	20.59	31.05	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.36	21.51	29.85	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.48	21.64	30.84	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	49.46	20.61	28.85	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.62	20.59	31.03	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.13	21.64	30.49	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	50.89	21.51	29.38	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	50.55	20.61	29.94	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.44	20.59	31.85	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.15	21.64	30.51	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.16	21.51	30.65	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	50.9	20.61	30.29	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.92	20.59	31.33	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.69	21.64	30.05	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.77	21.51	30.26	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	49.52	20.61	28.91	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.71	20.59	31.12	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	52.19	21.51	30.68	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.59	21.64	29.95	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	49.1	22.58	26.52	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	49.19	20.03	29.16	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.27	20.61	30.66	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.02	20.26	30.76	15688	09302021				
9/29/2021	3/8" SCREENED SAND (DOT)	Ton	51.1	21.47	29.63	15688	09302021	724	10-TLC	700	24
9/15/2021	3/8" SCREENED SAND (DOT)	Ton	51.27	19.86	31.41	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.99	21.76	30.23	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.48	20.41	31.07	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.67	20.96	30.71	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	52.03	21.76	30.27	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.06	21.65	29.41	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.47	20.96	30.51	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.74	20.41	31.33	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	52.44	21.76	30.68	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.94	21.65	30.29	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	50.06	20.41	29.65	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	52.4	20.96	31.44	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	52.66	21.67	30.99	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.55	21.65	29.9	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	52.52	20.48	32.04	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.83	21.04	30.79	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.01	21.65	29.36	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.55	20.48	31.07	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.55	21.04	30.51	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.38	21.65	29.73	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	50.43	20.48	29.95	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	50.99	21.04	29.95	14996	09192021				
9/14/2021	3/8" SCREENED SAND (DOT)	Ton	51.64	21.65	29.99	14996	09192021	701	9-TLC	700	1
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.24	20.25	29.99	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.1	21.76	30.34	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	40.97	16.07	24.9	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.56	21.81	30.75	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.11	21.48	28.63	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.06	20.25	29.81	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	39.46	16.07	23.39	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.51	21.67	30.84	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	51.95	21.81	30.14	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	49.47	20.25	29.22	14996	09192021				

Import Material: Cowden Load Tickets 8-23 to 10-20-21								Cumulative	ACC	ACC CDR	
Ticket Date	Product	Units	Gross	Tare	Net	Invoice #	Batch #	(tons)	Barge ID	(tons)	Diff.
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	39.85	16.07	23.78	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	51.21	21.48	29.73	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	51.14	21.76	29.38	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.53	21.81	30.72	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.42	20.25	30.17	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	40.74	16.07	24.67	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	51.27	21.48	29.79	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.25	21.67	30.58	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.75	21.81	30.94	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.73	20.25	30.48	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	40.64	16.07	24.57	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.68	21.67	31.01	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	52.74	21.81	30.93	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	50.86	20.25	30.61	14996	09192021				
9/13/2021	3/8" SCREENED SAND (DOT)	Ton	47.07	21.48	25.59	14996	09192021	721	8-TLC	700	21
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	52.48	21.78	30.7	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	52.12	21.34	30.78	14466	09122021				
9/10/2021	MATERIAL TESTING	Each			1	13763	910ord1773				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	52.68	21.78	30.9	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	50.88	21.34	29.54	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	51.96	21.78	30.18	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	51.48	21.34	30.14	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	50.83	20.25	30.58	14466	09122021				
9/10/2021	3/8" SCREENED SAND (DOT)	Ton	49.49	21.48	28.01	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	51.82	21.6	30.22	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	51.92	21.76	30.16	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40	15.84	24.16	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.49	15.95	24.54	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	52.75	21.86	30.89	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	41.07	15.9	25.17	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	52.61	21.6	31.01	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	52.41	21.76	30.65	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.76	15.84	24.92	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.29	15.95	24.34	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.13	15.9	24.23	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	51.72	21.86	29.86	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	52.05	21.6	30.45	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	52.74	21.76	30.98	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.82	15.95	24.87	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	39.97	15.84	24.13	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	40.56	15.9	24.66	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	50.59	22.84	27.75	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	49.46	20.25	29.21	14466	09122021				
9/9/2021	3/8" SCREENED SAND (DOT)	Ton	50.78	21.48	29.3	14466	09122021	793	7-TLC	700	93
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	51.92	21.58	30.34	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.23	21.76	30.47	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	39.98	15.9	24.08	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	40.43	16.04	24.39	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	51.99	21.58	30.41	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.46	21.76	30.7	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	41	15.9	25.1	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	39.89	16.04	23.85	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	39.8	15.9	23.9	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.03	21.76	30.27	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	40.61	16.04	24.57	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.16	21.58	30.58	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	39.28	15.9	23.38	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	51.18	21.6	29.58	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.72	21.76	30.96	14466	09122021				

Import Material: Cowden Load Tickets 8-23 to 10-20-21								Cumulative	ACC	ACC CDR	
Ticket Date	Product	Units	Gross	Tare	Net	Invoice #	Batch #	(tons)	Barge ID	(tons)	Diff.
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.03	21.58	30.45	14466	09122021				
9/8/2021	3/8" SCREENED SAND (DOT)	Ton	52.06	21.6	30.46	14466	09122021				
9/7/2021	3/8" SCREENED SAND (DOT)	Ton	52.75	21.65	31.1	14466	09122021				
9/7/2021	3/8" SCREENED SAND (DOT)	Ton	51.94	19.63	32.31	14466	09122021				
9/7/2021	3/8" SCREENED SAND (DOT)	Ton	49.11	21.56	27.55	14466	09122021				
9/7/2021	3/8" SCREENED SAND (DOT)	Ton	52.05	20.3	31.75	14466	09122021				
9/7/2021	3/8" SCREENED SAND (DOT)	Ton	52.74	21.67	31.07	14466	09122021	627	6-TLC	700	-73
			TLC Subtotal		**3,567**					**3500**	**67**

Import Material: Cowden Load Tickets 8-23 to 10-20-21								Cumulative	ACC	ACC CDR	
Ticket Date	Product	Units	Gross	Tare	Net	Invoice #	Batch #	(tons)	Barge ID	(tons)	Diff.
		Dredge Area Backfill									
9/3/2021	Beach Rock	Ton	51.4	21.48	29.92	14299	09052021				
9/3/2021	Beach Rock	Ton	52.39	21.02	31.37	14299	09052021				
9/3/2021	Beach Rock	Ton	51.96	20.25	31.71	14299	09052021				
9/3/2021	Beach Rock	Ton	50.79	20.76	30.03	14299	09052021				
9/3/2021	Beach Rock	Ton	51.5	21.48	30.02	14299	09052021				
9/3/2021	Beach Rock	Ton	52.58	21.02	31.56	14299	09052021				
9/3/2021	Beach Rock	Ton	50.57	20.25	30.32	14299	09052021				
9/3/2021	Beach Rock	Ton	51.12	20.76	30.36	14299	09052021				
9/3/2021	Beach Rock	Ton	52.57	21.48	31.09	14299	09052021				
9/3/2021	Beach Rock	Ton	52.44	21.02	31.42	14299	09052021				
9/3/2021	Beach Rock	Ton	50.12	20.25	29.87	14299	09052021				
9/3/2021	Beach Rock	Ton	50.08	20.76	29.32	14299	09052021				
9/3/2021	Beach Rock	Ton	52.45	21.48	30.97	14299	09052021				
9/3/2021	Beach Rock	Ton	52.74	21.02	31.72	14299	09052021				
9/3/2021	Beach Rock	Ton	51.92	20.76	31.16	14299	09052021				
9/3/2021	Beach Rock	Ton	51.59	20.25	31.34	14299	09052021				
9/3/2021	Beach Rock	Ton	51.28	21.48	29.8	14299	09052021				
9/3/2021	Beach Rock	Ton	40.78	16	24.78	14299	09052021				
9/3/2021	Beach Rock	Ton	40.77	15.95	24.82	14299	09052021				
9/3/2021	Beach Rock	Ton	41.19	16.09	25.1	14299	09052021				
9/3/2021	Beach Rock	Ton	40.88	16.29	24.59	14299	09052021	621	5-B	600	21
9/2/2021	Beach Rock	Ton	51.16	20.25	30.91	14299	09052021				
9/2/2021	Beach Rock	Ton	51.8	21.48	30.32	14299	09052021				
9/1/2021	Beach Rock	Ton	52.04	20.93	31.11	14299	09052021				
9/1/2021	Beach Rock	Ton	52.58	21.48	31.1	14299	09052021				
9/1/2021	Beach Rock	Ton	52.69	20.5	32.19	14299	09052021				
9/1/2021	Beach Rock	Ton	52.01	20.93	31.08	14299	09052021				
9/1/2021	Beach Rock	Ton	52.16	21.48	30.68	14299	09052021				
9/1/2021	Beach Rock	Ton	51.94	21.48	30.46	14299	09052021				
9/1/2021	Beach Rock	Ton	52.71	21.48	31.23	14299	09052021				
9/1/2021	Beach Rock	Ton	52.75	21.48	31.27	14299	09052021				
9/1/2021	Beach Rock	Ton	52.37	20.5	31.87	14299	09052021				
9/1/2021	Beach Rock	Ton	51.76	21.48	30.28	14299	09052021				
9/1/2021	Beach Rock	Ton	52.18	20.5	31.68	14299	09052021				
9/1/2021	Beach Rock	Ton	50.96	22.84	28.12	14299	09052021				
9/1/2021	Beach Rock	Ton	51.98	21.6	30.38	14299	09052021				
9/1/2021	Beach Rock	Ton	50.27	20.81	29.46	14299	09052021				
9/1/2021	Beach Rock	Ton	50.31	19.09	31.22	14299	09052021				
9/1/2021	Beach Rock	Ton	50.74	20.25	30.49	14299	09052021				
9/1/2021	Beach Rock	Ton	51.28	21.48	29.8	14299	09052021				
9/1/2021	Beach Rock	Ton	40.18	16.04	24.14	14299	09052021	608	4-B	600	8
8/30/2021	Beach Rock	Ton	49.87	20.81	29.06	14083	08312021				
8/30/2021	Beach Rock	Ton	50.46	20.25	30.21	14083	08312021				
8/30/2021	Beach Rock	Ton	50.99	21.56	29.43	14083	08312021				
8/30/2021	Beach Rock	Ton	48.46	19.09	29.37	14083	08312021				
8/30/2021	Beach Rock	Ton	50.89	21.03	29.86	14083	08312021				
8/30/2021	Beach Rock	Ton	52.07	20.81	31.26	14083	08312021				
8/30/2021	Beach Rock	Ton	49.51	19.09	30.42	14083	08312021				
8/30/2021	Beach Rock	Ton	52.01	21.56	30.45	14083	08312021				
8/30/2021	Beach Rock	Ton	51.88	20.25	31.63	14083	08312021				
8/30/2021	Beach Rock	Ton	51.86	20.81	31.05	14083	08312021				
8/30/2021	Beach Rock	Ton	50.4	19.09	31.31	14083	08312021				
8/30/2021	Beach Rock	Ton	51.89	21.03	30.86	14083	08312021				
8/30/2021	Beach Rock	Ton	52.7	21.56	31.14	14083	08312021				
8/30/2021	Beach Rock	Ton	51.38	20.25	31.13	14083	08312021				
8/30/2021	Beach Rock	Ton	51.2	20.81	30.39	14083	08312021				
8/30/2021	Beach Rock	Ton	49.63	19.09	30.54	14083	08312021				
8/30/2021	Beach Rock	Ton	52.31	21.03	31.28	14083	08312021				

Import Material: Cowden Load Tickets 8-23 to 10-20-21								Cumulative	ACC	ACC CDR	
Ticket Date	Product	Units	Gross	Tare	Net	Invoice #	Batch #	(tons)	Barge ID	(tons)	Diff.
8/30/2021	Beach Rock	Ton	50.98	20.25	30.73	14083	08312021				
8/30/2021	Beach Rock	Ton	52.71	21.56	31.15	14083	08312021				
8/30/2021	Beach Rock	Ton	40.63	16	24.63	14083	08312021				
8/30/2021	Beach Rock	Ton	40.54	16.09	24.45	14083	08312021				
8/30/2021	Beach Rock	Ton	39.96	15.96	24	14083	08312021	654	3-B	600	54
8/27/2021	Beach Rock	Ton	50.98	20.25	30.73	13785	08292021				
8/27/2021	Beach Rock	Ton	51.26	20.11	31.15	13785	08292021				
8/26/2021	Beach Rock	Ton	51.78	21.76	30.02	13785	08292021				
8/26/2021	Beach Rock	Ton	50.65	22.84	27.81	13785	08292021				
8/26/2021	Beach Rock	Ton	52.39	21.84	30.55	13785	08292021				
8/26/2021	Beach Rock	Ton	52.6	21.76	30.84	13785	08292021				
8/26/2021	Beach Rock	Ton	50.44	22.84	27.6	13785	08292021				
8/26/2021	Beach Rock	Ton	52.74	21.84	30.9	13785	08292021				
8/26/2021	Beach Rock	Ton	51.69	21.76	29.93	13785	08292021				
8/26/2021	Beach Rock	Ton	50.14	22.84	27.3	13785	08292021				
8/26/2021	Beach Rock	Ton	50.98	21.84	29.14	13785	08292021				
8/26/2021	Beach Rock	Ton	52.71	21.76	30.95	13785	08292021				
8/26/2021	Beach Rock	Ton	50.86	22.84	28.02	13785	08292021				
8/26/2021	Beach Rock	Ton	52.7	21.84	30.86	13785	08292021				
8/26/2021	Beach Rock	Ton	51.3	21.76	29.54	13785	08292021				
8/26/2021	Beach Rock	Ton	50.61	22.84	27.77	13785	08292021				
8/26/2021	Beach Rock	Ton	51.78	21.84	29.94	13785	08292021				
8/26/2021	Beach Rock	Ton	50.98	21.76	29.22	13785	08292021				
8/26/2021	Beach Rock	Ton	51.15	22.84	28.31	13785	08292021				
8/26/2021	Beach Rock	Ton	51.21	21.84	29.37	13785	08292021				
8/26/2021	Beach Rock	Ton	52.66	21.76	30.9	13785	08292021	621	3-B	600	21
8/23/2021	Beach Rock	Ton	52.7	21.18	31.52	13785	08292021				
8/23/2021	Beach Rock	Ton	52.74	21.67	31.07	13785	08292021				
8/23/2021	Beach Rock	Ton	51.56	22.84	28.72	13785	08292021				
8/23/2021	Beach Rock	Ton	51.79	21.75	30.04	13785	08292021				
8/23/2021	Beach Rock	Ton	52.29	21.18	31.11	13785	08292021				
8/23/2021	Beach Rock	Ton	52.01	22.84	29.17	13785	08292021				
8/23/2021	Beach Rock	Ton	52.54	21.67	30.87	13785	08292021				
8/23/2021	Beach Rock	Ton	52.75	21.75	31	13785	08292021				
8/23/2021	Beach Rock	Ton	52.53	21.18	31.35	13785	08292021				
8/23/2021	Beach Rock	Ton	52.1	22.84	29.26	13785	08292021				
8/23/2021	Beach Rock	Ton	52.7	21.67	31.03	13785	08292021				
8/23/2021	Beach Rock	Ton	51.78	21.75	30.03	13785	08292021				
8/23/2021	Beach Rock	Ton	51.87	21.18	30.69	13785	08292021				
8/23/2021	Beach Rock	Ton	51.79	22.84	28.95	13785	08292021				
8/23/2021	Beach Rock	Ton	51.84	21.67	30.17	13785	08292021				
8/23/2021	Beach Rock	Ton	52.37	21.18	31.19	13785	08292021				
8/23/2021	Beach Rock	Ton	51.45	22.85	28.6	13785	08292021				
8/23/2021	Beach Rock	Ton	52.65	20.48	32.17	13785	08292021				
8/23/2021	Beach Rock	Ton	52.22	21.68	30.54	13785	08292021				
8/23/2021	Beach Rock	Ton	51.93	21.75	30.18	13785	08292021	608	3-B	600	8
		Drege Backfill Subtotal			**3,112**					**3000**	**112**
					Total TLC & Dredge Backfill			**6679**		**6500**	**179**

APPENDIX G
Dredge Excavation Bottom Sample Chemical Data Quality Review and Laboratory Reports

APPENDIX G

Dredge Excavation Bottom Sample Chemical Data Quality Review and Laboratory Reports

CHEMICAL DATA QUALITY REVIEW FOR SEDIMENT DOCUMENTATION SAMPLES

Four sediment documentation samples were collected during implementation of the Phase III remedial action and submitted for analysis at Analytical Resources, Inc. (ARI), in Tukwila, Washington. Samples were submitted and analyzed under ARI sample delivery group (SDG) 21I0059, with one laboratory report received for the SDG. The chemical data quality review was performed by Sayler Data Solutions, Inc. (Sayler). A data validation report prepared by Sayler is attached.

G01 - Saylar Data Solutions

Sayler Data Solutions, Inc.
14257 93rd Court NE Kirkland, Washington 98034 (425) 820-7504 cari.say@saylerdata.com

DATA VALIDATION REPORT

Custom Plywood Subtidal Sediment Cleanup, August 2021 Data

Prepared for:
Hart Crowser, a Division of Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

March 16, 2022

1.0 Introduction

Data set: Data were received for validation under one laboratory sample delivery group (SDG). Data submission included both the laboratory report and an electronic data deliverables (EDD) as follows:

SDG	EDD File Name	Report File Name(s)	Report Date	Lab Code
21I0059	21I0059 FINAL WADOE_EIM 22 Oct 21 1516.xls	21I0059 ARISample FINAL 22 Oct 2021 1516.pdf	10/22/2021	ARIS

Analysis was performed by Analytical Resources, Inc. (ARI) in Tukwila Washington.

Analytical methods: Analyses were performed by the following methods:

Analyses	Analysis Method	Preparation Method
Dioxin and Furans (Dxn)	E1613B	SW8290

Analytical Schedule: The following samples and analyses were included in this review:

SDG	Sample ID	Sample Date/Time	Lab ID	Analysis
21I0059	CPP3-S	08/11/21 20:15	21I0059-1	Dxn
21I0059	CPP3-W	08/12/21 20:05	21I0059-2	Dxn
21I0059	CPP3-E	08/12/21 21:30	21I0059-3	Dxn
21I0059	CPP3-N	08/13/21 21:25	21I0059-4	Dxn

2.0 Validation

Results were evaluated based on criteria from the analytical methods, project documents if any, and current EPA guidance documents. References for these documents are listed in section 7.0 of this report. The criteria gathered from the above documents are briefly summarized in the Appendix "Data Validation Criteria" at the end of this report.

A stage 2A validation was performed on the laboratory report, earning EPA OSWER validation label code S2AVM. All validation was performed by Cari Sayler.

Data qualifiers, if assigned, are summarized in section 4.0 of this report and added to the validated EDD, in accordance with the EDD field definitions and agreed upon conventions.

3.0 Validation Findings

Data validation criteria specified in the appendix were met except as noted below:

- The octachlorodibenzofuran recovery in the laboratory control sample was below the method control limit. This compound was detected in each associated sample and these results are qualified as estimated 'J'. The specific exceedance is shown below:

Analysis	QC ID	Analyte	% Recovery	Method Control Limit
Dxn	BJJ0331-BS1	OCDF	60.6	63 – 170

- The dioxin/furan method specifies that analytes meeting certain identification criteria, but not others are quantitated and reported by the laboratory as estimated maximum possible concentrations (EMPCs). Region 10 guidelines for validation specify that EMPCs below the reporting limit be considered non-detects. Seven compounds were in this category and are qualified "U".

4.0 Overall Assessment and Validation Qualifier Summary

Documentation was found to be clear and complete. Quality control results demonstrate acceptable levels of accuracy for most analytes.

Qualifiers were assigned as follows:

Number of results per qualifier	Qualifier	Number of results per qualifier and reason	Qualifier Reason
4	J	4	Low LCS recovery
7	U	7	Region 10 guidelines for EMPC<RL

A total of 11 of 100 dioxin results were qualified, representing 11% of the results.

DV Qualifier	Definition
U	The material was analyzed for, but was not detected above the level of the associated value.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

5.0 Validation Qualifiers

Client ID	Analyte(s)	Qualifier	Reason
CPP3-E	OCDF	J	Low LCS recovery

Client ID	Analyte(s)	Qualifier	Reason
CPP3-E	1,2,3,7,8-PeCDD 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 2,3,7,8-TCDD	U	Region 10 guidelines for EMPC < RL
CPP3-N	OCDF	J	Low LCS recovery
CPP3-N	2,3,7,8-TCDD	U	Region 10 guidelines for EMPC < RL
CPP3-S	OCDF	J	Low LCS recovery
CPP3-S	1,2,3,7,8-PeCDF 2,3,7,8-TCDD	U	Region 10 guidelines for EMPC < RL
CPP3-W	OCDF	J	Low LCS recovery

6.0 Acronyms

QC Element	Definition
LB	Laboratory blank
LCS	Laboratory control sample
LCSD	Laboratory control sample duplicate
OPR	Ongoing precision and recovery
SRM	Standard reference material

Abbreviation	Definition
DV	Data validation
EDL	Estimated detection limit
EMPC	Estimated maximum possible concentration
MDL	Method detection limit
QAPP	Quality assurance project plan
RL	Reporting limit
SDG	Sample delivery group

7.0 References

USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review, Office of Superfund Remediation and Technology Innovation (OSRTI) U.S. Environmental Protection Agency, April 2016, EPA 542-B-16-001.

R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B and SW846 Method 8290A, Region 10 Office of Environmental Assessment, U.S. Environmental Protection Agency, May 2014, EPA-910-R-14-003.

USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency, January 2009, EPA 540-R-08-005.

Method 1613B: Tetra through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, US Environmental Protection Agency, Office of Water Engineering and Analysis Division, October 1994.

APPENDIX – DATA VALIDATION CRITERIA

Data Package Completeness and Sample Integrity

QC Element	Criteria
Completeness	Laboratory report includes the appropriate level of detail as described in the EPA Guidance documents (USEPA, January 2009)
Sample ID transcription	Chain of custodies and/or sample log-in documentation are present for all samples reported and match sample IDs used in the laboratory report and electronic data deliverable (EDD).
Sample receipt condition	Sample containers are intact upon receipt at the laboratory and preservation and storage requirements meet method specific guidelines.
Requested methods	Analytical methods match chain of custody or are appropriate for the requested analysis.
Requested analyte list and reporting limits	Analyte list matches project QAPP or method-specific list of compounds.
Laboratory Narrative	The laboratory narrative, data flags and corrective action documentation detailing any preparation or analytical anomalies are evaluated for impact on data usability.

Dioxin and Furans–SW846 Method 1613, Stage 2A Validation

QC Element	Frequency	Criteria
Holding times	Each sample	Samples must be extracted within 1 year and analyzed within 40 days of extraction. Transportation and storage temperatures should be below 6°C.
Laboratory blank (LB)	One per preparation batch of ≤20 samples	< 10% of concentration in field samples.
Ongoing precision and recovery (OPR/LCS)	One per preparation batch of ≤20 samples	Meets method-specified control limits for % recovery.
Labeled compound recoveries	Each sample and QC sample	Meets method-specified control limits for % recovery.

G02 - Analytical Resources, Inc.

Analytical Resources, LLC
Analytical Chemists and Consultants

22 October 2021

Angie Goodwin
Hart Crowser
3131 Elliott Ave Suite 600
Seattle, WA 98121

RE: Custom Plywood

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
21I0059	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

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

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 21I0059	Turn-around Requested: standard	Page: 1 of 1	
ARI Client Company: Hart Crowser	Phone: 206.826.4485	Date: 9/3/21	Ice Present?
Client Contact: Andrew Kaparos		No. of Coolers: 1	Cooler Temps: 0.2
Client Project Name: Custom Plywood Ph 3			
Client Project #: 19600000	Samplers: Jessica Blanchette		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Dioxins /	Furans							Notes/Comments
CPP3-S	8/11/21	20:15	sediment	1	X	X							
CPP3-W	8/12/21	20:05		1	X	X							
CPP3-E	8/12/21	21:30		1	X	X							
CPP3-N	8/13/21	21:25	↓	1	X	X							

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Jessica Blanchette	Printed Name: Dmitri Lomnadze	Printed Name:	Printed Name:
	Company: Hart Crowser	Company: ARI	Company:	Company:
	Date & Time: 9/3/21 1510	Date & Time: 09/03/21 1510	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CPP3-S	21I0059-01	Solid	11-Aug-2021 20:15	03-Sep-2021 15:10
CPP3-W	21I0059-02	Solid	12-Aug-2021 20:05	03-Sep-2021 15:10
CPP3-E	21I0059-03	Solid	12-Aug-2021 21:30	03-Sep-2021 15:10
CPP3-N	21I0059-04	Solid	13-Aug-2021 21:25	03-Sep-2021 15:10

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Work Order Case Narrative

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times. Analysis was performed using an application specific column developed by Restek. The RTX-DIoxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) contained OCDD. The associated samples have been flagged with a "B" qualifer.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Hart Crowser

Project Name: Custom Plywood Ph3

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 21I0059

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? ..... YES NO

Were custody papers properly filled out (ink, signed, etc.) ..... YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1510 — 0.2

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO520C

Cooler Accepted by: DL Date: 09/03/21 Time: 1510

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? ..... YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? ..... NA YES NO

How were bottles sealed in plastic bags? ..... Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? ..... YES NO

Were all bottle labels complete and legible? ..... YES NO

Did the number of containers listed on COC match with the number of containers received? ..... YES NO

Did all bottle labels and tags agree with custody papers? ..... YES NO

Were all bottles used correct for the requested analyses? ..... YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? ..... NA YES NO

Was sufficient amount of sample sent in each bottle? ..... YES NO

Date VOC Trip Blank was made at ARI..... NA _____

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JG Date: 09/03/2021 Time: 1748 Labels checked by: JG

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-S

21I0059-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/11/2021 20:15
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 14:37

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 21I0059-01 A 01
	Preparation Batch: BJJ0331	Sample Size: 14.74 g (wet)	Dry Weight:10.02 g
	Prepared: 10/14/2021	Final Volume: 20 uL	% Solids: 67.96
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21I0059-01 A 01
	Cleanup Batch: CJJ0148	Initial Volume: 20 mL	
	Cleaned: 18-Oct-2021	Final Volume: 20 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:21I0059-01 A 01
	Cleanup Batch: CJJ0147	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:21I0059-01 A 01
	Cleanup Batch: CJJ0149	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.727	0.655-0.886	0.112	0.998	**0.648**	ng/kg	J
2,3,7,8-TCDD		0.461	0.655-0.886	0.125	0.998	**0.624**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.277	1.318-1.783	0.131	0.998	**0.802**	ng/kg	EMPC, J
2,3,4,7,8-PeCDF		1.686	1.318-1.783	0.127	0.998	**2.34**	ng/kg	
1,2,3,7,8-PeCDD		1.655	1.318-1.783	0.186	0.998	**3.52**	ng/kg	
1,2,3,4,7,8-HxCDF		1.197	1.054-1.426	0.142	0.998	**8.42**	ng/kg	
1,2,3,6,7,8-HxCDF		1.205	1.054-1.426	0.135	0.998	**3.44**	ng/kg	
2,3,4,6,7,8-HxCDF		1.197	1.054-1.426	0.142	0.998	**7.47**	ng/kg	
1,2,3,7,8,9-HxCDF		1.039	1.054-1.426	0.166	0.998	**1.68**	ng/kg	EMPC
1,2,3,4,7,8-HxCDD		1.099	1.054-1.426	0.175	0.998	**2.30**	ng/kg	
1,2,3,6,7,8-HxCDD		1.235	1.054-1.426	0.178	0.998	**26.7**	ng/kg	
1,2,3,7,8,9-HxCDD		1.243	1.054-1.426	0.189	0.998	**7.58**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.035	0.893-1.208	0.279	0.998	**220**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.003	0.893-1.208	0.460	0.998	**11.1**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.078	0.893-1.208	0.807	2.50	**875**	ng/kg	
OCDF		0.881	0.757-1.024	0.483	2.50	**1230**	ng/kg	
OCDD		0.895	0.757-1.024	0.792	9.98	**6910**	ng/kg	E, B
Homologue groups								
Total TCDF					0.998	**9.11**	ng/kg	
Total TCDD					0.998	**20.9**	ng/kg	
Total PeCDF					0.998	**33.9**	ng/kg	
Total PeCDD					0.998	**21.1**	ng/kg	
Total HxCDF					0.998	**205**	ng/kg	
Total HxCDD					0.998	**176**	ng/kg	
Total HpCDF					0.998	**891**	ng/kg	
Total HpCDD					0.998	**1440**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-S

21I0059-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/11/2021 20:15
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 14:37

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					24.20		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					24.20		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					23.79		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					23.38		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-S

21I0059-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/11/2021 20:15
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 14:37

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.792*	*0.655-0.886*	*24-169 %*	*77.5*	*%*	
13C12-2,3,7,8-TCDD		*0.756*	*0.655-0.886*	*25-164 %*	*80.8*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.588*	*1.318-1.783*	*24-185 %*	*75.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.587*	*1.318-1.783*	*21-178 %*	*72.6*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.576*	*1.318-1.783*	*25-181 %*	*75.8*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.515*	*0.434-0.587*	*26-152 %*	*73.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.511*	*0.434-0.587*	*26-123 %*	*72.1*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.510*	*0.434-0.587*	*28-136 %*	*70.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.516*	*0.434-0.587*	*29-147 %*	*73.7*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.283*	*1.054-1.426*	*32-141 %*	*77.9*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.254*	*1.054-1.426*	*28-130 %*	*73.8*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.460*	*0.374-0.506*	*28-143 %*	*70.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.445*	*0.374-0.506*	*26-138 %*	*61.8*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.070*	*0.893-1.208*	*23-140 %*	*72.3*	*%*	
13C12-OCDD		*0.910*	*0.757-1.024*	*17-157 %*	*77.8*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*93.5*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-S

21I0059-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/11/2021 20:15
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 14:37

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes

CPP3-S

21I0059-01 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 08/11/2021 20:15
Instrument: N/A Analyst: NL — Analyzed: 10/13/2021 06:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 21I0059-01
Preparation Batch: BJJ0325 — Sample Size: 1 g (wet)
Prepared: 10/12/2021 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	67.96	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-W

21I0059-02 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 20:05
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 15:27

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 21I0059-02 A 01
	Preparation Batch: BJJ0331	Sample Size: 16.85 g (wet)	Dry Weight:10.01 g
	Prepared: 10/14/2021	Final Volume: 20 uL	% Solids: 59.40
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21I0059-02 A 01
	Cleanup Batch: CJJ0148	Initial Volume: 20 mL	
	Cleaned: 18-Oct-2021	Final Volume: 20 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:21I0059-02 A 01
	Cleanup Batch: CJJ0147	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:21I0059-02 A 01
	Cleanup Batch: CJJ0149	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.770	0.655-0.886	0.107	0.999	**1.89**	ng/kg	
2,3,7,8-TCDD		0.748	0.655-0.886	0.175	0.999	**0.953**	ng/kg	J
1,2,3,7,8-PeCDF		1.489	1.318-1.783	0.153	0.999	**1.71**	ng/kg	
2,3,4,7,8-PeCDF		1.641	1.318-1.783	0.148	0.999	**3.47**	ng/kg	
1,2,3,7,8-PeCDD		1.679	1.318-1.783	0.201	0.999	**5.25**	ng/kg	
1,2,3,4,7,8-HxCDF		1.291	1.054-1.426	0.171	0.999	**9.66**	ng/kg	
1,2,3,6,7,8-HxCDF		1.283	1.054-1.426	0.166	0.999	**3.97**	ng/kg	
2,3,4,6,7,8-HxCDF		1.265	1.054-1.426	0.165	0.999	**8.20**	ng/kg	
1,2,3,7,8,9-HxCDF		1.035	1.054-1.426	0.192	0.999	**2.12**	ng/kg	EMPC
1,2,3,4,7,8-HxCDD		1.461	1.054-1.426	0.266	0.999	**3.53**	ng/kg	EMPC
1,2,3,6,7,8-HxCDD		1.311	1.054-1.426	0.266	0.999	**30.3**	ng/kg	
1,2,3,7,8,9-HxCDD		1.276	1.054-1.426	0.285	0.999	**9.51**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.030	0.893-1.208	0.248	0.999	**189**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.047	0.893-1.208	0.366	0.999	**10.7**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.060	0.893-1.208	0.607	2.50	**743**	ng/kg	
OCDF		0.881	0.757-1.024	0.339	2.50	**787**	ng/kg	
OCDD		0.886	0.757-1.024	0.801	9.99	**4660**	ng/kg	E, B
Homologue groups								
Total TCDF					0.999	**31.7**	ng/kg	
Total TCDD					0.999	**71.8**	ng/kg	
Total PeCDF					0.999	**50.0**	ng/kg	
Total PeCDD					0.999	**53.0**	ng/kg	
Total HxCDF					0.999	**219**	ng/kg	
Total HxCDD					0.999	**250**	ng/kg	
Total HpCDF					0.999	**719**	ng/kg	
Total HpCDD					0.999	**1320**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-W

21I0059-02 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 08/12/2021 20:05
Analyzed: 10/21/2021 15:27

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					25.27		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					25.27		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					24.99		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					24.71		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-W

21I0059-02 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 20:05
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 15:27

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.807*	*0.655-0.886*	*24-169 %*	*96.1*	*%*	
13C12-2,3,7,8-TCDD		*0.771*	*0.655-0.886*	*25-164 %*	*95.1*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.612*	*1.318-1.783*	*24-185 %*	*94.5*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.590*	*1.318-1.783*	*21-178 %*	*93.0*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.622*	*1.318-1.783*	*25-181 %*	*92.8*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.506*	*0.434-0.587*	*26-152 %*	*89.4*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.516*	*0.434-0.587*	*26-123 %*	*85.1*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.521*	*0.434-0.587*	*28-136 %*	*85.9*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.511*	*0.434-0.587*	*29-147 %*	*90.5*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.261*	*1.054-1.426*	*32-141 %*	*91.0*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.263*	*1.054-1.426*	*28-130 %*	*86.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.459*	*0.374-0.506*	*28-143 %*	*92.9*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.457*	*0.374-0.506*	*26-138 %*	*90.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.048*	*0.893-1.208*	*23-140 %*	*97.7*	*%*	
13C12-OCDD		*0.919*	*0.757-1.024*	*17-157 %*	*111*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*98.7*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-W

21I0059-02 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 20:05
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 15:27

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes

CPP3-W

21I0059-02 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 08/12/2021 20:05
Instrument: N/A Analyst: NL — Analyzed: 10/13/2021 06:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 21I0059-02
Preparation Batch: BJJ0325 — Sample Size: 1 g (wet)
Prepared: 10/12/2021 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	59.40	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-E

21I0059-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 21:30
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 16:15

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 21I0059-03 A 01
	Preparation Batch: BJJ0331	Sample Size: 16.94 g (wet)	Dry Weight:10.01 g
	Prepared: 10/14/2021	Final Volume: 20 uL	% Solids: 59.11
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21I0059-03 A 01
	Cleanup Batch: CJJ0148	Initial Volume: 20 mL	
	Cleaned: 18-Oct-2021	Final Volume: 20 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:21I0059-03 A 01
	Cleanup Batch: CJJ0147	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:21I0059-03 A 01
	Cleanup Batch: CJJ0149	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.886	0.655-0.886	0.098	0.999	**0.429**	ng/kg	J
2,3,7,8-TCDD		0.569	0.655-0.886	0.169	0.999	**0.341**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.177	1.318-1.783	0.132	0.999	**0.355**	ng/kg	EMPC, J
2,3,4,7,8-PeCDF		1.206	1.318-1.783	0.127	0.999	**0.371**	ng/kg	EMPC, J
1,2,3,7,8-PeCDD		1.877	1.318-1.783	0.218	0.999	**0.960**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		1.403	1.054-1.426	0.157	0.999	**1.11**	ng/kg	
1,2,3,6,7,8-HxCDF		1.295	1.054-1.426	0.149	0.999	**0.622**	ng/kg	J
2,3,4,6,7,8-HxCDF		1.298	1.054-1.426	0.160	0.999	**0.599**	ng/kg	J
1,2,3,7,8,9-HxCDF		1.087	1.054-1.426	0.186	0.999	**0.277**	ng/kg	J
1,2,3,4,7,8-HxCDD		1.221	1.054-1.426	0.197	0.999	**0.652**	ng/kg	J
1,2,3,6,7,8-HxCDD		1.302	1.054-1.426	0.197	0.999	**5.12**	ng/kg	
1,2,3,7,8,9-HxCDD		1.436	1.054-1.426	0.211	0.999	**1.63**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDF		1.059	0.893-1.208	0.202	0.999	**34.0**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.084	0.893-1.208	0.307	0.999	**1.73**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.066	0.893-1.208	0.413	2.50	**123**	ng/kg	
OCDF		0.859	0.757-1.024	0.362	2.50	**156**	ng/kg	
OCDD		0.893	0.757-1.024	0.410	9.99	**825**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**4.35**	ng/kg	
Total TCDD					0.999	**8.15**	ng/kg	
Total PeCDF					0.999	**3.18**	ng/kg	
Total PeCDD					0.999	**8.42**	ng/kg	
Total HxCDF					0.999	**31.3**	ng/kg	
Total HxCDD					0.999	**38.3**	ng/kg	
Total HpCDF					0.999	**127**	ng/kg	
Total HpCDD					0.999	**214**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-E

21I0059-03 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 08/12/2021 21:30
Analyzed: 10/21/2021 16:15

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					4.35		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					4.35		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					3.56		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					2.76		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-E

21I0059-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 21:30
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 16:15

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.795*	*0.655-0.886*	*24-169 %*	*89.2*	*%*	
13C12-2,3,7,8-TCDD		*0.761*	*0.655-0.886*	*25-164 %*	*88.8*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.599*	*1.318-1.783*	*24-185 %*	*83.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.628*	*1.318-1.783*	*21-178 %*	*80.0*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.643*	*1.318-1.783*	*25-181 %*	*81.3*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.508*	*0.434-0.587*	*26-152 %*	*84.4*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.515*	*0.434-0.587*	*26-123 %*	*82.5*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.515*	*0.434-0.587*	*28-136 %*	*80.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.514*	*0.434-0.587*	*29-147 %*	*85.6*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.280*	*1.054-1.426*	*32-141 %*	*85.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.231*	*1.054-1.426*	*28-130 %*	*81.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.448*	*0.374-0.506*	*28-143 %*	*87.0*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.458*	*0.374-0.506*	*26-138 %*	*84.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.056*	*0.893-1.208*	*23-140 %*	*89.2*	*%*	
13C12-OCDD		*0.919*	*0.757-1.024*	*17-157 %*	*92.5*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*98.2*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-E

21I0059-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/12/2021 21:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 16:15

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes

CPP3-E

21I0059-03 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 08/12/2021 21:30

Instrument: N/A Analyst: NL — Analyzed: 10/13/2021 06:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 21I0059-03

Preparation Batch: BJJ0325 — Sample Size: 1 g (wet)

Prepared: 10/12/2021 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	59.11	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-N

21I0059-04 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/13/2021 21:25
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 17:05

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 21I0059-04 A 01
	Preparation Batch: BJJ0331	Sample Size: 18.66 g (wet)	Dry Weight:10.00 g
	Prepared: 10/14/2021	Final Volume: 20 uL	% Solids: 53.59
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21I0059-04 A 01
	Cleanup Batch: CJJ0148	Initial Volume: 20 mL	
	Cleaned: 18-Oct-2021	Final Volume: 20 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:21I0059-04 A 01
	Cleanup Batch: CJJ0147	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:21I0059-04 A 01
	Cleanup Batch: CJJ0149	Initial Volume: 20 uL	
	Cleaned: 18-Oct-2021	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.729	0.655-0.886	0.107	1.00	**0.681**	ng/kg	J
2,3,7,8-TCDD		0.532	0.655-0.886	0.165	1.00	**0.438**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.673	1.318-1.783	0.140	1.00	**0.451**	ng/kg	J
2,3,4,7,8-PeCDF		1.609	1.318-1.783	0.135	1.00	**0.754**	ng/kg	J
1,2,3,7,8-PeCDD		1.728	1.318-1.783	0.211	1.00	**1.90**	ng/kg	
1,2,3,4,7,8-HxCDF		1.257	1.054-1.426	0.146	1.00	**2.18**	ng/kg	
1,2,3,6,7,8-HxCDF		1.183	1.054-1.426	0.135	1.00	**0.989**	ng/kg	J
2,3,4,6,7,8-HxCDF		1.059	1.054-1.426	0.151	1.00	**0.964**	ng/kg	J
1,2,3,7,8,9-HxCDF		1.188	1.054-1.426	0.164	1.00	**0.475**	ng/kg	J
1,2,3,4,7,8-HxCDD		1.153	1.054-1.426	0.190	1.00	**1.18**	ng/kg	
1,2,3,6,7,8-HxCDD		1.309	1.054-1.426	0.183	1.00	**8.22**	ng/kg	
1,2,3,7,8,9-HxCDD		1.351	1.054-1.426	0.199	1.00	**2.67**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.078	0.893-1.208	0.149	1.00	**45.4**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.896	0.893-1.208	0.227	1.00	**2.28**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.069	0.893-1.208	0.383	2.50	**165**	ng/kg	
OCDF		0.906	0.757-1.024	0.471	2.50	**146**	ng/kg	
OCDD		0.889	0.757-1.024	0.711	10.0	**1020**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**7.74**	ng/kg	
Total TCDD					1.00	**12.8**	ng/kg	
Total PeCDF					1.00	**10.9**	ng/kg	
Total PeCDD					1.00	**12.3**	ng/kg	
Total HxCDF					1.00	**56.1**	ng/kg	
Total HxCDD					1.00	**69.5**	ng/kg	
Total HpCDF					1.00	**159**	ng/kg	
Total HpCDD					1.00	**309**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-N

21I0059-04 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 08/13/2021 21:25
Analyzed: 10/21/2021 17:05

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					6.79		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					6.79		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					6.57		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					6.35		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-N

21I0059-04 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 08/13/2021 21:25
Analyzed: 10/21/2021 17:05

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.798*	*0.655-0.886*	*24-169 %*	*88.9*	*%*	
13C12-2,3,7,8-TCDD		*0.772*	*0.655-0.886*	*25-164 %*	*88.6*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.607*	*1.318-1.783*	*24-185 %*	*82.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.592*	*1.318-1.783*	*21-178 %*	*80.5*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.598*	*1.318-1.783*	*25-181 %*	*79.1*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.515*	*0.434-0.587*	*26-152 %*	*83.2*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.514*	*0.434-0.587*	*26-123 %*	*80.5*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.515*	*0.434-0.587*	*28-136 %*	*78.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.513*	*0.434-0.587*	*29-147 %*	*86.2*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.294*	*1.054-1.426*	*32-141 %*	*85.3*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.229*	*1.054-1.426*	*28-130 %*	*81.0*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.460*	*0.374-0.506*	*28-143 %*	*88.1*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.448*	*0.374-0.506*	*26-138 %*	*82.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.054*	*0.893-1.208*	*23-140 %*	*89.0*	*%*	
13C12-OCDD		*0.921*	*0.757-1.024*	*17-157 %*	*93.2*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*98.0*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

CPP3-N

21I0059-04 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 08/13/2021 21:25
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 10/21/2021 17:05

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes

CPP3-N

21I0059-04 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 08/13/2021 21:25
Instrument: N/A Analyst: NL — Analyzed: 10/13/2021 06:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 21I0059-04
Preparation Batch: BJJ0325 — Sample Size: 1 g (wet)
Prepared: 10/12/2021 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	53.59	%	

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BJJ0331 - EPA 1613

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJJ0331-BLK1)				Prepared: 14-Oct-2021 Analyzed: 21-Oct-2021 11:21							
2,3,7,8-TCDF		0.655-0.886	0.052	1.00	ND	ng/kg					U
2,3,7,8-TCDD		0.655-0.886	0.103	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDF		1.318-1.783	0.073	1.00	ND	ng/kg					U
2,3,4,7,8-PeCDF		1.318-1.783	0.069	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDD		1.318-1.783	0.116	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDF		1.054-1.426	0.095	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDF		1.054-1.426	0.088	1.00	ND	ng/kg					U
2,3,4,6,7,8-HxCDF		1.054-1.426	0.097	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDF		1.054-1.426	0.131	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDD		1.054-1.426	0.094	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDD		1.054-1.426	0.092	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDD		1.054-1.426	0.100	1.00	ND	ng/kg					U
1,2,3,4,6,7,8-HpCDF		0.893-1.208	0.089	1.00	ND	ng/kg					U
1,2,3,4,7,8,9-HpCDF		0.893-1.208	0.160	1.00	ND	ng/kg					U
1,2,3,4,6,7,8-HpCDD		0.893-1.208	0.191	2.50	ND	ng/kg					U
OCDF		0.757-1.024	0.284	2.50	ND	ng/kg					U
OCDD	0.984	0.757-1.024		10.0	2.46	ng/kg					J
Homologue group											
Total TCDF				1.00	ND	ng/kg					U
Total TCDD				1.00	ND	ng/kg					U
Total PeCDF				1.00	ND	ng/kg					U
Total PeCDD				1.00	ND	ng/kg					U
Total HxCDF				1.00	ND	ng/kg					U
Total HxCDD				1.00	ND	ng/kg					U
Total HpCDF				1.00	ND	ng/kg					U
Total HpCDD				1.00	ND	ng/kg					U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.08
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.00
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.08
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BJJ0331 - EPA 1613

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJJ0331-BLK1)				Prepared: 14-Oct-2021 Analyzed: 21-Oct-2021 11:21							
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.782*	*0.655-0.886*			*93.1*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.768*	*0.655-0.886*			*95.9*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.596*	*1.318-1.783*			*87.6*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.564*	*1.318-1.783*			*84.3*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.567*	*1.318-1.783*			*87.5*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.513*	*0.434-0.587*			*91.6*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.522*	*0.434-0.587*			*92.3*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.521*	*0.434-0.587*			*87.9*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.519*	*0.434-0.587*			*78.5*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.266*	*1.054-1.426*			*98.1*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.257*	*1.054-1.426*			*96.4*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.498*	*0.374-0.506*			*80.5*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.461*	*0.374-0.506*			*63.4*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.017*	*0.893-1.208*			*80.3*			*23-140 %*			
13C12-OCDD	*0.919*	*0.757-1.024*			*65.8*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*95.4*			*35-197 %*			
LCS (BJJ0331-BS1)				Prepared: 14-Oct-2021 Analyzed: 21-Oct-2021 12:10							
2,3,7,8-TCDF	0.777	0.655-0.886		1.00	18.0	ng/kg	90.1	75-158 %			
2,3,7,8-TCDD	0.787	0.655-0.886		1.00	19.6	ng/kg	98.1	67-158 %			
1,2,3,7,8-PeCDF	1.500	1.318-1.783		1.00	94.5	ng/kg	94.5	80-134 %			
2,3,4,7,8-PeCDF	1.502	1.318-1.783		1.00	90.6	ng/kg	90.6	68-160 %			
1,2,3,7,8-PeCDD	1.628	1.318-1.783		1.00	101	ng/kg	101	70-142 %			
1,2,3,4,7,8-HxCDF	1.226	1.054-1.426		1.00	95.5	ng/kg	95.5	72-134 %			
1,2,3,6,7,8-HxCDF	1.189	1.054-1.426		1.00	98.2	ng/kg	98.2	84-130 %			
2,3,4,6,7,8-HxCDF	1.235	1.054-1.426		1.00	97.7	ng/kg	97.7	70-156 %			
1,2,3,7,8,9-HxCDF	1.167	1.054-1.426		1.00	95.7	ng/kg	95.7	78-130 %			
1,2,3,4,7,8-HxCDD	1.251	1.054-1.426		1.00	91.8	ng/kg	91.8	70-164 %			
1,2,3,6,7,8-HxCDD	1.229	1.054-1.426		1.00	94.7	ng/kg	94.7	76-134 %			
1,2,3,7,8,9-HxCDD	1.202	1.054-1.426		1.00	91.3	ng/kg	91.3	64-162 %			
1,2,3,4,6,7,8-HpCDF	0.996	0.893-1.208		1.00	101	ng/kg	101	82-122 %			
1,2,3,4,7,8,9-HpCDF	1.039	0.893-1.208		1.00	92.3	ng/kg	92.3	78-138 %			
1,2,3,4,6,7,8-HpCDD	1.049	0.893-1.208		2.50	95.6	ng/kg	95.6	70-140 %			
OCDF	0.910	0.757-1.024		2.50	121	ng/kg	60.6	63-170 %			*
OCDD	0.928	0.757-1.024		10.0	186	ng/kg	92.8	78-144 %			B

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BJJ0331 - EPA 1613

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJJ0331-BS1)				Prepared: 14-Oct-2021 Analyzed: 21-Oct-2021 12:10							
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.786*	*0.655-0.886*			*91.6*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.763*	*0.655-0.886*			*94.2*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.625*	*1.318-1.783*			*86.8*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.589*	*1.318-1.783*			*84.7*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.595*	*1.318-1.783*			*86.8*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.510*	*0.434-0.587*			*94.6*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.512*	*0.434-0.587*			*94.5*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.510*	*0.434-0.587*			*90.0*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.510*	*0.434-0.587*			*81.4*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.288*	*1.054-1.426*			*101*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.222*	*1.054-1.426*			*97.0*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.469*	*0.374-0.506*			*79.4*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.448*	*0.374-0.506*			*64.4*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.109*	*0.893-1.208*			*82.7*			*23-140 %*			
13C12-OCDD	*0.894*	*0.757-1.024*			*68.6*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*97.2*			*35-197 %*			
Reference (BJJ0331-SRM1)				Prepared: 14-Oct-2021 Analyzed: 21-Oct-2021 12:59							
2,3,7,8-TCDF	0.770	0.655-0.886		0.999	0.835	ng/kg	75.3	50-150 %			J
2,3,7,8-TCDD	0.660	0.655-0.886		0.999	0.985	ng/kg	93.9	50-150 %			J
1,2,3,7,8-PeCDF	1.701	1.318-1.783		0.999	0.992	ng/kg	80.7	50-150 %			J
2,3,4,7,8-PeCDF	1.756	1.318-1.783		0.999	0.762	ng/kg	71.2	50-150 %			J
1,2,3,7,8-PeCDD	1.638	1.318-1.783		0.999	1.29	ng/kg	120	50-150 %			
1,2,3,4,7,8-HxCDF	1.210	1.054-1.426		0.999	2.84	ng/kg	94.0	50-150 %			
1,2,3,6,7,8-HxCDF	1.109	1.054-1.426		0.999	0.991	ng/kg	91.0	50-150 %			J
2,3,4,6,7,8-HxCDF	1.077	1.054-1.426		0.999	1.84	ng/kg	101	50-150 %			
1,2,3,7,8,9-HxCDF	1.031	1.054-1.426		0.999	0.695	ng/kg	136	50-150 %			EMPC, J
1,2,3,4,7,8-HxCDD	1.348	1.054-1.426		0.999	1.49	ng/kg	94.0	50-150 %			
1,2,3,6,7,8-HxCDD	1.241	1.054-1.426		0.999	3.95	ng/kg	102	50-150 %			
1,2,3,7,8,9-HxCDD	1.415	1.054-1.426		0.999	2.71	ng/kg	89.1	50-150 %			
1,2,3,4,6,7,8-HpCDF	1.080	0.893-1.208		0.999	19.7	ng/kg	106	50-150 %			
1,2,3,4,7,8,9-HpCDF	0.916	0.893-1.208		0.999	1.58	ng/kg	97.3	50-150 %			
1,2,3,4,6,7,8-HpCDD	1.053	0.893-1.208		2.50	106	ng/kg	117	50-150 %			
OCDF	0.888	0.757-1.024		2.50	50.6	ng/kg	86.7	50-150 %			
OCDD	0.898	0.757-1.024		9.99	823	ng/kg	102	50-150 %			B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BJJ0331 - EPA 1613

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Reference (BJJ0331-SRM1)				Prepared: 14-Oct-2021	Analyzed: 21-Oct-2021 12:59						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.788*	*0.655-0.886*					*92.6*	*24-169 %*			
13C12-2,3,7,8-TCDD	*0.763*	*0.655-0.886*					*99.0*	*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.609*	*1.318-1.783*					*96.2*	*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.614*	*1.318-1.783*					*94.1*	*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.582*	*1.318-1.783*					*95.1*	*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.509*	*0.434-0.587*					*88.9*	*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.519*	*0.434-0.587*					*85.2*	*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.516*	*0.434-0.587*					*86.9*	*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.509*	*0.434-0.587*					*96.2*	*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.281*	*1.054-1.426*					*91.2*	*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.253*	*1.054-1.426*					*88.2*	*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.461*	*0.374-0.506*					*87.1*	*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.474*	*0.374-0.506*					*89.5*	*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.019*	*0.893-1.208*					*94.5*	*23-140 %*			
13C12-OCDD	*0.914*	*0.757-1.024*					*101*	*17-157 %*			
37Cl4-2,3,7,8-TCDD							*96.5*	*35-197 %*			

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Certified Analyses included in this Report

Analyte	Certifications
EPA 1613B in Solid	
2,3,7,8-TCDF	DoD-ELAP,NELAP,WADOE
2,3,7,8-TCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
2,3,4,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
2,3,4,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8,9-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDD	DoD-ELAP,NELAP,WADOE
OCDF	DoD-ELAP,NELAP,WADOE
OCDD	DoD-ELAP,NELAP,WADOE
Total TCDF	DoD-ELAP,NELAP,WADOE
Total TCDD	DoD-ELAP,NELAP,WADOE
Total PeCDF	DoD-ELAP,NELAP,WADOE
Total PeCDD	DoD-ELAP,NELAP,WADOE
Total HxCDF	DoD-ELAP,NELAP,WADOE
Total HxCDD	DoD-ELAP,NELAP,WADOE
Total HpCDF	DoD-ELAP,NELAP,WADOE
Total HpCDD	DoD-ELAP,NELAP,WADOE
13C12-2,3,7,8-TCDF	DoD-ELAP
13C12-2,3,7,8-TCDD	DoD-ELAP
13C12-1,2,3,7,8-PeCDF	DoD-ELAP
13C12-2,3,4,7,8-PeCDF	DoD-ELAP
13C12-1,2,3,7,8-PeCDD	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDF	DoD-ELAP
13C12-2,3,4,6,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,7,8,9-HxCDF	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDD	DoD-ELAP

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

13C12-1,2,3,6,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDF	DoD-ELAP
13C12-1,2,3,4,7,8,9-HpCDF	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDD	DoD-ELAP
13C12-OCDD	DoD-ELAP
37Cl4-2,3,7,8-TCDD	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2022
WADOE	WA Dept of Ecology	C558	06/30/2022
WA-DW	Ecology - Drinking Water	C558	06/30/2022

Hart Crowser	Project: Custom Plywood	
3131 Elliott Ave Suite 600	Project Number: Custom Plywood	**Reported:**
Seattle WA, 98121	Project Manager: Angie Goodwin	22-Oct-2021 15:16

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

APPENDIX H
Contractor Water Quality Monitoring Reports

American Construction Company

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
7/28/2021	Dredging	Skagit Flat Barge	ProDSS	5:40	20:35	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	20:11	6'	0.2	2.2	Calm	Slack	150' DnCurrent		2CY Cable-Arm Bucket
Early Warning (75' dncurrent)		20:15	5'	1.1	-0.9			NO	NO	
Compliance (150' dncurrent)		20:17	5'	0.9	-1.1				NO	
Background (600' upcurrent)	Dredging	21:05	6'	1.2	3.2	Calm	Ebb	150' DnCurrent		2CY Cable-Arm Bucket
Early Warning (75' dncurrent)		21:08	5'	4.1	2.1			NO	NO	
Compliance (150' dncurrent)		21:09	5'	1.5	-0.5				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
7/29/2021	Dredging	Skagit Flat Barge	ProDSS	5:43	20:50	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	21:44	6'	1.0	3.0	Calm	Slack	150' DnCurrent		Restart WQ for revised bucket 4CY Re-Handle Bucket
Early Warning (75' dncurrent)		21:48	5'	1.3	-0.7			NO	NO	
Compliance (150' dncurrent)		21:50	5'	1.1	-0.9				NO	
Background (600' upcurrent)	Dredging	22:42	6'	1.2	3.2	Calm	Ebb	150' DnCurrent		Restart WQ for revised bucket 4CY Re-Handle Bucket
Early Warning (75' dncurrent)		22:45	5'	2.9	0.9			NO	NO	
Compliance (150' dncurrent)		22:46	5'	2.0	0.0				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
7/30/2021	Dredging	Skagit Flat Barge	ProDSS			Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	21:31	6'	1.0	3.0	Calm	Slack	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		21:33	5'	1.5	-0.5			NO	NO	
Compliance (150' dncurrent)		21:35	5'	1.4	-0.6				NO	
Background (600' upcurrent)	Dredging	23:03	6'	1.3	3.3	Calm	Ebb	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		23:05	5'	1.4	-0.6			NO	NO	
Compliance (150' dncurrent)		23:07	5'	1.1	-0.9				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/4/2021	Dredging	Skagit Flat Barge	ProDSS	5:50	20:43	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	17:19	6'	1.5	3.5	Calm	Slack	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		17:21	5'	2.7	0.7			NO	NO	
Compliance (150' dncurrent)		17:23	5'	2.7	0.7				NO	
Background (600' upcurrent)	Dredging	19:25	-	Visual	-	Calm	Ebb	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		19:25	-	Visual	-			NO	NO	
Compliance (150' dncurrent)		19:25	-	Visual	-				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/5/2021	Dredging	Skagit Flat Barge	ProDSS	5:51	20:41	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	17:13	6'	3.1	5.1	Windy	Flood	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		17:15	5'	2.3	0.3			NO	NO	
Compliance (150' dncurrent)		17:17	5'	2.4	0.4				NO	
Background (600' upcurrent)	Dredging	17:48	6'	4.2	6.2	Windy	Slack	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		17:51	5'	2.6	0.6			NO	NO	
Compliance (150' dncurrent)		17:53	5'	2.5	0.5				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/10/2021	Dredging	Skagit Flat Barge	ProDSS	5:58	20:33	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	19:57	6'	2.8	4.8	Windy	Flood	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		20:02	5'	4.5	2.5			NO	NO	
Compliance (150' dncurrent)		20:03	5'	2.2	0.2				NO	
Background (600' upcurrent)	Dredging	21:17	6'	1.9	3.9	Windy	Slack	150' DnCurrent		4CY Re-Handle Bucket
Early Warning (75' dncurrent)		21:19	5'	4.1	2.1			NO	NO	
Compliance (150' dncurrent)		21:20	5'	3.1	1.1				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/11/2021	Dredging	Skagit Flat Barge	ProDSS	5:56	20:31	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	20:20	6'	2.5	4.5	Calm	Slack	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		20:22	5'	0.9	-1.1			NO	NO	
Compliance (150' dncurrent)		20:23	5'	1.0	-1.0				NO	
Background (600' upcurrent)	Dredging	22:15	6'	2.0	4.0	Calm	Ebb	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		22:18	5'	3.4	1.4			NO	NO	
Compliance (150' dncurrent)		22:18	5'	2.0	0.0				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/12/2021	Dredging	Skagit Flat Barge	ProDSS	6:00	20:29	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	20:00	6'	-	VISUAL	Calm	Flood	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		20:00	5'	-	VISUAL			NO	NO	
Compliance (150' dncurrent)		20:00	5'	-	VISUAL				NO	
Background (600' upcurrent)	Dredging	22:00	6'	-	VISUAL	Calm	Ebb	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		22:00	5'	-	VISUAL			NO	NO	
Compliance (150' dncurrent)		22:00	5'	-	VISUAL				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/13/2021	Dredging	Skagit Flat Barge	ProDSS	6:02	20:28	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	20:30	-	-	VISUAL	Calm	Flood	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		20:30	-	-	VISUAL			NO	NO	
Compliance (150' dncurrent)		20:30	-	-	VISUAL				NO	
Background (600' upcurrent)	Dredging	22:30	-	-	VISUAL	Calm	Ebb	150' DnCurrent		2CY Cable Arm
Early Warning (75' dncurrent)		22:30	-	-	VISUAL			NO	NO	
Compliance (150' dncurrent)		22:30	-	-	VISUAL				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/16/2021	Dredging	Skagit Flat Barge	ProDSS	6:06	20:22	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Dredging	22:15	6'	1.0	3.0	Calm	Slack	150' DnCurrent		4CY Re-Handle
Early Warning (75' dncurrent)		22:28	5'	3.5	1.5			NO	NO	
Compliance (150' dncurrent)		22:33	5'	2.2	0.2				NO	
Background (600' upcurrent)	Dredging	23:36	6'	1.2	3.2	Calm	Ebb	150' DnCurrent		4CY Re-Handle
Early Warning (75' dncurrent)		23:39	5'	2.6	0.6			NO	NO	
Compliance (150' dncurrent)		23:40	5'	1.0	-1.0				NO	
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)								NO		
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
Background (600' upcurrent)								150' DnCurrent		
Early Warning (75' dncurrent)										
Compliance (150' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/24/2021	Placement	Skagit Flat Barge	ProDSS	6:17	20:07	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	20:21	6'	2.0	4.0	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		20:24	5'	2.9	0.9			NO	NO	
Compliance (300' dncurrent)		20:25	5'	2.0	0.0				NO	
Background (600' upcurrent)	Placement	21:31	6'	1.8	3.8	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		21:33	5'	4.1	2.1			NO	NO	
Compliance (300' dncurrent)		21:34	5'	1.9	-0.1				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

KorDSS MEASUREMENT DATA FILE EXPORT

FILE CREATED: 8/26/2021 4:27

DATE	TIME	SITE	DATA ID	GPS Latituc	GPS Longitu
8/25/2021	7:41:32 PM	1st	150	48.49322 °	-122.59742
8/25/2021	7:44:35 PM	1st	150	48.49262 °	-122.59897
8/25/2021	7:45:40 PM	1st	300	48.49236 °	-122.59834
8/25/2021	8:36:14 PM	1st	Bg	48.49340 °	-122.59845
8/25/2021	8:37:17 PM	1st	150	48.49314 °	-122.59927
8/25/2021	8:38:18 PM	1st	300	48.49322 °	-122.59866

Barometer	Turbidity (F	TSS (mg/L)	ODO (% Sat	ODO (mg/L	Cond (µS/c	Sp Cond (µ	Sal (psu)	nLFCond (µ
770.9	1.66	0	96.7	8.33	35975.5	45742.6	29.64	46482.6
771	1.6	0	105.5	8.97	36383	45565.1	29.53	46279.2
770.9	1.74	0	100.3	8.6	36009.4	45460.7	29.45	46185.8
771.5	1.38	0	99.3	8.51	36017.4	45481.3	29.46	46207
771.4	2.05	0	100.6	8.62	36046.3	45530.1	29.49	46257
771.4	1.5	0	98.4	8.47	35859.4	45569.3	29.52	46305.7

TDS (mg/L)	Temp (°F)	Resistivity (	Sigma-T (s	Sigma (s)	Pressure (p	Depth (m)	Vertical Position (m)
29733	56.9	27.8	22.1	22.2	16.887	11.616	11.623
29617	58	27.5	21.9	22	16.514	11.362	11.382
29549	57.4	27.8	21.9	22	16.517	11.364	11.363
29563	57.4	27.8	21.9	22	16.442	11.313	11.316
29595	57.4	27.7	21.9	22	16.718	11.502	11.498
29620	56.9	27.9	22	22.1	16.763	11.532	11.528

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/27/2021	Placement	Skagit Flat Barge	ProDSS	6:21	20:01	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	20:20	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		20:20	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		20:20	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	21:30	-	-	VISUAL	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		21:30	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		21:30	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/28/2021	Placement	Skagit Flat Barge	ProDSS	6:21	20:01	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	20:50	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		20:50	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		20:50	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	21:40	-	-	VISUAL	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		21:40	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		21:40	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
8/31/2021	Placement	Skagit Flat Barge	ProDSS	6:27	19:53	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	15:35	6'	1.0	3.0	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		15:36	5'	2.3	0.3			NO	NO	
Compliance (300' dncurrent)		15:37	5'	1.9	-0.1				NO	
Background (600' upcurrent)	Placement	18:36	6'	0.2	2.2	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		18:39	5'	0.6	-1.4			NO	NO	
Compliance (300' dncurrent)		18:41	5'	1.2	-0.8				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/2/2021	Placement	Skagit Flat Barge	ProDSS	6:30	19:49	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	17:05	6'	0.6	2.6	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:10	5'	0.5	-1.5			NO	NO	
Compliance (300' dncurrent)		17:13	5'	0.6	-1.5				NO	
Background (600' upcurrent)	Placement	18:00	6'	0.3	2.3	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		18:03	5'	3.7	1.7			NO	NO	
Compliance (300' dncurrent)		18:04	5'	1.2	-0.9				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/7/2021	Placement	Skagit Flat Barge	ProDSS	6:36	19:39	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	19:13	6'	1.0	3.0	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		19:15	5'	2.0	0.0			NO	NO	
Compliance (300' dncurrent)		19:16	5'	1.6	-0.4				NO	
Background (600' upcurrent)	Placement	20:01	6'	0.6	2.6	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		20:03	5'	1.9	-0.1			NO	NO	
Compliance (300' dncurrent)		20:04	5'	0.9	-1.1				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/8/2021	Placement	Skagit Flat Barge	ProDSS	6:38	19:37	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	18:16	6'	1.0	3.0	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		18:18	5'	2.0	0.0			NO	NO	
Compliance (300' dncurrent)		18:20	5'	1.6	-0.4				NO	
Background (600' upcurrent)	Placement	19:39	6'	0.6	2.6	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		19:41	5'	1.9	-0.1			NO	NO	
Compliance (300' dncurrent)		19:43	5'	0.9	-1.1				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/9/2021	Placement	Skagit Flat Barge	ProDSS	6:39	19:35	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	17:33	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:33	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		17:33	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	20:30	-	-	VISUAL	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		20:30	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		20:30	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/10/2021	Placement	Skagit Flat Barge	ProDSS	6:41	19:33	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:13	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		16:13	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:13	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	17:30	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:30	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		17:30	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/11/2021	Placement	Skagit Flat Barge	ProDSS	6:42	19:31	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	17:12	6'	0.9	2.9	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:15	5'	0.9	-1.1			NO	NO	
Compliance (300' dncurrent)		17:16	5'	0.8	-1.3				NO	
Background (600' upcurrent)	Placement	19:00	6'	0.7	2.7	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		19:03	5'	0.9	-1.2			NO	NO	
Compliance (300' dncurrent)		19:04	5'	1.9	-0.1				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/13/2021	Placement	Skagit Flat Barge	ProDSS	6:45	19:27	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:12	6'	0.9	2.9	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		16:15	5'	0.9	-1.1			NO	NO	
Compliance (300' dncurrent)		16:16	5'	0.8	-1.3				NO	
Background (600' upcurrent)	Placement	16:29	6'	0.7	2.7	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		16:33	5'	0.9	-1.2			NO	NO	
Compliance (300' dncurrent)		16:36	5'	1.9	-0.1				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/14/2021	Placement	Skagit Flat Barge	ProDSS	6:46	19:24	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	17:11	6'	0.8	2.8	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:17	5'	13.8	11.8			NO	NO	
Compliance (300' dncurrent)		17:19	5'	1.0	-1.0				NO	
Background (600' upcurrent)	Placement	19:29	6'	1.0	3.0	Calm	Slack	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		19:31	5'	2.3	0.3			NO	NO	
Compliance (300' dncurrent)		19:35	5'	2.7	0.7				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/15/2021	Placement	Skagit Flat Barge	ProDSS	6:48	19:23	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:40	-	-	VISUAL	Calm	Ebb	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		16:40	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:40	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	17:50	-	-	VISUAL	Calm	Flood	300' DnCurrent		4CY Re-Handle
Early Warning (150' dncurrent)		17:50	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		17:50	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/16/2021	Placement	Skagit Flat Barge	ProDSS	6:46	17:20	Christopher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	18:10	-	-	VISUAL	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:10	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:10	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	21:50	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		21:50	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		21:50	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/14/2021	Placement	Skagit Flat Barge	ProDSS	6:57	19:04	Aaron McMahill

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	18:28	6'	0.9	2.9	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:33	5.5"	0.8	-1.2			NO	NO	
Compliance (300' dncurrent)		18:37	6'	0.4	-1.6				NO	
Background (600' upcurrent)	Placement					Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)								NO	NO	
Compliance (300' dncurrent)									NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

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CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/14/2021	**Placement**	**Skagit Flat Barge**	**ProDSS**	**7:06**	**18:58**	**Aaron McMahill**

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:59	4.9	0.9	2.9	Calm	Flood	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		17:05	5.0	1.4	-0.7			NO	NO	
Compliance (300' dncurrent)		17:10	4.6	0.4	-1.6				NO	
Background (600' upcurrent)	Placement	19:25	6.0	0.5	2.5	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		19:28	5.1	0.4	-1.6			NO	NO	
Compliance (300' dncurrent)		19:30	6.0	0.3	-1.7				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/16/2021	Placement	Skagit Flat Barge	ProDSS	7:08	19:07	Aaron McMahill

Sampling Event	Monitoring Target	Mid-Depth Sample: Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2	Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
Background (600' upcurrent)	Placement	16:13	-	-	VISUAL	Calm	Flood	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		16:13	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:13	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	19:00	-	-	VISUAL	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		19:00	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		19:00	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/16/2021	Placement	Skagit Flat Barge	ProDSS	7:08	18:57	Aaron McMahill

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	15:55	-	-	VISUAL	Calm	Flood	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		15:55	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		15:55	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	19:09	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		19:09	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		19:09	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/27/2021	Placement	Skagit Flat Barge	ProDSS	7:05	18:57	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:55	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		16:55	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:55	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	18:09	-	-	VISUAL	Calm	Flood	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:09	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:09	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/28/2021	Placement	Skagit Flat Barge	ProDSS	7:06	18:55	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:55	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		16:55	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:55	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	18:09	-	-	VISUAL	Calm	Flood	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:09	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:09	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
9/30/2021	Placement	Skagit Flat Barge	ProDSS	7:09	18:51	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:55	-	-	VISUAL	Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:55	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:55	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	18:05	6.0	-0.3		Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:07	5.0	11.8	9.8			NO	NO	
Compliance (300' dncurrent)		18:08	5.0	4.6	2.6				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/1/2021	Placement	Skagit Flat Barge	ProDSS	7:10	18:49	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2	Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
Background (600' upcurrent)	Placement	16:34	6.0	-1.3		Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		16:36	5.0	2.5	0.5			NO	NO	
Compliance (300' dncurrent)		16:37	5.0	0.7	-1.3				NO	
Background (600' upcurrent)	Placement	18:46	6.0	-0.7		Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:49	5.0	2.9	0.9			NO	NO	
Compliance (300' dncurrent)		18:51	5.0	3.6	1.6				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/2/2021	Placement	Skagit Flat Barge	ProDSS	7:12	6:47	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	15:50	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		15:50	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		15:50	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	18:25	-	-	VISUAL	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:25	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:25	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/4/2021	Placement	Skagit Flat Barge	ProDSS			Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:55	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		16:55	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:55	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	19:25	-	-	VISUAL	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		19:25	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		19:25	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/5/2021	Placement	Skagit Flat Barge	ProDSS	7:16	18:41	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	15:50	-	-	VISUAL	Calm	Slack	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		15:50	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		15:50	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	18:25	-	-	VISUAL	Calm	Ebb	300' DnCurrent		2" TLC Table
Early Warning (150' dncurrent)		18:25	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:25	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/6/2021	Placement	Skagit Flat Barge	ProDSS	7:18	18:38	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:19	6.0	0.9	2.9	Calm	Flood	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:23	5.0	1.4	-0.6			NO	NO	
Compliance (300' dncurrent)		16:25	5.0	1.1	-0.9				NO	
Background (600' upcurrent)	Placement	18:43	6.0	1.1	3.1	Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:45	5.0	13.1	11.1			NO	NO	
Compliance (300' dncurrent)		18:48	5.0	2.2	0.2				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/7/2021	Placement	Skagit Flat Barge	ProDSS	7:19	18:36	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:40	6.0	0.8	2.8	Calm	Flood	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:42	5.0	12.4	10.4			NO	NO	
Compliance (300' dncurrent)		16:44	5.0	1.0	-1.0				NO	
Background (600' upcurrent)	Placement	18:25	-	-	VISUAL	Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:25	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		18:25	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/8/2021	Placement	Skagit Flat Barge	ProDSS	7:21	18:34	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:00	-	-	VISUAL	Calm	Flood	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:00	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:00	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	19:10	-	-	VISUAL	Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		19:10	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		19:10	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/11/2021	Placement	Skagit Flat Barge	ProDSS	7:25	18:28	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:00	-	-	VISUAL	Calm	Flood	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:00	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		16:00	-	-	VISUAL				NO	
Background (600' upcurrent)	Placement	19:10	-	-	VISUAL	Calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		19:10	-	-	VISUAL			NO	NO	
Compliance (300' dncurrent)		19:10	-	-	VISUAL				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/12/2021	Placement	Skagit Flat Barge	ProDSS	7:27	18:26	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample Time	Mid-Depth Sample Depth (ft)	Mid-Depth Sample Turbidity (NTU)	Mid-Depth Sample Adjusted NTU ±2	Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
Background (600' upcurrent)	Placement	17:21	6.0	0.8	2.8	High Wind 2-4ft	Ebb	300' DnCurrent		8" TLC, High Wind pushing plume North during ebb, stop placement. Continue metered WQ on 10/13.
Early Warning (150' dncurrent)		-	-	-	-			YES	YES	
Compliance (300' dncurrent)		17:26	5.0	11.0	9.0				YES	
Background (600' upcurrent)	Placement	-	-	-	-	-	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		-	-	-	-			NO	NO	
Compliance (300' dncurrent)		-	-	-	-				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			1	2	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/14/2021	Placement	Skagit Flat Barge	ProDSS	7:29	18:23	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:03	6.0	0.3	2.3	calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:05	5.0	3.1	5.1			NO	NO	
Compliance (300' dncurrent)		16:06	5.0	2.3	0.3				NO	
Background (600' upcurrent)	Placement	18:24	6.0	0.8	2.8	calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:26	5.0	5.4	7.4			NO	NO	
Compliance (300' dncurrent)		18:30	5.0	2.6	0.6				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/18/2021	Placement	Skagit Flat Barge	ProDSS	7:35	18:15	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:34	6.0	0.6	2.6	calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:36	5.0	8.3	10.3			NO	NO	
Compliance (300' dncurrent)		16:37	5.0	0.8	-1.3				NO	
Background (600' upcurrent)	Placement	18:56	6.0	0.6	2.6	calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:58	5.0	3.2	5.2			NO	NO	
Compliance (300' dncurrent)		19:00	5.0	1.5	-0.5				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/19/2021	Placement	Skagit Flat Barge	ProDSS	7:37	18:13	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	16:34	6.0	0.6	2.6	calm	Slack	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		16:37	6.0	12.2	14.2			NO	NO	
Compliance (300' dncurrent)		16:40	6.0	1.9	-0.1				NO	
Background (600' upcurrent)	Placement	18:50	6.0	0.6	2.6	calm	Ebb	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		18:53	6.0	14.6	16.6			NO	NO	
Compliance (300' dncurrent)		18:55	6.0	3.7	1.7				NO	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
				TOTAL EXCEEDANCES PER CATEGORY -->>				0	0	

Remarks:

Form: 20191208WQ/HC

CUSTOM PLYWOOD PHASE III WATER QUALITY COMPLIANCE FORM

Monitoring Date:	Activity	Placement Location:	Turbidimeter:	Sunrise:	Sunset:	Collector's Names:
10/27/2021	Placement	Skagit Flat Barge	ProDSS	7:49	17:59	Christoher Raymond

Sampling Event	Monitoring Target	Mid-Depth Sample				Weather	Tidal Stage	Visible Plume? (Y/N)	5 NTU Exceeded ?	Notes / Exceedance Actions / BMP Modifications
		Time	Depth (ft)	Turbidity (NTU)	Adjusted NTU ±2					
Background (600' upcurrent)	Placement	12:12	6.0	1.3	3.3	calm	Slack	300' DnCurrent		8" TLC
Early Warning (150' dncurrent)		12:28	6.0	6.6	8.6			NO	NO	
Compliance (300' dncurrent)		12:30	6.0	2.3	0.3				NO	
Background (600' upcurrent)	Placement	-	-	-	-	-	Ebb	300' DnCurrent		Short placement duration, no 2nd sample collected
Early Warning (150' dncurrent)		-	-	-	-			NO	#VALUE!	
Compliance (300' dncurrent)		-	-	-	-				#VALUE!	
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)								NO		
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
Background (600' upcurrent)								300' DnCurrent		
Early Warning (150' dncurrent)										
Compliance (300' dncurrent)										
					TOTAL EXCEEDANCES PER CATEGORY -->>			0	0	

Remarks:

Form: 20191208WQ/HC

APPENDIX I
Post-Construction Diver Video Survey and Notes (Ecology 7/1/22 SharePoint Transmittal)

Custom Plywood Mill Site
Anacortes, WA
File No. 1960000 / 0202972-000
Date Photographs Taken: November 2, 2021

Please see the digital transmittal of video documentation for details.

Summary of Diver Observations to supplement photos below:

1. Spud Location 1 (48.4943325, -122.5991157)
    i. Visibility approximately 3 feet
    ii. A definite scar was observed, approximately 2 feet wide by 8-10 feet long, and approximately 1-1.5 feet deep
    iii. No eelgrass was present at this location
    iv. Capping material was observed, approximately 6-8 inches deep

2. Spud Location 2 (48.4942960, -122.5986830)
    i. Visibility approximately 3 feet
    ii. No evidence of spudding observed (i.e., no depressions or drag marks)
    iii. Sparse to dense macroalgae debris (i.e., "dead" macroalgae)
    iv. Random, very sparse eelgrass shoots present.

3. Spud Location 3 (48.4923330, -122.5986430)
    i. Visibility 4-5 feet
    ii. No evidence of spudding observed (i.e., no depressions or drag marks)
    iii. Dense eelgrass present, seasonal loss of blades observed on bottom
    iv. Capping material approximately 2-2.5 inches thick, consisting of coarse sand
    v. Two White-Lined Dirona nudibranchs (*Dirona albolineata*) were observed; several Hooded nudibranchs (aka Lion nudibranchs; *Melibe leonine*) observed attached to eelgrass blades; two small Dungeness crab (*Cancer magister*) observed.

4. Spud Location 4 (48.4921170, -122.5975680)
    i. Visibility 3-4 feet
    ii. No evidence of spudding observed (i.e., no depressions or drag marks)
    iii. Dense eelgrass present, seasonal loss of blades observed on bottom
    iv. One White-Lined Dirona nudibranch (*Dirona albolineata*) was observed; several Hooded nudibranchs (aka Lion nudibranchs; *Melibe leonine*) observed attached to eelgrass blades; several small Dungeness crab (*Cancer magister*) observed.

5. Spud Location 5 (48.4925360, -122.5997000)
    i. Visibility 3-4 feet
    ii. Some pits and mounds observed, but no obvious spud marks
    iii. Capping material approximately 6-8 inches thick in most locations.

6. Spud Location 6 (48.4921010, -122.5973850)
    i. Visibility approximately 3 feet
    ii. No evidence of spudding observed (i.e., no depressions or drag marks)
    iii. Dense eelgrass present, seasonal loss of blades observed on bottom
    iv. Numerous Hooded nudibranchs (*Melibe leonine*) observed attached to eelgrass blades; several small Dungeness crab (*Cancer magister*) observed.

7. Ref-2-1 (Reference Area) (48.4901805, -122.5932989)
    i. Visibility 1-3 feet
    ii. Dense eelgrass present, seasonal loss of blades observed on bottom.
    iii. Numerous Hooded nudibranchs (*Melibe leonine*) observed attached to eelgrass blades; numerous small Dungeness crab (*Cancer magister*) observed; several unidentified nudibranchs also observed.
    iv. Surface weather deteriorated significantly, resulting in very poor visibility and wave action affected diver's ability to steady camera.

Photo 1: Spud area 2 typical bottom with wrack and silty film.

Photo 2: Spud area 3 eelgrass, and white lined nudibranch.

Photo 3: Spud area 3 eelgrass.

Photo 4: Spud area 3 example of diver using hand to estimate TLC thickness.

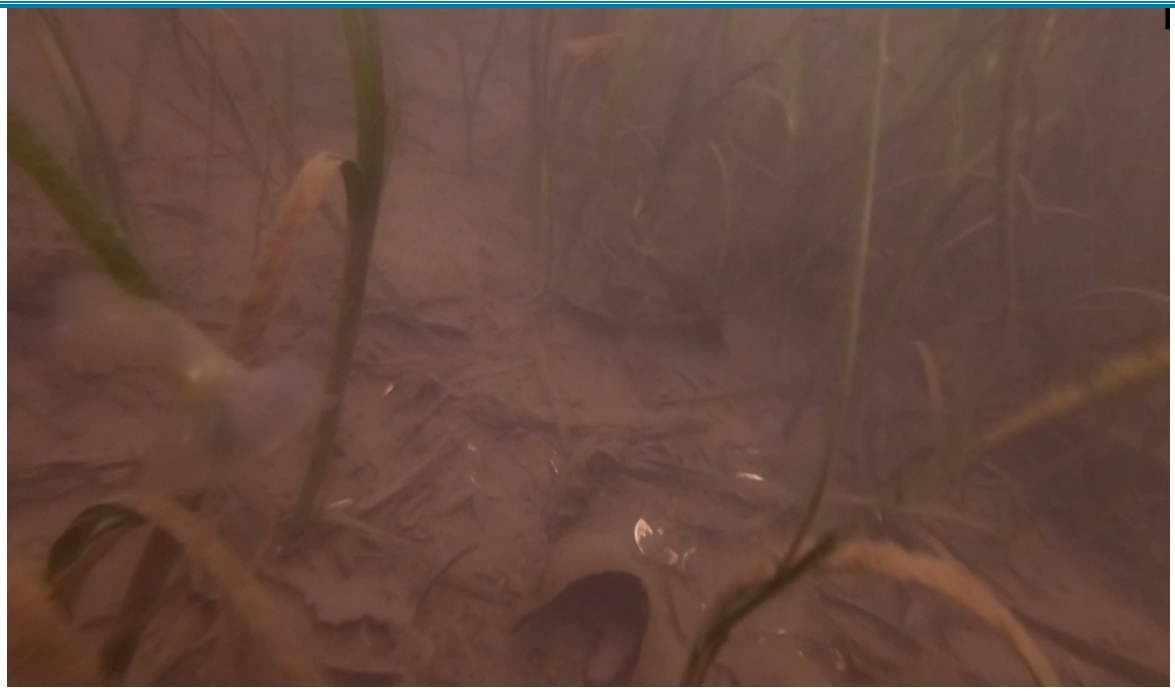


Photo 5: Spud area 3 eelgrass, typical bottom with shell has, and lion nudibranch (left).

Photo 6: Spud area 3 eelgrass with typical bottom and noted blades often observed during this season.

Photo 7: Spud area 4 typical bottom with eelgrass.

APPENDIX J
Post-Construction Eelgrass Survey Report

HALEY ALDRICH

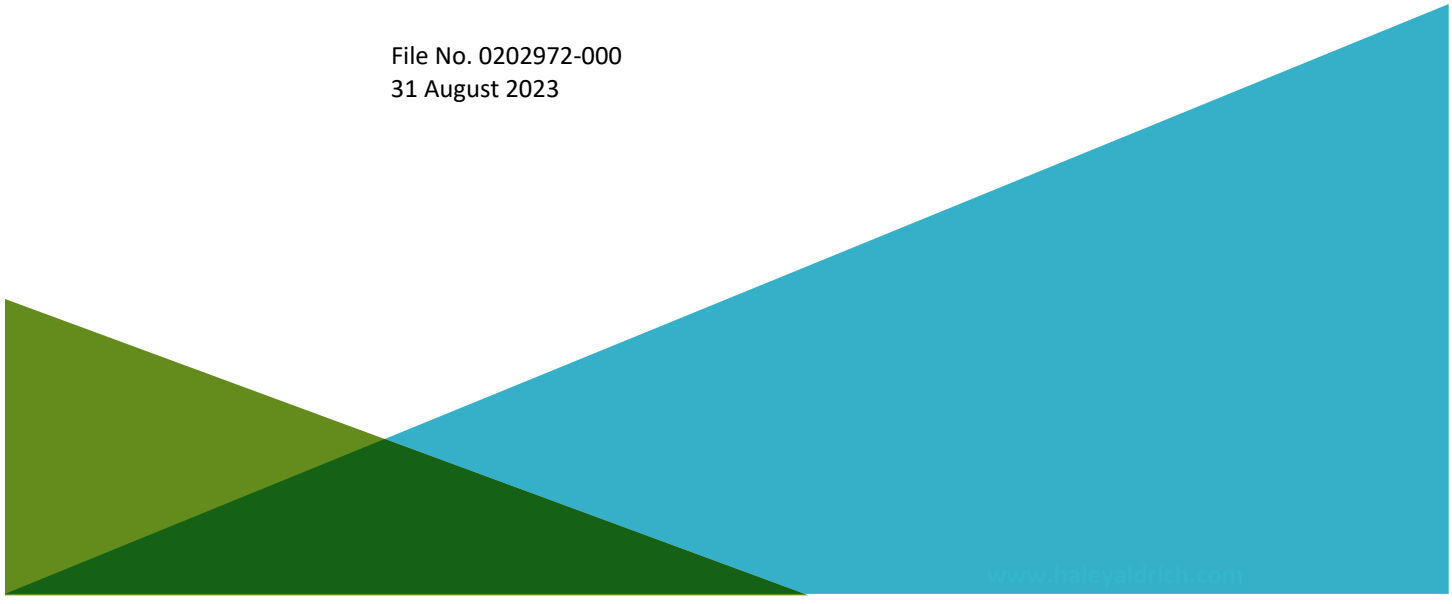
www.haleyaldrich.com

YEAR 1 EELGRASS DELINEATION REPORT
CUSTOM PLYWOOD MILL SITE
CLEANUP SITE IDENTIFICATION NO. 4533
PHASE III SUBTIDAL SEDIMENT CLEANUP
FIDALGO BAY
ANACORTES, WASHINGTON

by
Haley & Aldrich, Inc.
Seattle, Washington

for
Washington Department of Ecology
Olympia, Washington

File No. 0202972-000
31 August 2023



HALEY & ALDRICH, INC.
3131 ELLIOTT AVENUE,
SUITE 600
SEATTLE, WA 98121
206.324.9530

SIGNATURE PAGE FOR

REPORT ON

CUSTOM PLYWOOD MILL SITE
CLEANUP SITE IDENTIFICATION NO. 4533
PHASE III SUBTIDAL SEDIMENT CLEANUP
FIDALGO BAY
ANACORTES, WASHINGTON

PREPARED FOR

WASHINGTON DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

PREPARED BY:

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Program Manager - Engineer
Haley & Aldrich, Inc.

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1. Purpose

The purpose of this report is to present the results of the eelgrass (*Zostera marina*) and macroalgae survey conducted in July 2022 as part of the Phase III Subtidal Sediment Cleanup at the Custom Plywood Mill site, located in Anacortes, Washington.

2. Introduction

The Washington Department of Ecology (Ecology) Toxics Cleanup Program (TCP) completed Phase II of the sediment cleanup at the Custom Plywood Mill site located on Fidalgo Bay, in 2013 (Figure 1). The Phase II cleanup addressed dioxin contamination and included in-water remedial activities such as dredging and excavation, as well as habitat enhancements. Specific enhancements included transplanting eelgrass and establishing a 2,000- square-foot eelgrass bed (transplant area) within the Phase II excavation and backfill area following construction.

Phase III focused on the remediation of intermediate levels of dioxin contamination through the application of a thin-layer sand cap over roughly 6 acres of subtidal habitat along with a minor dredging effort. These cleanup activities for the remainder of the site will be completed over two in-water construction seasons. This report was written between the first and second construction seasons.

Figure 1. Vicinity Map

HALEY ALDRICH

3. Survey Location

The project site is located in Anacortes, Washington, in Section 30 of Township 35 North, Range 2 East (Figure 1). Marine Surveys and Assessments (MSA) biologists in conjunction with Haley & Aldrich, Inc. (Haley & Aldrich) conducted the survey on July 11 to 14, 2022, and included areas from approximately +1 feet mean lower low water (MLLW) to –5 feet mean lower low water (MLLW). The 2022 survey area was conducted in the area of Phase III sediment cleanup to determine the extent of eelgrass and macroalgae within this area. For consistency with previous surveys, the survey also extended outside the Phase III sediment cleanup boundary to capture the main portion of the eelgrass bed and included the transplant area established in Phase II, as well as areas north of the project site to include contractor access and staging areas. The total area surveyed covers approximately 28 acres.

4. Survey Methodology

Previous eelgrass and macroalgae surveys (completed in 2011, 2015, 2019, and 2021) were conducted in accordance with the Washington Department of Fish and Wildlife (WDFW) Eelgrass/Macroalgae Habitat Interim Survey Guidelines dated June 16, 2008 (WDFW 2008). The 2022 survey followed the 2008 WDFW guidelines for consistency where possible, but the survey also satisfies the detection and precision requirements dictated by the United States Army Corps of Engineers (USACE) guidelines (USACE 2016).

MSA utilized several different methodologies to conduct the delineation and density survey, in response to the relatively large size and shallow depths of the project site, and the poor water visibility during the surveys.

4.1 SHORELINE EELGRASS AND MACROALGAE DELINEATION

The eelgrass bed boundary along the shoreline was defined using Eelgrass Delineation Method A, from the USACE guidelines. MSA and Haley & Aldrich mapped eelgrass and macroalgae along the intertidal shoreline on foot during low tides on July 11 to 13 (Figure 2, Table 1). Staff utilized a Trimble Geo7x differential Global Positioning System (dGPS) datalogger to document the shoreward boundary of the large, contiguous eelgrass bed located offshore within the southern half of the project site.

Table 1. Tides 11 to 13 July 2022

Day	Predicted Tide[1] (MLLW)	Time (24-hr)
July 11, 2022	Low: -2.58 ft	0907
	High: +8.41 ft	0115
July 12, 2022	Low: -3.34 ft	0954
	High: +8.48 ft	0158
July 13, 2022	Low: -3.73 ft	1042
	High: +8.70 ft	1902

[1] Predicted tide levels from NOAA Tides & Currents: Anacortes, Fidalgo Island, WA – Station ID 9448794

The maximum distance between each eelgrass boundary dGPS point was approximately 50 feet. In addition, the intertidal area shoreward of the main bed boundary was investigated for the presence of small, isolated patches of eelgrass. Where found, patches were located with the dGPS and the approximate dimensions and number of individual eelgrass shoots were recorded.

4.2 OFFSHORE EELGRASS AND MACROALGAE DELINEATION

Eelgrass boundary delineations in offshore areas were conducted using a combination of MSA SCUBA divers and a survey vessel. The methods used to delineate the eelgrass boundaries in offshore areas differed from the USACE and WDFW methods in several ways, as described below.

The offshore portion of the large, contiguous eelgrass bed was delineated using a combination of SCUBA divers swimming along the eelgrass boundary, as well as observations from aboard a survey vessel. Due to the large size of the project site and eelgrass bed (approximately 77 acres), the use of transect methodology would have required transects approximately 950 feet long placed perpendicular to shore. In addition, due to the relatively poor water visibility at the site (approximately 3 to 6 feet), transect spacing would have to have been no more than 12 feet apart to ensure visual coverage of the site. This would have required approximately 230+ transects. Even at the typical spacing of 40 feet, approximately 70 transects would have been required, but would have resulted in incomplete coverage due to the limited visibility. As such, an alternative to transect-based delineation was necessary.

Divers located the eelgrass edge that was delineated during the shoreline walking delineation and continued the delineation from that location to deeper locations by following the edge of the eelgrass bed and deploying weighted buoys along the edge. Once the buoys were placed, divers explored the areas outside of the buoys to confirm no eelgrass patches were missed. Once the tide rose to a point where it was safe to reach the buoys by boat without disturbing the eelgrass, the buoys were located with the dGPS datalogger and removed. Divers also made note if macroalgae were observed among or nearby to the eelgrass beds.

The remainder of the large, contiguous eelgrass bed was delineated during low-tide conditions using the survey vessel. As the bathymetry at the project site is consistently flat, the survey vessel could be operated in shallow water without fear of running aground. Also, as visibility during the delineation was limited to between 3 to 6 feet, shallow water conditions were necessary for staff to visualize the bottom to ensure all eelgrass could be seen. Staff operated the vessel offshore from the edge of the eelgrass bed to avoid prop wash disturbance, following the outer edge of the bed. Staff dropped weighted buoys from the boat approximately 1 meter from the outer edge of the bed, as visualized from the surface. The buoys were then located using the dGPS datalogger and the buoys were removed.

In the northern portion of the project area, north of the contiguous bed, surface transects were surveyed using the survey vessel (Figure 2). Transects were spaced approximately 100 feet apart and were oriented due north-south, beginning off the east end of the Fidalgo Marina jetty. The transects were surveyed during low tide, in approximately 4 to 6 feet of water depth to visualize the bottom substrate. A weighted buoy was placed where eelgrass was observed. After the transect surveys were completed, the locations of the buoys were further investigated, and the eelgrass patches were delineated from the boat at low tide using buoys and the dGPS datalogger.

A contiguous eelgrass bed was also delineated within the Fidalgo Marina boat yard, immediately north of the jetty to the north of the project site. This bed was delineated from the survey vessel during low tide, where the eelgrass boundary and substrate could be observed from the surface. Surface buoys were dropped from the boat along the outer edge of the eelgrass bed. The buoys were then located and marked using the dGPS datalogger.

In order to determine the shoot density of eelgrass, MSA SCUBA divers counted eelgrass shoots at five specific locations in the main bed and adjacent to the project area for reference (M-2 through M-7 and Reference Site 2 [Ref-2]); Figure 2). While site M-3 has been used for density measurements during past surveys, the eelgrass boundary retreated from shore such that no eelgrass was present in this location during the 2022 survey. As such, density measurements were collected from site M-7, which is at the approximated center of the 0.5 acre 2-inch thin layer cap test area.

Ref-2 has been used historically to compare eelgrass densities in a nearby area to changes in the project area. At each density count location, divers randomly placed 0.25-square-meter (m^2) quadrats (n = 30 at each site). These counts satisfied WDFW statistical requirements to detect differences among means ($\alpha = 0.10$ and power $[1 - \beta] = 0.90$). Average shoot density at each quadrat was multiplied by 4 to obtain shoots per square meter (shoots/m^2). Differences in average eelgrass shoot density between years were compared for each location using a one-way Analysis of Variance (ANOVA).

4.2.1 Biomass Sampling Methodology

In accordance with the 2019 Custom Plywood Phase III – Thin-Layer Capping Eelgrass Monitoring and Adaptive Management Plan (Ecology 2019), both eelgrass shoot biomass and below-ground biomass were to be evaluated prior to thin-layer capping placement.

At each of the eelgrass density locations shown on Figure 2, MSA divers collected five above-ground eelgrass shoots. In addition to these locations, two more monitoring points were identified for biomass collection without density counts; these locations are designated “TLC-1” and “TLC-2” to represent the eastern and western portions of eelgrass that received a thin layer cap in 2021. Monitoring location M-7 is located at the approximate center of the 0.5-acre area received thin layer cap in 2021.

The shoots were gently shaken to dislodge any residual sediment, and then placed into collection bags. After returning to the surface, the eelgrass shoots were inspected for clinging sediment or macroalgae; any sediment/macroalgae on the shoots was gently removed. The shoots were then placed into labeled bags and placed into a cooler for transport to shore.

Divers then collected two 4-inch core samples from each density location for below-ground eelgrass biomass analysis. Divers utilized a stainless steel four-inch hand core for collecting the sediment samples (Figure 3). The below-ground biomass samples were also placed into labeled bags and placed into the cooler for transport to shore.

Upon returning to shore, the cooler containing the shoot biomass and below-ground biomass samples was transferred to Haley & Aldrich staff for transport to the analytical laboratory.

Figure 3. Four-Inch Stainless Steel Hand Corer

4.2.2 Biomass Laboratory Methodology

Processing of above-ground eelgrass samples began by thawing the frozen sample and then placing the eelgrass shoots in a large bowl or bucket of water. The blade of each shoot was individually cleaned and any epifauna or algae was removed. The shoot was then cut 2 millimeters (mm) above the last below-ground root node to remove any below-ground material. The length and width of the blades for each shoot were then measured and recorded. If any blades were broken or damaged, they were measured to the point at which the blade was still intact. The width of each blade was measured at the midpoint between the tip and the leaf base. After measuring, the samples were patted dry, weighed using a tared beaker, and recorded. The shoots were then placed in a labeled paper bag and dried at 65° C for at least 48 hours. Once dry, the dried shoots were removed from the bag and reweighed in a tared beaker and recorded.

Below-ground eelgrass samples were defrosted using a warm water bath and once thawed, the sample was emptied into a mixing bowl to stir and loosen the sediment. Afterwards, the sediment sample was sieved using a 0.5-mm screen. The sample was rinsed until only roots and rhizomes, infauna, and larger wood debris was left. All roots and rhizomes were removed from the sieve with forceps and kept in a second tray filled with water. The roots and rhizomes that were removed from the sieve were then cleaned of any additional debris. Any decayed root matter was rejected from further processing and discarded. Cleaned and clipped below-ground material was then patted dry and transferred and wrapped in a pre-labeled and pre-weighed coffee filter. After taring the scale, the weight was recorded in grams and then placed in an empty glass beaker for containment during the drying process in the oven. The filter-wrapped samples were then dried at 65° C for at least 48 hours. The dried samples were then reweighed and recorded.

4.3 USACE METHODOLOGY

On May 27, 2016, the USACE issued their own guidelines known as "Components of a Complete Eelgrass Delineation and Characterization Report" (USACE 2016). The 2022 survey differs from the USACE methodology in several ways. The main differences between the USACE guidelines and the methods used in the 2022 survey are described below.

As with the 2021 survey, the 2022 survey area extended past the remedial action boundary to capture dynamics within the main portion of the bed and was approximately twice the area of the remedial action area. Eelgrass habitat within Fidalgo Bay is classified as flats type habitat and has extensive cover within the shallow embayment, similar to the adjacent Padilla Bay (Nearshore Habitat Program 2015). Numerous eelgrass and macroalgae surveys have been conducted as part of the investigation and remediation of the site. An aerial survey was completed in 1997 that mapped eelgrass throughout Fidalgo Bay and provided a guide for the survey years (2011, 2015, 2016, and 2019) that followed. These same surveys have always satisfied WDFW guidelines and have maintained statistical precision with increased effort in underwater video to define the eelgrass boundary. In addition, the Samish Tribe recently collected aerial imagery to map eelgrass beds and characterize the potential benthic habitats within Fidalgo Bay (Wyllie-Echeverria et al. 2015).

The 2022 eelgrass delineation survey utilized a combination of Method 1: Walking or Wading, and Method 2: Snorkelers or Divers. As described above, Method 1 was utilized to delineate eelgrass boundaries within the intertidal areas during low tide. Eelgrass boundaries were delineated on foot and boundary locations were geolocated using a dGPS datalogger. The offshore eelgrass boundaries were delineated utilizing Method 2, as well as visualization from the boat. Buoys placed using Method 2 were located using the dGPS datalogger. During both inshore and offshore delineations, the method utilized to establish the boundaries of the eelgrass was Method B (USACE 2016).

Similar to 2021, density counts were collected at fixed locations across depths within and outside of the remedial area (Figure 2). Several of these sample locations were the same as those in previous surveys in order to determine inter-annual variability in density. Overall, these differences in survey design are considered discountable and provide the same quantitative data with similar or better precisions. The consistent collection of density data used during the multiple surveys allows for year-to-year comparison of historically collected eelgrass and macroalgae data which is one of the major goals of the USACE guidance.

5. Results

Project biologists conducted the walking/wading and vessel-based eelgrass delineation from July 11 to 13, 2022. SCUBA divers conducted density surveys on between July 11 to 14, 2022. Weather conditions were mostly to partly sunny with calm to breezy winds. The water column was moderately turbid for most of the survey with an average visibility of 3 to 6 feet. The delineation surveys covered approximately 28 acres to include the sediment cleanup area, transplant area, and areas of potential use by the contractor for access and staging (Figure 2).

Satellite coverage for the Trimble dGPS datalogger during the delineation survey was favorable, and horizontal precision (95% CI) for the collected positions ranged from 0.5 to 0.8 feet (6 to 10 inches).

5.1 BENTHOS AND MACROALGAE

The slope of the surveyed area from west to east was very gradual (flat) with elevations varying only between +3 and –6 feet MLLW. Substrate was predominantly mud/silt with some wood waste at M-2. Macroalgae was observed in most locations during the survey, particularly in the areas occupied by eelgrass, as well as the area immediately south of the Fidalgo Marina jetty.

Sugar kelp *(Saccharina latissimi)* was the dominant macroalgae species; it was present at all sites and was observed throughout the low-tide walking survey of the intertidal shoreline. A dense collection of sugar kelp (*Saccharina latissimi*) drift was observed immediately south of the Fidalgo Marina jetty. Most, if not all, of the sugar kelp in this area was unattached drift and had likely aggregated in this location due to the currents created by the jetty and tide. Divers observed epiphytic algae on the surface of eelgrass blades in all sample sites.

Hairy mat (*Gracilaria* sp.), *Sargassum muticum, Smithora naiadum*, *Sarcodiotheca gaudichaudii*, and unidentified brown algae were also recorded. Moderate collections of *Ulva* sp. Were present sporadically along the shoreline during the low-tide walking survey, while sugar kelp and hairy mat were also present.

5.2 FISH AND INVERTEBRATE FAUNA

Observations of benthic invertebrates were opportunistic, collected incidental to eelgrass surveys. Species noted were Dungeness crabs (*Metacarcinus magister*) and red rock crab (*Cancer productus*). During the eelgrass boundary delineations, primarily while diving, kelp crab (*Pugettia producta*), white-line dirona (*Dirona albolineata*), and hooded nudibranch (*Melibe leonine*) were also frequently observed. No fish were observed during the surveys.

5.3 ANTHROPOGENIC ELEMENTS

Anthropogenic materials were noted throughout the survey area but were not the focus of this survey. These observations were isolated to the nearshore areas consisted of wood debris and sections of concrete pipe. Wood debris was observed in sites M-2, M-6, and REF-2, while the broken sections of concrete pipe were located immediately east of the end of the gravel spit north of the Phase III dredge prism.

5.4 EELGRASS

The on-foot and vessels surveys delineated eelgrass beds approximately 27.6 acres in size. Photographs 1 and 2 show the eelgrass habitat within the survey area. Density data was collected from four locations throughout the project site and in one reference area; biomass was collected from five locations and the reference area (Table 2). Average shoot density at the five locations analyzed ranged from a low of 2 shoots/m^2 at M-2 to a high of 6 shoots/m^2 at M-7 (Table 3, Figure 3). Trace of wasting disease was observed on blades near the area of site M7 but was not observed in the remainder of the site (Photograph 3).

Table 2. Locations of Density and Biomass Data Collection

Location Name	Parameter	Latitude	Longitude
M-2	Density + Biomass	48.49334819	-122.598257
M-4	Density + Biomass	48.4927123	-122.5978556
M-6	Density Only	48.49378896	-122.5979421
M-7	Density + Biomass	48.49216163	-122.5987248
TLC-1	Biomass Only	48.49221674	-122.5992057
TLC-2	Biomass Only	48.49223624	-122.5983639
REF-2	Density + Biomass	48.4901805	-122.5932989
2014 Transplant *	Density Only	48.49461581 48.49472403 48.49476947	-122.59940214 -122.59951899 -122.59949303
2021 Transplant**	Density Only	Plot 11: 48.49421716 Plot 12: 48.49424344	Plot 11: -122.59910456 Plot 12: -122.59900086

*Location collected at the perimeter corners of the target area.
** Location collected at the center of each plot.

Table 3. Summary of 2022 Eelgrass Density Counts

Site	# of Quadrats (n)	Total # of Shoots	Average # of Shoots per m^2	Per Quadrat (0.25 m^2)				
				Average Count	Min/Max Count	25th/75th Quartile Count	Coefficient of Variance	Variance
REF-2	30	37	5	1	0/4	0/2	90.5	1.2
M-2	30	15	2	1	0/3	0/1	184.4	0.9
M-4	30	28	4	1	0/4	0/2	126.6	1.4
M-6	30	21	3	1	0/3	0/1	138.8	0.9
M-7	30	43	6	1	0/5	0/2	96.5	1.9
2021 Transplant	60	66	4	1	0/6	0/2	122.8	1.8

5.4.1 Transplant Area

The 2022 survey examined both the 2021 transplant area (pre-construction for Phase 3) as well as the 2014 advanced mitigation area. The 2014 advanced mitigation area has receded significantly and now contains 51 shoots; due to the low quantity of shoots all shoots were counted rather than sampling by quadrat. The 2021 transplant area was assessed by quadrat with similar technique to the rest of the sites (Table 3).

5.4.2 Existing Eelgrass Boundary Change

Utilizing the results of previous delineation surveys at the project site since 2011, the size of the eelgrass bed delineated in 2022 was compared to the previous surveys (Table 4). The area used for comparison was the area commonly surveyed between all the surveys from 2011 to 2022, as shown in Figure 4 from the 2019 survey report (Hart Crowser 2020).

Table 4. Comparison of Existing Eelgrass Bed Size between Survey Years

Year	Total Eelgrass Area	
	Acres	Square Feet
2011	14.5	633,515
2015	12.4	538,068
2016	12.2	532,060
2019	11.5	502,804
2021	11.7	511,650
2022	11.8	512,517

Overall, the 2022 eelgrass delineation survey found that while eelgrass coverage increased on the site since 2021, eelgrass shoot density decreased. Expansion of the existing eelgrass bed occurred primarily in the offshore boundaries and to the south, while the eelgrass boundary retreated waterward in the location of the dredge prism.[1] As in 2019, eelgrass was absent to the north of the transplant area and south of the Fidalgo Marina jetty. Extent relative to the project boundary can be found in Figure 4.

5.4.3 Eelgrass Biomass Results

5.4.3.1 Below-ground Biomass

Overall material in all samples was limited to bare roots without rhizomes, leading to very low initial material to be analyzed. When looking at the overall magnitude of below-ground biomass present, there may have been an issue with sampling technique. During sampling, positioning of the two 4-inch cores may have been placed beyond the extent of rhizomal growth or may have failed to reach the depth at which rhizomes were present. When processing, it was also difficult to distinguish live from dead material, which appeared to be nearly identical to wood waste particulates. This leads to high data

[1] The eelgrass delineation at the site (July 2021) was conducted after the completion of the eelgrass transplant from within the dredge prism (April 2021). Therefore, eelgrass was not expected to occur there. However, far less eelgrass was transplanted out of the dredge prism than was expected based on the 2019 delineation survey, indicating the eelgrass had retreated from the area of the dredge prism.

variability in a set with low sample size. Thus, conclusions based on this data set should be interpreted cautiously.

5.4.3.2 Shoot and Above-ground Biomass

Shoot biomass and above-ground biomass data was collected for all six sites. Shoot biomass was calculated by taking the biomass (gDW) of the complete sample and dividing it across the number of shoots per sample (five per sample). This results in an average biomass per shoot across samples. Above-ground biomass is an areal estimate derived from shoot density and shoot biomass. Therefore, sites with higher densities saw an increased above-ground biomass due to the higher quantity of shoots per area.

Overall, there were statistically significant differences in blade length across the sample sites both by site and when all sites within the project boundary were combined and compared to the reference site (Reference vs Project) (p-values of 8.16 e^{-5} and 0.033, respectively). However, no statistically significant difference was determined when groups were combined by whether or not they had received a thin layer cap in 2021 (Reference vs Capped vs Uncapped) (p-value of 0.1). While there appears to be differences in blade size, biomass appears to be comparable across sites (Figure 5, Table 5). Aboveground biomass decreased at all sites save for site M-2. However, biomass per shoot increased in all locations. Samples M-7, TLC-1, and TLC-2 are representative of the 0.5 acres of eelgrass that received 2-inches of thin layer capping with sand material. These areas will be examined for indications of eelgrass health while monitoring continues.

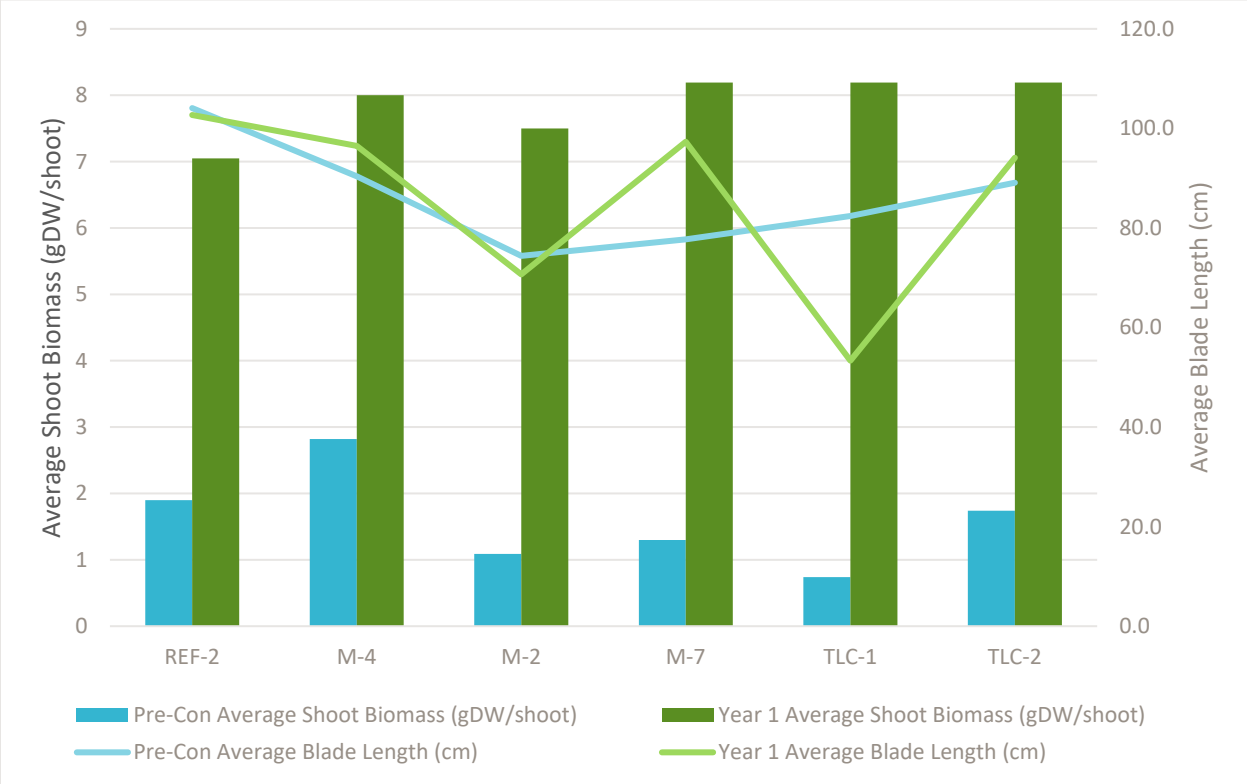

Figure 5. Average Blade Length and Shoot Biomass by Site for Pre-Construction and Year 1

Table 5. Biomass Results Summary														
Sample Site	**Average Blade Length (cm)**		**Average Blade Width (cm)**		**Average # of Blades per Shoot**		**Below-ground Biomass (gDW)***		**Shoot Biomass (gDW/shoot)**		**Above-ground Biomass (gDW/m^2)**		**Change in Biomass**	
	Pre-Con	Year 1	Pre-Con	Year 1	Pre-Con	Year 1	Pre-Con	Year 1	Pre-Con	Year 1	Pre-Con	Year 1	Above-ground	Below-ground
REF-2	104.1	102.7	1.2	1.1	5.4	5.6	-0.1	0.4	1.9	3.9	49.4	27.5	-21.9	0.5
M-4	90.4	96.5	1.1	1.1	7.0	5.9	-0.1	0.5	2.8	4.1	36.7	32.5	-4.2	0.6
M-2	74.4	70.7	0.9	1.0	5.1	6.6	-0.1	0.0	1.1	3.5	10.9	26.0	15.2	0.1
M-7	77.7	97.3	0.9	1.2	5.6	5.6	0.2	0.4	1.3	4.2	45.4	34.4	-11.0	0.2
TLC-1	82.4	53.3	0.8	0.7	5.1	6.4	--	0.1	0.7	3.0	25.8	24.2	-1.5	0.1
TLC-2	89.1	94.1	1.1	1.1	5.2	6.3	--	0.4	1.7	4.1	61.0	33.5	-27.5	0.4

**See section 5.4.3.1 regarding below-ground biomass.*

*** Extrapolated using the density of M-7 due to close proximity; density counts were not conducted at TLC-1 or TLC-2.*

6. Conclusions

Most of the project site consists of silty sand and mud over a gradual slope. Ulvoids and brown algae were dominant in the intertidal/shallow subtidal zone with eelgrass interspersed with brown algae in subtidal areas. The project area is used by a variety of invertebrate and vertebrate fauna, with crab and nudibranch being the two dominant organisms observed.

The 2022 survey delineated eelgrass totaling 27.6 acres, including areas outside of the common delineation areas from previous surveys. Consistent with the observations of the Phase III dredge prism during the April 2021 transplant, the shoreward eelgrass boundary retreated waterward of the prism. Overall density of the bed within and directly adjacent to the remedial action boundary has decreased from an average of 19 shoots/m^2 in 2021 to 4 shoots/m^2. Though this is a marked decrease in eelgrass density, it should be noted that a proportionate decrease was observed within the reference location. The density observed at the reference location was 5 shoots/m^2, decreased from the previously observed 26 m^2 in 2021. Therefore, changes in density within the project may be attributable to changes within the greater eelgrass bed within Fidalgo Bay though density data within Fidalgo Bay is not currently available at the time of this report.

Biomass data will continue to be collected to monitor the health of the eelgrass bed with particular emphasis on the areas targeted for thin-layer capping. Though below-ground biomass will continue to be monitored, alterations in protocol may result in increased recovery of material relative to the findings in this report, as such, the baseline established here within should be considered carefully when analyzing below-ground biomass. Shoot and above-ground biomass for this monitoring event demonstrates varied results across the project site with decreases in above-ground biomass at all sites except for M-2, which includes a comparable decrease at the reference site. However, when examining biomass per shoot an increase is observed across all sites ranging from 144 percent (M-4) to 402 percent (TLC-1). Considering the direct relationship between density and above-ground biomass as stated in Section 5.4.3.2, it can be concluded that the decrease in density is likely a significant contributor to the decrease in above-ground biomass.

The size of the eelgrass bed has decreased since monitoring began in 2011; though, after 2019 the bed has increased in area in years 2021 and 2022. The eelgrass shoots transplanted from the dredge prism appear healthy and growing in comparable density to the project area. While this first year of monitoring can indicate immediate success of planting, growth and stability of the transplant site cannot be accurately determined until more time as passed. Monitoring of other eelgrass transplant projects around Puget Sound demonstrate that successful transplant efforts will begin to show an increase in shoot density by years 2 or 3 (Thom et al 2008).

Eelgrass is plastic in morphology and mobile using horizontal rhizome growth to establish clonal growth while also being highly variable in reproductive effort between years, becoming a moving target to determine stability (Marba et al 2004). There were no observations of significant wasting within the bed, the only observation being a few shoots at site M-7 in 2022 (Year 1). The natural variability in eelgrass growth in tandem with changes in Fidalgo Bay should be considered when determining health of the existing bed. Understanding eelgrass bed stability will be necessary to assess effects of the project on the existing bed and should be collaboratively determined with the Samish Tribe and other local partners investigating current eelgrass health in Fidalgo Bay.

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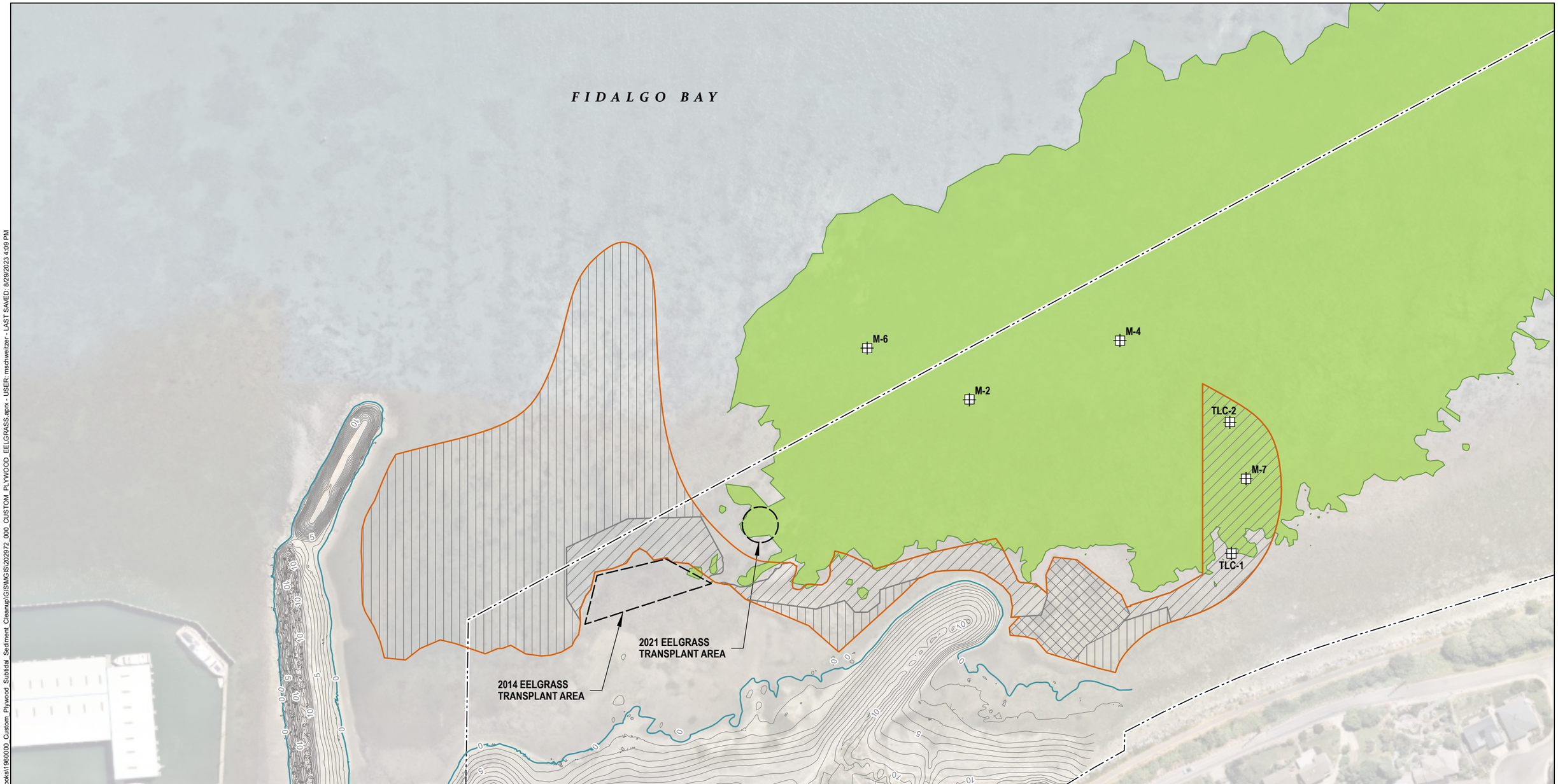
FIGURES



LEGEND

- EELGRASS BIOMASS & DENSITY (REF# & M#) OR BIOMASS (TLC-#) MONITORING LOCATION (SEE NOTE 3)
- BATHYMETRY, 1-FT INTERVAL
- MEAN LOWER LOW WATER
- JULY 2022 EELGRASS SURVEY
- PROJECT LIMIT LINE
- 2-INCH THIN LAYER CAP (TLC) AREA
- 8-INCH TLC AREA
- DREDGE & BACKFILL AREA
- PROPERTY LINE

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 11 JULY 2022
3. EXCEPTION, SAMPLE M6 IS ONLY EELGRASS DENSITY.

N

0 150 300
SCALE IN FEET

HALEY ALDRICH

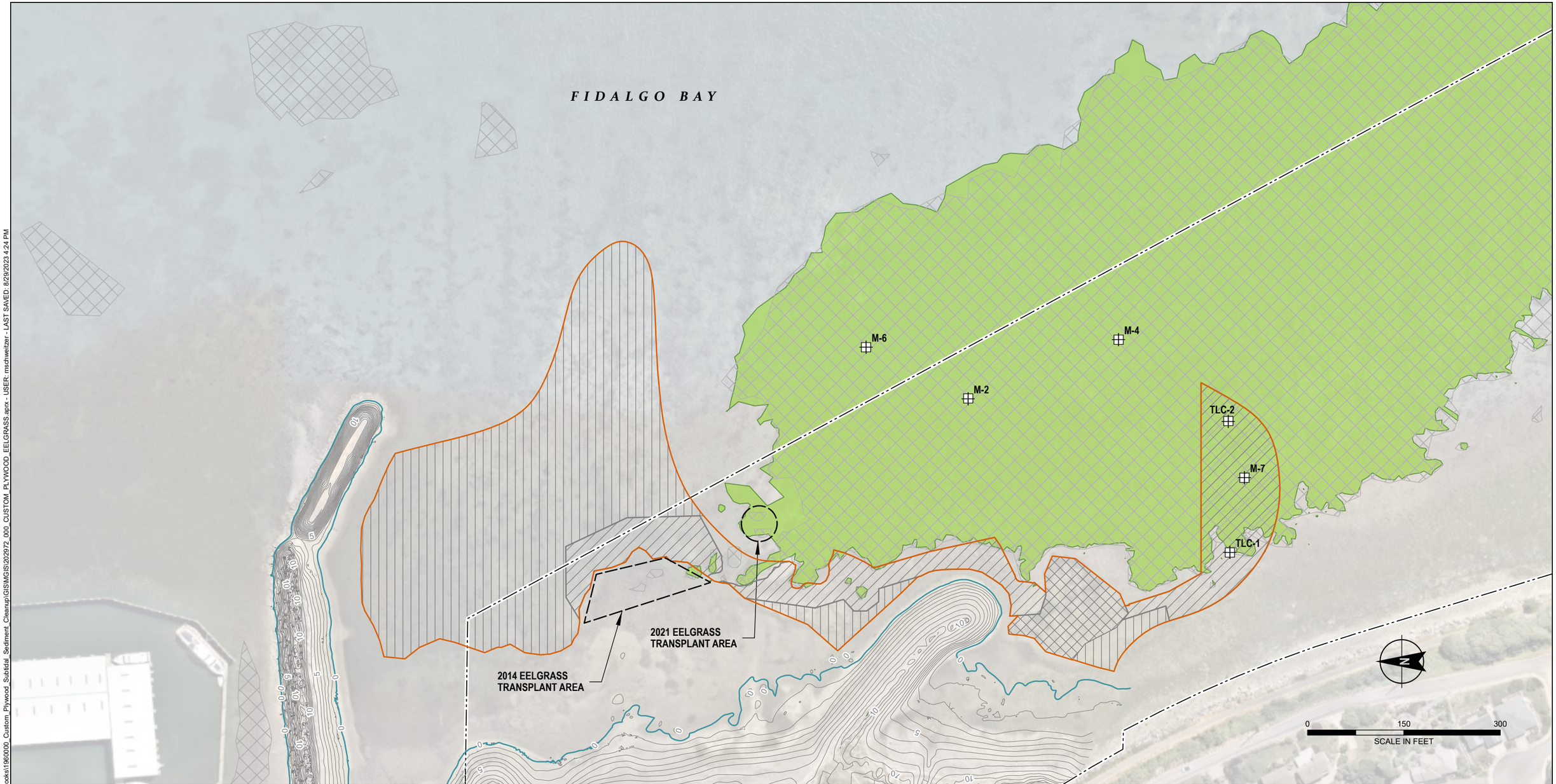
CUSTOM PLYWOOD
ANACORTES, WASHINGTON

EELGRASS SURVEY AREA

AUGUST 2023

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\sea_projects\Notebooks\1960000_Custom_Plywood_Subtidal_Sediment_Cleanup\GIS\MGIS\2029772_000_CUSTOM_PLYWOOD_EELGRASS.aprx - USER: mschweitzer - LAST SAVED: 8/29/2023 4:09 PM



LEGEND

- EELGRASS BIOMASS & DENSITY (REF# & M#) OR BIOMASS (TLC-#) MONITORING LOCATION (SEE NOTE 3)
- BATHYMETRY, 1-FT INTERVAL
- MEAN LOWER LOW WATER
- JULY 2022 EELGRASS SURVEY
- JULY 2021 EELGRASS SURVEY
- PROJECT LIMIT LINE
- 2-INCH THIN LAYER CAP (TLC) AREA
- 8-INCH TLC AREA
- DREDGE & BACKFILL AREA
- PROPERTY LINE

1. TOTAL AREA SURVEYED IN COMMON = 27 ACRES
2. TOTAL AREA OF EELGRASS IN YEAR 1 (2022) SPECIFICALLY WITHIN THIS OVERLAPPING AREA IN COMMON (TO STANDARDIZE THE EELGRASS AREA) = 27 ACRES (ISN'T THIS THE SAME AS #1?)
3. DIFFERENCE IN AREA BETWEEN PRE-CON TO YEAR 1 OVERALL
   PRE-CON: 66.4 ACRES
   YEAR 1: 50 ACRES
4. TOTAL AREA OF EELGRASS WITHIN THE TRANSPLANT/ MITIGATION AREA. I CAN POINT TO THESE AREAS AND/OR PROVIDE COORDINATES. (I NEED THIS INFO.)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: NEARMAP, 11 JULY 2022
3. EXCEPTION, SAMPLE M6 IS ONLY EELGRASS DENSITY.

HALEY ALDRICH

CUSTOM PLYWOOD
ANACORTES, WASHINGTON

CHANGE ANALYSIS: PRE-CONSTRUCTION TO YEAR 1

AUGUST 2023

FIGURE 4

APPENDIX A
Photograph Log

Photo 1: Typical eelgrass habitat.

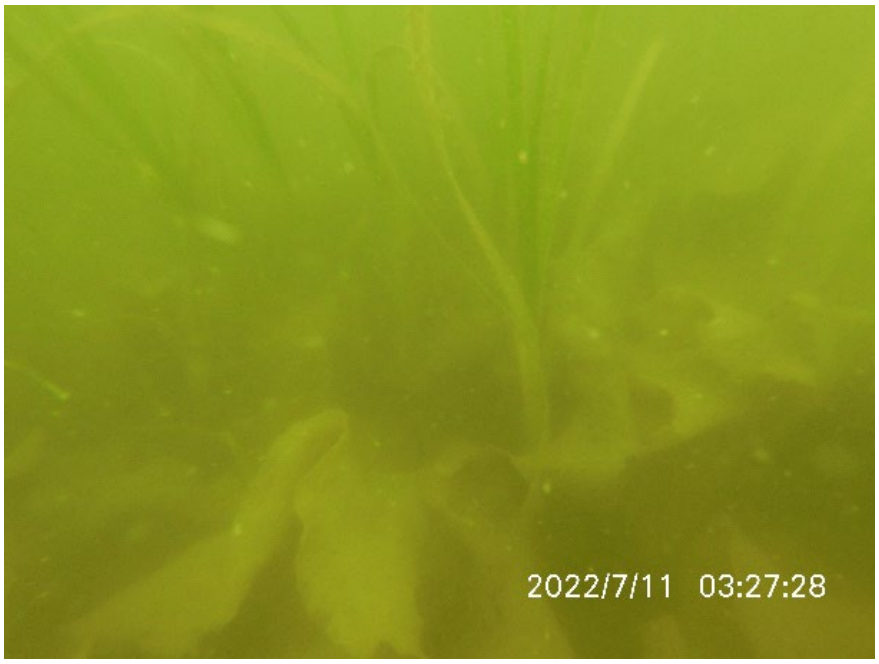


Photo 2: Typical eelgrass habitat.

Photo 3: Trace wasting disease observed at M7.

Photo 4: Diver collecting biomass samples

Photo 5: Eelgrass observed at low tide at TLC1.

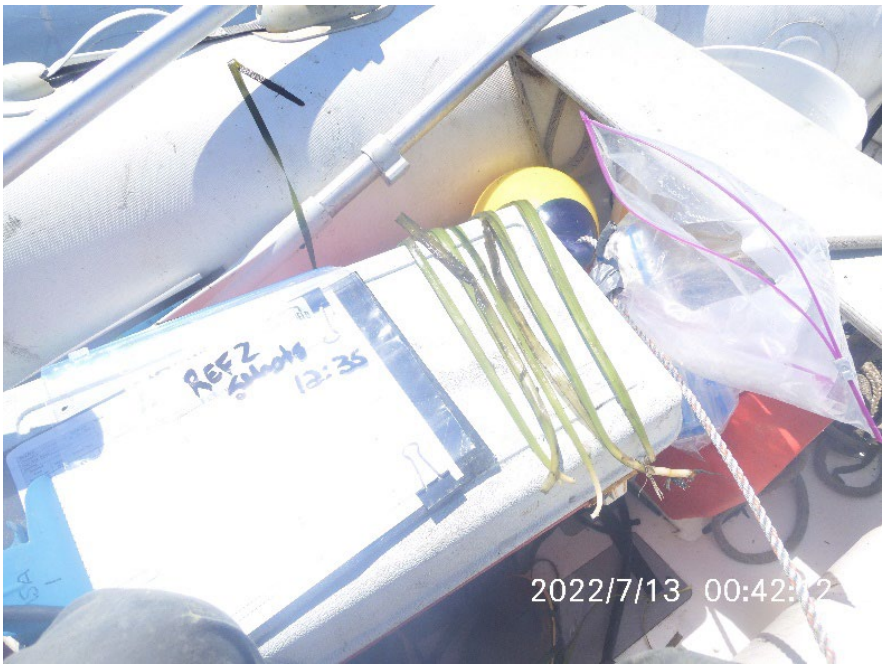


Photo 6: Aboveground shoots collected at REF2.

APPENDIX K
TLC Sediment Sample Chemical Data Quality Review and Laboratory Reports

Haley & Aldrich, Inc.
600 South Meyer Ave
Suite 100
Tucson, AZ 85701
520.289.8621

Data Usability Summary Report

Project Name: Custom Plywood Subtidal Sediment Cleanup

Project Description: Sediment Samples

Sample Date(s): 20 July 2022 through 16 November 2022

Analytical Laboratory: Analytical Resources, LLC (Tukwila, WA)

Validation Performed by: Sarah Mass

Validation Reviewed by: Katherine Miller

Validation Date: 16 January 2022

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for Sample Delivery Group(s) (SDG) listed. This DUSR is organized into the following sections:

1. **Sample Delivery Group Number 22K0359**
2. **Explanations**
3. **Glossary**
4. **Abbreviations**
5. **Qualifiers**

References

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Function Guidelines (NFG) for High Resolution Superfund Methods Data Review.
- The project-specific Sampling Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP), herein referred to as the specified limits (see references section).

Data reported in this sampling event were reported to the laboratory method detection limit (MDL). Results found between the MDL and reporting limit (RL) are flagged J as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOP). The results presented in each laboratory report were found to be compliant with the data quality objectives (DQO) for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Number 22K0359

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number 22K0359, dated 16 December 2022. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Custody seals were not used on the sample cooler(s).

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods	Holding Time
CP-TLC-8-3-22	N	22K0359-01	11/15/2022	SE	EPA1613B	365 days
CP-TLC-8-1-22	N	22K0359-02	11/15/2022	SE		
CP-TLC-8-2-22	N	22K0359-03	11/15/2022	SE		
CP-TLC-2-1-22	N	22K0359-04	11/15/2022	SE		
CP-TLC-2-2-22	N	22K0359-05	11/15/2022	SE		
CP-TLC-8-6-22	N	22K0359-06	11/15/2022	SE		
CP-TLC-8-4-22	N	22K0359-07	11/15/2022	SE		
CP-TLC-8-5-22	N	22K0359-08	11/15/2022	SE		
CP-TLC-8-7-22	N	22K0359-09	11/15/2022	SE		
CP-TLC-2-3-22	N	22K0359-10	11/15/2022	SE		
CP-PH3B-1-22	N	22K0359-11	11/16/2022	SE		
CP-PH3B-2-22	N	22K0359-12	11/16/2022	SE		
CP-TLC2-5-22	N	22K0359-13	11/16/2022	SE		
CP-TLC2-6-22	N	22K0359-14	11/16/2022	SE		
CP-TLC2-7-22	N	22K0359-15	11/16/2022	SE		
CP-TLC2-8-22	N	22K0359-16	11/16/2022	SE		
CP-TLC8-12-22	N	22K0359-17	11/16/2022	SE		
CP-DS-9-22	N	22K0359-18	11/16/2022	SE		
CP-DS-10-22	N	22K0359-19	11/16/2022	SE		
CP-DS-11-22	N	22K0359-20	11/16/2022	SE		
CP-DS-8-22	N	22K0359-21	11/16/2022	SE		
CP-TLC2-4-22	N	22K0359-22	11/16/2022	SE		
CP-WW-1-22	N	22K0359-23	07/20/2022	SE		
CP-WW-2-22	N	22K0359-24	07/20/2022	SE		
CP-WW-3-22	N	22K0359-25	07/20/2022	SE		
CP-TLC2-3-22-D	FD	22K0359-26	11/15/2022	SE		

1.2 CASE NARRATIVE

The laboratory report case narrative lists various quality control exceedances (e.g., possible chlorinated diphenyl ether interference) not evaluated by this review thus, no qualifiers were applied to the reported results.

1.3 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol.

Cooler(s) temperature on arrival to the laboratory was: 5.0 degrees Celsius.

1.4 REPORTING LIMITS AND SAMPLE DILUTIONS

The MDLs/RLs for the samples within this SDG met or were below the minimum RL requirements specified by the project specific QAPP.

No sample dilutions were performed for the analysis of the samples in this report.

Sample ID	Lab ID	Analyte/ Method	Dilution Factor	Issue/Explanation
CP-PH3B-2-22	22K0359-12	OCDD	1x	Analyte concentration exceeded calibration curve and was qualified "E" by the laboratory. Qualified "J" in validation.

1.5 REPORTING BASIS (WET/DRY)

Refer to section E 1.1. Sediment data in this SDG were reported on a dry weight basis.

Where reported, percent solid results were reviewed and found to be within limits.

1.6 SURROGATE RECOVERY COMPLIANCE

Refer to section E 1.2. The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory specified quality control (QC) limits.

1.7 LABORATORY CONTROL SAMPLES

Refer to section E 1.3. Compounds associated with the laboratory control samples (LCS) analyses associated with client samples exhibited recoveries within the specified limits.

1.8 MATRIX SPIKE SAMPLES

Refer to section E 1.4. The sample(s) below were used for matrix spike/matrix spike duplicate (MS/MSD):

Lab Sample Number	Matrix Spike/Matrix Spike Duplicate Sample Client ID	Method(s)
22K0359-01	CP-TLC-8-3-22	EPA1613B
22K0359-20	CP-DS-11-22	

The MS/MSD recoveries and the relative percent difference (RPD) between the MS and MSD results were within the specified limits.

1.9 BLANK SAMPLE ANALYSIS

Refer to section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred with the following exceptions:

Blank Type	Batch ID	Analyte Detected in Blank	Concentration (ng/kg)	Qualifier	Affected Samples
Method Blank	BKK0746	1,2,3,7,8-PeCDF	0.119 EMPC,J	RL U detects <RL	-02, -04, -05, -13, -15, -16
		OCDD	1.37 J	RL U detects <3x RL	-06, -07, -08, -18
	BKK0747	1,2,3,7,8,9-HxCDD	0.581 EMPC,J	RL U detects <RL	-20, -26
		1,2,3,4,6,7,8-HpCDF	0.404 EMPC,J	NA	None, results > RL
		1,2,3,4,6,7,8-HpCDD	0.687 EMPC,J		
		OCDF	1.09 EMPC,J	RL U detects <3x RL	-20
		OCDD	4.45 J	NA	None, results >3x RL

1.10 DUPLICATE SAMPLE ANALYSIS

Refer to section E 1.6.

The following sample(s) were used for field duplicate analysis. RPDs were all below 35 percent for soil/sediment (or the absolute difference rule was satisfied if detects were less than 5 times the RL). Any exceptions are noted below and qualified.

Primary Sample ID	Duplicate Sample ID	Method(s)
CP-TLC-2-3-22	CP-TLC2-3-22-D	E1613

Field Duplicate RPD Calculations:

Method(s): USEPA 1613B				
Analyte (ng/kg)	Primary Sample ID	Duplicate Sample ID	% RPD	Qualification
	CP-TLC-2-3-22	CP-TLC2-3-22-D		
Total Pentachlorodibenzofuran (PeCDF)	3.6	1.87	NA	J/UJ, Abs. Diff. > RL
Total Tetrachlorodibenzo-p-dioxin (TCDD)	5.61	2.25	NA	J/UJ, Abs. Diff. > RL
Total Tetrachlorodibenzofuran (TCDF)	2.11	ND	NA	J/UJ, Abs. Diff. > RL
Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture	24.3	13.5	57	J/UJ, RPD>35
Total Hexachlorodibenzofuran (HxCDF)	19	9.77	64	J/UJ, RPD>35

1.11 PRECISION AND ACCURACY

Refer to section E 1.7. Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

1.12 DIOXIN/FURAN ESTIMATED MAXIMUM POSSIBLE CONCENTRATION (EMPC)

Refer to section E 1.9. The laboratory reported the following EMPC flags:

Lab ID	Analyte	Concentration	Qualifier
22K0359-01	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.176	Result UJ
22K0359-01	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.378	Result UJ
22K0359-01	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.35	Result UJ
22K0359-01	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.293	Result UJ
22K0359-03	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.601	Result UJ
22K0359-04	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1.05	Result J
22K0359-04	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.686	Result UJ
22K0359-04	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.647	Result UJ
22K0359-04	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.315	Result UJ

Lab ID	Analyte	Concentration	Qualifier
22K0359-05	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1.42	Result J
22K0359-05	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.17	Result J
22K0359-05	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.703	Result UJ
22K0359-05	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.31	Result UJ
22K0359-06	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.899	Result UJ
22K0359-07	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.987	Result UJ
22K0359-07	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	3.17	Result J
22K0359-07	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.14	Result UJ
22K0359-07	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	0.17	Result UJ
22K0359-08	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	2.58	Result J
22K0359-08	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	0.855	Result UJ
22K0359-08	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.203	Result UJ
22K0359-08	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.123	Result UJ
22K0359-09	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.29	Result UJ
22K0359-09	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.138	Result UJ
22K0359-10	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.211	Result UJ
22K0359-10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.53	Result J
22K0359-10	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1.1	Result J
22K0359-10	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.182	Result UJ
22K0359-11	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	2.37	Result J
22K0359-11	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	2.06	Result J
22K0359-11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	4.35	Result J
22K0359-11	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1.06	Result J
22K0359-11	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	1.1	Result J
22K0359-11	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.547	Result UJ
22K0359-12	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.828	Result UJ
22K0359-13	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.488	Result UJ
22K0359-13	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.549	Result UJ
22K0359-14	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1.57	Result J
22K0359-14	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	1.1	Result J
22K0359-14	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.841	Result UJ
22K0359-14	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.587	Result UJ
22K0359-15	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.484	Result UJ
22K0359-15	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.899	Result UJ
22K0359-15	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.328	Result UJ
22K0359-16	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.563	Result UJ
22K0359-16	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.38	Result UJ
22K0359-16	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	1.27	Result J
22K0359-16	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.58	Result UJ
22K0359-16	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.572	Result UJ
22K0359-16	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	0.3	Result UJ
22K0359-16	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	0.266	Result UJ
22K0359-19	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	0.311	Result UJ
22K0359-19	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.297	Result UJ
22K0359-19	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	0.281	Result UJ

Lab ID	Analyte	Concentration	Qualifier
22K0359-19	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.315	Result UJ
22K0359-19	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.166	Result UJ
22K0359-20	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	2.14	Result J
22K0359-21	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	0.395	Result UJ
22K0359-22	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	1.03	Result J
22K0359-22	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	4.52	Result J
22K0359-22	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	1.09	Result J
22K0359-24	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	1.53	Result J
22K0359-24	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	3.09	Result J
22K0359-26	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	1.06	Result J
22K0359-26	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	0.391	Result UJ
22K0359-26	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	0.573	Result UJ
22K0359-26	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	0.339	Result UJ

1.13 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable as no data was rejected. A summary of qualifiers applied to this data set is shown in Table 1.

2. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.1 Reporting Basis (Wet/Dry)
  - Soil samples can be reported on either a wet (as received) or dry weight basis. Dry weight data indicate calculations were made to compensate for the moisture content of the soil sample.
  - Percent (%) solids should be appropriately considered when evaluating analytical results for non-aqueous samples. Sediments with high moisture content may or may not be successfully analyzed by routine analytical methods. Samples should have greater than or equal to 30 percent solids to be appropriately quantified.
- E 1.2 Surrogate Recovery Compliance
  - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds.
- E 1.3 Laboratory Control Samples
  - The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
  - Matrix spike/matrix spike duplicate (MS/MSD) data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
- E 1.5 Blank Sample Analysis
  - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
  - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.
  - The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The relative percent difference (RPD) or absolute difference evaluated for each duplicate sample pair to monitor the reproducibility of the data.
- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the relative percent difference (RPD) found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a

MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.

  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the percent recovery (%R) of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.

- E 1.9 Dioxin/Furan Estimated Maximum Possible Concentration
  - An Estimated Maximum Possible Concentration (EMPC) is a worst-case estimate of the concentration for a dioxin/furan based on all identification criteria being met except the ion abundance ratio criteria, or if a peak representing a chlorinated diphenyl ether was detected.

3. Glossary

Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - EB Equipment Blank Sample
  - FB Field Blank Sample
  - FD Field Duplicate Sample
  - N Primary Sample
  - TB Trip Blank Sample
- Units:
  - µg/kg microgram per kilogram
  - µg/L microgram per liter
  - µg/m^3 microgram per cubic meter
  - mg/kg milligram per kilogram
  - mg/L milligram per liter
  - ng/kg nanogram per kilogram
  - ppb v/v parts per billion volume/volume
  - pCi/L picocuries per liter
  - pg/g picograms per gram
- Matrices:
  - AA Ambient Air
  - GS Soil Gas
  - GW/WG Groundwater
  - QW Water Quality
  - IA Indoor Air
  - SE Sediment
  - SO Soil
  - WQ Water Quality control matrix
  - WS Surface Water
- Table Footnotes:
  - NA Not applicable
  - ND Non-detect
  - NR Not reported
- Common Symbols:
  - % percent
  - < less than
  - ≤ less than or equal to
  - > greater than
  - ≥ greater than or equal to
  - = equal
  - °C degrees Celsius
  - ± plus or minus
  - ~ approximately
  - x times (multiplier)

4. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
%v/v	Percent volume by volume
µg/L	micrograms per liter
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
amu	atomic mass unit
BPJ	Best Professional Judgement
BS	Blank Spike
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CCVL	Continuing Calibration Verification Low
COC	Chain of Custody
COM	Combined Isotope Calculation
Cr (VI)	Hexavalent Chromium
CRI	Collision Reaction Interface
DoD	Department of Defense
DQO	data quality objective
DUSR	Data Usability Summary Report
EMPC	Estimated Maximum Possible Concentration
FBK	Field Blank Contamination
FDP	Field Duplicate
GC	Gas Chromatograph
GC/MS	Gas Chromatography/Mass Spectrometry
GPC	Gel Permeation Chromatography
H2	Hydrogen gas
HCl	Hydrochloric Acid
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP/MS	Inductively Coupled Plasma/ Mass Spectrometry
ICV	Initial Calibration Verification
ICVL	Initial Calibration Verification Low
IPA	Isopropyl Alcohol
LC	Laboratory Control
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MBK	Method Blank Contamination
MDC	Minimum Detectable Concentration
MDL	Laboratory Method Detection Limit
mg/kg	milligrams per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	not applicable
ND	Non-Detect
NFG	National Functional Guidelines
NH_3	Ammonia
NYSDEC	New York State Department of Environmental Conservation
PAH	polycyclic aromatic hydrocarbon
PCB	Polychlorinated Biphenyl
PDS	Post Digestion Spike
PEM	Performance Evaluation Mixture
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorbutanoic Acid
PFD	Perfluorodecalin
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane sulfonate
PFPeA	Perfluoropentanoic Acid
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
R^2	R-squared value
Ra-226	Radium-226
Ra-228	Radium-228
RESC	Resolution Check Measure
RL	Laboratory Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factors
RT	Retention Time
SAP	sampling analysis plan
SDG	Sample Delivery Group
SIM	Selected ion monitoring
SOP	Laboratory Standard Operating Procedures
SPE	Solid Phase Extraction
SVOC	Semi-Volatile Organic Compounds
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
amu	atomic mass unit
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds
WP	Work Plan

5. Qualifiers

The qualifiers below are from the USEPA National Functional Guidelines and the data in the DUSR may contain these qualifiers:

- Concentration (C) Qualifiers:

  U — The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or "ND".

  B — The compound was found in the sample and its associated blank. Its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers:

  E — The compound was quantitated above the calibration range.

  D — The concentration is based on a diluted sample analysis.

- Validation Qualifiers:

  J — The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  J+ — The result is an estimated quantity, but the result may be biased high.

  J- — The result is an estimated quantity, but the result may be biased low.

  J/UJ — as listed in exception tables J applies to detected data and UJ applies to non-detected data as reported by the laboratory.

  UJ — The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.

  NJ — The analysis indicated the presence of a compound for which there is presumptive evidence to make a tentative identification; the associated numerical value is an estimated concentration only.

  R — The sample results were rejected as unusable; the compound may or may not be present in the sample.

  S — Result is suspect. See DUSR for details.

References

1. United States Environmental Protection Agency, 2020. National Functional Guidelines for High Resolution Superfund Methods Data Review. EPA-542-R-20-007. November 2020.
2. Haley & Aldrich, 2022. Custom Plywood Mill Site Cleanup Site Identification No. 4533 Phase III Subtidal Sediment Cleanup Sampling and Analysis Plan/Quality Assurance Project Plan, Fidalgo Bay, Anacortes, Washington. November 2022.

TABLE 1
SYSTEM PERFORMANCE SUMMARY
CUSTOM PLYWOOD SUBTIDAL SEDIMENT CLEANUP
TUKWILA, WASHINGTON

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
22K0359	E1613	NA	CP-DS-10-22	22K0359-19	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.311 J	0.311 UJ	EMC
22K0359	E1613	NA	CP-DS-10-22	22K0359-19	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.281 J	0.281 UJ	EMC
22K0359	E1613	NA	CP-DS-10-22	22K0359-19	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.297 J	0.297 UJ	EMC
22K0359	E1613	NA	CP-DS-10-22	22K0359-19	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.315 J	0.315 UJ	EMC
22K0359	E1613	NA	CP-DS-10-22	22K0359-19	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N	Yes	0.166 J	0.166 UJ	EMC
22K0359	E1613	NA	CP-DS-11-22	22K0359-20	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	Yes	2.14	2.14 J	EMC
22K0359	E1613	NA	CP-DS-8-22	22K0359-21	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.395 J	0.395 UJ	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	2.06	2.06 J	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	2.37	2.37 J	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	4.35	4.35 J	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	1.06	1.06 J	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	1.1	1.1 J	EMC
22K0359	E1613	NA	CP-PH3B-1-22	22K0359-11	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.547 J	0.547 UJ	EMC
22K0359	E1613	NA	CP-PH3B-2-22	22K0359-12	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.828 J	0.828 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-1-22	22K0359-04	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	1.05	1.05 J	EMC
22K0359	E1613	NA	CP-TLC-2-1-22	22K0359-04	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.686 J	0.686 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-1-22	22K0359-04	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.647 J	0.647 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-1-22	22K0359-04	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	0.315 J	0.315 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-2-22	22K0359-05	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	1.42	1.42 J	EMC
22K0359	E1613	NA	CP-TLC-2-2-22	22K0359-05	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	1.17	1.17 J	EMC
22K0359	E1613	NA	CP-TLC-2-2-22	22K0359-05	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.703 J	0.703 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-2-22	22K0359-05	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.31 J	0.31 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	2.53	2.53 J	EMC
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.211 J	0.211 UJ	EMC
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	1.1	1.1 J	EMC
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.182 J	0.182 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-2-22	22K0359-03	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.601 J	0.601 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-3-22	22K0359-01	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.176 J	0.176 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-3-22	22K0359-01	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.378 J	0.378 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-3-22	22K0359-01	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.35 J	0.35 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-3-22	22K0359-01	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.293 J	0.293 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-4-22	22K0359-07	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	N	Yes	3.17	3.17 J	EMC
22K0359	E1613	NA	CP-TLC-8-4-22	22K0359-07	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.987 J	0.987 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-4-22	22K0359-07	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.14 J	0.14 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-4-22	22K0359-07	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.17 J	0.17 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-5-22	22K0359-08	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	N	Yes	2.58	2.58 J	EMC
22K0359	E1613	NA	CP-TLC-8-5-22	22K0359-08	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.855 J	0.855 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-5-22	22K0359-08	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.203 J	0.203 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-5-22	22K0359-08	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.123 J	0.123 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-6-22	22K0359-06	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.899 J	0.899 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-7-22	22K0359-09	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.29 J	0.29 UJ	EMC
22K0359	E1613	NA	CP-TLC-8-7-22	22K0359-09	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.138 J	0.138 UJ	EMC
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	1.06	1.06 J	EMC
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.391 J	0.391 UJ	EMC
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.573 J	0.573 UJ	EMC
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N	Yes	0.339 J	0.339 UJ	EMC
22K0359	E1613	NA	CP-TLC2-4-22	22K0359-22	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	1.03	1.03 J	EMC
22K0359	E1613	NA	CP-TLC2-4-22	22K0359-22	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	4.52	4.52 J	EMC
22K0359	E1613	NA	CP-TLC2-4-22	22K0359-22	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	1.09	1.09 J	EMC
22K0359	E1613	NA	CP-TLC2-5-22	22K0359-13	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.488 J	0.488 UJ	EMC
22K0359	E1613	NA	CP-TLC2-5-22	22K0359-13	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.549 J	0.549 UJ	EMC
22K0359	E1613	NA	CP-TLC2-6-22	22K0359-14	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	1.57	1.57 J	EMC
22K0359	E1613	NA	CP-TLC2-6-22	22K0359-14	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.841 J	0.841 UJ	EMC
22K0359	E1613	NA	CP-TLC2-6-22	22K0359-14	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	1.1	1.1 J	EMC
22K0359	E1613	NA	CP-TLC2-6-22	22K0359-14	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.587 J	0.587 UJ	EMC
22K0359	E1613	NA	CP-TLC2-7-22	22K0359-15	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.484 J	0.484 UJ	EMC
22K0359	E1613	NA	CP-TLC2-7-22	22K0359-15	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.328 J	0.328 UJ	EMC
22K0359	E1613	NA	CP-TLC2-7-22	22K0359-15	2,3,7,8-Tetrachlorodibenzofuran (TCDF)	N	Yes	0.899 J	0.899 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	N	Yes	0.563 J	0.563 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.38 J	0.38 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	1.27	1.27 J	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	N	Yes	0.58 J	0.58 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	N	Yes	0.572 J	0.572 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	0.3 J	0.3 UJ	EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	0.266 J	0.266 UJ	EMC
22K0359	E1613	NA	CP-WW-2-22	22K0359-24	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	1.53	1.53 J	EMC
22K0359	E1613	NA	CP-WW-2-22	22K0359-24	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	3.09	3.09 J	EMC
22K0359	E1613	NA	CP-PH3B-2-22	22K0359-12	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	Yes	6010	6010 J	EXE
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture	N	Yes	24.3	24.3 J	FDP
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	Total Hexachlorodibenzofuran (HxCDF)	N	Yes	19	19 J	FDP
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	Total Pentachlorodibenzofuran (PeCDF)	N	Yes	3.6	3.6 J	FDP
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	Total Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	5.61	5.61 J	FDP
22K0359	E1613	NA	CP-TLC-2-3-22	22K0359-10	Total Tetrachlorodibenzofuran (TCDF)	N	Yes	2.11	2.11 J	FDP
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	Total Hexachlorodibenzo-p-dioxin (HxCDD), Mixture	N	Yes	13.5	13.5 J	FDP
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	Total Hexachlorodibenzofuran (HxCDF)	N	Yes	9.77	9.77 J	FDP
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	Total Pentachlorodibenzofuran (PeCDF)	N	Yes	1.87	1.87 J	FDP
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	Total Tetrachlorodibenzo-p-dioxin (TCDD)	N	Yes	2.25	2.25 J	FDP
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	Total Tetrachlorodibenzofuran (TCDF)	N	Yes	U	UJ	FDP
22K0359	E1613	NA	CP-DS-9-22	22K0359-18	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-TLC-2-2-22	22K0359-05	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-TLC-8-4-22	22K0359-07	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-TLC-8-5-22	22K0359-08	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-TLC-8-6-22	22K0359-06	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-TLC2-5-22	22K0359-13	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	U	MBK
22K0359	E1613	NA	CP-DS-11-22	22K0359-20	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.732	0.997 UJ	MBK, EMC
22K0359	E1613	NA	CP-TLC-2-1-22	22K0359-04	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	UJ	MBK, EMC
22K0359	E1613	NA	CP-TLC-8-1-22	22K0359-02	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	UJ	MBK, EMC
22K0359	E1613	NA	CP-TLC2-3-22-D	22K0359-26	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	N	Yes	0.859	0.996 UJ	MBK, EMC
22K0359	E1613	NA	CP-TLC2-7-22	22K0359-15	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	UJ	MBK, EMC
22K0359	E1613	NA	CP-TLC2-8-22	22K0359-16	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	N	Yes	U	UJ	MBK, EMC

Notes:

EMC = Estimated maximum possible concentration results for dioxins.

EXE = Result exceeds the calibration range.

FDP = Field duplicate qualifier due to an exceedance of the specified limits.

MBK = Method blank contamination.

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

U = The compound was analyzed for but not detected.

UJ = The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.

Analytical Resources, LLC
Analytical Chemists and Consultants

16 December 2022

Jessica Blanchette
Haley & Aldrich
3131 Elliott Avenue, Suite 600
Seattle, WA 98121

RE: Custom Plywood (0202972-000)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
22K0359	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

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

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006-012

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 22I0359	Turn-around Requested: Standard	Page: 1 of 3	
ARI Client Company: Haley + Aldrich	Phone: 360.720.1279	Date: 11/17/22	Ice Present?
Client Contact: J. Blanchette		No. of Coolers:	Cooler Temps:
Client Project Name: Custom Plywood (CP111A)			
Client Project #: 0202972-000	Samplers: JPB / MSA		

Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: dioxins/furans								Notes/Comments
CP-TLC8-3-22	11/15/22	1203	Sediment	1	X								
CP-TLC8-1-22 (JPB)		1210		1	X								"CP-TLC8-1-22"
CP-TLC8-2-22		1220		1	X								
CP-TLC2-1-22		1230		1	X								
CP-TLC2-2-22		1240		1	X								
CP-TLC8-6-22		1352		1	X								
CP-TLC8-4-22		1404		1	X								
CP-TLC8-5-22		1416		1	X								
CP-TLC8-7-22		1445		1	X								
CP-TLC2-3-22		1500		~~JPB~~ 1	X								

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: JP Blanchette	Printed Name: Roman Miller	Printed Name:	Printed Name:
	Company: Haley + Aldrich	Company: ARI	Company:	Company:
	Date & Time: 11/17/22 1650	Date & Time: 11/17/22 1650	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 22K0359	Turn-around Requested: Standard
ARI Client Company: Haley + Aldrich	Phone: 360.720.1279
Client Contact: Jessica Blanchette	
Client Project Name: Custom Plywood (CP111A)	
Client Project #: 0202972-000	Samplers: JPB/MSH

Page: 2 of 3

Date: 11/17/22 Ice Present?

No. of Coolers: Cooler Temps:

Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: diborins' furans	Notes/Comments
CP-PH3B-1-22	11/16/22	1030	Sediment	1	X	
CP-PH3B-2-22		1035		2	X	one labeled for disposal one labeled for analysis
CP-TLC2-5-22		1040		1	X	
CP-TLC2-6-22		1050		1	X	
CP-TLC2-7-22		1057		1	X	
CP-TLC2-8-22		1105		1	X	
CP-TLC8-12-22		1115		1	X	
CP-DS-9-22		1125		1	X	
CP-DS-10-22		1303		1	X	
CP-DS-11-22		1307		1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: J Blanchette	Printed Name: Roman Miller	Printed Name:	Printed Name:
	Company: Haley + Aldrich	Company: ARI	Company:	Company:
	Date & Time: 11/17/22 1650	Date & Time: 11/17/22 1650	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 22k0359	Turn-around Requested: Standard	Page: 3 of 3	
ARI Client Company: Haley + Aldrich	Phone: 360.720.1279	Date: 11/17/22	Ice Present?
Client Contact: J Blanchette		No. of Coolers:	Cooler Temps:
Client Project Name: Custom Plywood (CP111A)			
Client Project #: 0202972-000	Samplers: JPB/MSA		

Analytical Resources, LLC
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: dioxins/furans								Notes/Comments
CP-DS-8-22	11/16/22	1322	sediment	1	X								
CP-TLC2-4-22	11/16/22	1341		1	X								
CP-WW-1-22	7/20/22	1200		1	X								run out of hold
CP-WW-2-22	7/20/22	1230		1	X								run out of hold
CP-WW-3-22	7/20/22	1300		1	X								run out of hold
CP-TLC2-3-22-D	11/15/22	1500	sediment	1	X								field duplicate

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
*may composite CPWW-1, 2, +3. JBlanchette will follow up with instructions.	Printed Name: J Blanchette	Printed Name: Rowan Miller	Printed Name:	Printed Name:
	Company: Haley+Aldrich	Company: ARI	Company:	Company:
	Date & Time: 11/17/22 1650	Date & Time: 11/17/22 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CP-TLC-8-3-22	22K0359-01	Solid	15-Nov-2022 12:03	17-Nov-2022 16:10
CP-TLC-8-1-22	22K0359-02	Solid	15-Nov-2022 12:10	17-Nov-2022 16:10
CP-TLC-8-2-22	22K0359-03	Solid	15-Nov-2022 12:20	17-Nov-2022 16:10
CP-TLC-2-1-22	22K0359-04	Solid	15-Nov-2022 12:30	17-Nov-2022 16:10
CP-TLC-2-2-22	22K0359-05	Solid	15-Nov-2022 12:40	17-Nov-2022 16:10
CP-TLC-8-6-22	22K0359-06	Solid	15-Nov-2022 13:52	17-Nov-2022 16:10
CP-TLC-8-4-22	22K0359-07	Solid	15-Nov-2022 14:04	17-Nov-2022 16:10
CP-TLC-8-5-22	22K0359-08	Solid	15-Nov-2022 14:16	17-Nov-2022 16:10
CP-TLC-8-7-22	22K0359-09	Solid	15-Nov-2022 14:45	17-Nov-2022 16:10
CP-TLC-2-3-22	22K0359-10	Solid	15-Nov-2022 15:00	17-Nov-2022 16:10
CP-PH3B-1-22	22K0359-11	Solid	16-Nov-2022 10:30	17-Nov-2022 16:10
CP-PH3B-2-22	22K0359-12	Solid	16-Nov-2022 10:35	17-Nov-2022 16:10
CP-TLC2-5-22	22K0359-13	Solid	16-Nov-2022 10:40	17-Nov-2022 16:10
CP-TLC2-6-22	22K0359-14	Solid	16-Nov-2022 10:50	17-Nov-2022 16:10
CP-TLC2-7-22	22K0359-15	Solid	16-Nov-2022 10:57	17-Nov-2022 16:10
CP-TLC2-8-22	22K0359-16	Solid	16-Nov-2022 11:05	17-Nov-2022 16:10
CP-TLC8-12-22	22K0359-17	Solid	16-Nov-2022 11:15	17-Nov-2022 16:10
CP-DS-9-22	22K0359-18	Solid	16-Nov-2022 11:25	17-Nov-2022 16:10
CP-DS-10-22	22K0359-19	Solid	16-Nov-2022 13:03	17-Nov-2022 16:10
CP-DS-11-22	22K0359-20	Solid	16-Nov-2022 13:07	17-Nov-2022 16:10
CP-DS-8-22	22K0359-21	Solid	16-Nov-2022 13:22	17-Nov-2022 16:10
CP-TLC2-4-22	22K0359-22	Solid	16-Nov-2022 13:41	17-Nov-2022 16:10
CP-WW-1-22	22K0359-23	Solid	20-Jul-2022 12:00	17-Nov-2022 16:10
CP-WW-2-22	22K0359-24	Solid	20-Jul-2022 12:30	17-Nov-2022 16:10
CP-WW-3-22	22K0359-25	Solid	20-Jul-2022 13:00	17-Nov-2022 16:10
CP-TLC2-3-22-D	22K0359-26	Solid	15-Nov-2022 15:00	17-Nov-2022 16:10

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Work Order Case Narrative

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times. Analysis was performed using an application specific column developed by Restek. The RTX-DIoxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) contained analytes above 1/2 the RLs. Associated samples have been flagged with "B" qualifers.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

The matrix spikes and matrix spike duplicates are in control.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Haley Aldrich

Project Name: Custom Plywood

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 22k0359

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.0°

Time 1650

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 9708

Cooler Accepted by: _____ Date: 11/17/22 Time: 1650

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		_____

Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: T.S.

Samples Logged by: _____ Date: 11/18/22 Time: 11/18/22 Labels checked by: 11/22 PTB

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-3-22

22K0359-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:03
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 16:01

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-01 A 01
	Preparation Batch: BKK0746	Sample Size: 12.46 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 80.27
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-01 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 05-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-01 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-01 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.149	1.00	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.175	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.217	1.00	ND	ng/kg	U
2,3,4,7,8-PeCDF		1.368	1.318-1.783	0.211	1.00	0.156	ng/kg	J
1,2,3,7,8-PeCDD		1.274	1.318-1.783	0.201	1.00	**0.350**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF			1.054-1.426	0.147	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDF		2.414	1.054-1.426	0.148	1.00	**0.176**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.941	1.054-1.426	0.147	1.00	**0.293**	ng/kg	EMPC, J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.186	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.298	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.130	1.054-1.426	0.296	1.00	**0.685**	ng/kg	J
1,2,3,7,8,9-HxCDD		1.706	1.054-1.426	0.321	1.00	**0.378**	ng/kg	EMPC, J
1,2,3,4,6,7,8-HpCDF		1.044	0.893-1.208	0.192	1.00	**3.60**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.930	0.893-1.208	0.283	1.00	0.238	ng/kg	J
1,2,3,4,6,7,8-HpCDD		0.995	0.893-1.208	0.320	2.50	**12.8**	ng/kg	
OCDF		0.859	0.757-1.024	0.504	2.50	**12.0**	ng/kg	
OCDD		0.905	0.757-1.024	0.710	10.0	**93.8**	ng/kg	B
Homologue groups								
Total TCDF					1.00	ND	ng/kg	U
Total TCDD					1.00	ND	ng/kg	U
Total PeCDF					1.00	**0.691**	ng/kg	J
Total PeCDD					1.00	**0.504**	ng/kg	J
Total HxCDF					1.00	**2.85**	ng/kg	
Total HxCDD					1.00	**4.63**	ng/kg	
Total HpCDF					1.00	**11.0**	ng/kg	
Total HpCDD					1.00	**28.1**	ng/kg	

Analytical Resources, LLC
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Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-3-22

22K0359-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:03

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 16:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.86		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.70		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.64		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.26		

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Analytical Report

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3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-3-22

22K0359-01 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:03

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 16:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.771*	*0.655-0.886*	*24-169 %*	*82.7*	*%*	
13C12-2,3,7,8-TCDD		*0.785*	*0.655-0.886*	*25-164 %*	*93.1*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.594*	*1.318-1.783*	*24-185 %*	*77.5*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.561*	*1.318-1.783*	*21-178 %*	*77.6*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.601*	*1.318-1.783*	*25-181 %*	*82.6*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.506*	*0.434-0.587*	*26-152 %*	*88.1*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.534*	*0.434-0.587*	*26-123 %*	*93.0*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.507*	*0.434-0.587*	*28-136 %*	*89.1*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.513*	*0.434-0.587*	*29-147 %*	*91.5*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.265*	*1.054-1.426*	*32-141 %*	*86.9*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.258*	*1.054-1.426*	*28-130 %*	*83.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.452*	*0.374-0.506*	*28-143 %*	*84.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.449*	*0.374-0.506*	*26-138 %*	*82.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.072*	*0.893-1.208*	*23-140 %*	*97.6*	*%*	
13C12-OCDD		*0.925*	*0.757-1.024*	*17-157 %*	*95.5*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*99.3*	*%*	

Analytical Resources, LLC
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3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-3-22

22K0359-01 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 12:03
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-01
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	80.27	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-1-22

22K0359-02 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:10

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 16:50

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-02 A 01
	Preparation Batch: BKK0746	Sample Size: 16.55 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 60.42
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-02 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-02 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-02 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.720	0.655-0.886	0.115	1.00	**0.517**	ng/kg	X, J
2,3,7,8-TCDD			0.655-0.886	0.167	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDF		2.136	1.318-1.783	0.183	1.00	**0.275**	ng/kg	EMPC, J, B
2,3,4,7,8-PeCDF		1.610	1.318-1.783	0.169	1.00	**0.393**	ng/kg	J
1,2,3,7,8-PeCDD			1.318-1.783	0.222	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDF		1.223	1.054-1.426	0.167	1.00	**0.950**	ng/kg	J
1,2,3,6,7,8-HxCDF		1.224	1.054-1.426	0.162	1.00	**0.586**	ng/kg	J
2,3,4,6,7,8-HxCDF			1.054-1.426	0.163	1.00	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.191	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.168	1.054-1.426	0.199	1.00	**0.749**	ng/kg	J
1,2,3,6,7,8-HxCDD		1.235	1.054-1.426	0.200	1.00	**2.94**	ng/kg	
1,2,3,7,8,9-HxCDD		1.219	1.054-1.426	0.215	1.00	**1.49**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.064	0.893-1.208	0.177	1.00	**15.8**	ng/kg	
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.284	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.028	0.893-1.208	0.452	2.50	**57.6**	ng/kg	
OCDF		0.896	0.757-1.024	0.425	2.50	**55.2**	ng/kg	
OCDD		0.899	0.757-1.024	1.01	10.0	**433**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**4.03**	ng/kg	
Total TCDD					1.00	**4.50**	ng/kg	
Total PeCDF					1.00	**4.23**	ng/kg	
Total PeCDD					1.00	**3.28**	ng/kg	
Total HxCDF					1.00	**15.7**	ng/kg	
Total HxCDD					1.00	**28.9**	ng/kg	
Total HpCDF					1.00	**50.8**	ng/kg	
Total HpCDD					1.00	**114**	ng/kg	

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3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-1-22

22K0359-02 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 12:10
Analyzed: 12/07/2022 16:50

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					1.94		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					1.73		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					1.94		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					1.72		

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Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-1-22

22K0359-02 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:10

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 16:50

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.771*	*0.655-0.886*	*24-169 %*	*78.9*	*%*	
13C12-2,3,7,8-TCDD		*0.775*	*0.655-0.886*	*25-164 %*	*92.2*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.587*	*1.318-1.783*	*24-185 %*	*81.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.505*	*1.318-1.783*	*21-178 %*	*84.7*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.593*	*1.318-1.783*	*25-181 %*	*87.6*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.503*	*0.434-0.587*	*26-152 %*	*88.9*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.493*	*0.434-0.587*	*26-123 %*	*92.2*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.482*	*0.434-0.587*	*28-136 %*	*94.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.495*	*0.434-0.587*	*29-147 %*	*101*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.285*	*1.054-1.426*	*32-141 %*	*87.2*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.282*	*1.054-1.426*	*28-130 %*	*83.6*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.449*	*0.374-0.506*	*28-143 %*	*86.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.480*	*0.374-0.506*	*26-138 %*	*90.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.079*	*0.893-1.208*	*23-140 %*	*103*	*%*	
13C12-OCDD		*0.941*	*0.757-1.024*	*17-157 %*	*105*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*95.2*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-1-22

22K0359-02 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 12:10
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-02
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	60.42	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-2-22

22K0359-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:20
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 17:40

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-03 A 01
	Preparation Batch: BKK0746	Sample Size: 12.17 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 82.29
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-03 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-03 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-03 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.121	0.999	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.143	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.165	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.156	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.249	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.131	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.129	0.999	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.129	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.159	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.170	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.766	1.054-1.426	0.162	0.999	**0.601**	ng/kg	EMPC, J
1,2,3,7,8,9-HxCDD			1.054-1.426	0.179	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		1.024	0.893-1.208	0.126	0.999	**2.86**	ng/kg	
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.187	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.001	0.893-1.208	0.232	2.50	**9.80**	ng/kg	
OCDF		0.931	0.757-1.024	0.562	2.50	**8.52**	ng/kg	
OCDD		0.883	0.757-1.024	0.442	9.99	**75.2**	ng/kg	B
Homologue groups								
Total TCDF					0.999	ND	ng/kg	U
Total TCDD					0.999	**0.388**	ng/kg	J
Total PeCDF					0.999	**0.527**	ng/kg	J
Total PeCDD					0.999	ND	ng/kg	U
Total HxCDF					0.999	**2.63**	ng/kg	
Total HxCDD					0.999	**2.18**	ng/kg	
Total HpCDF					0.999	**2.86**	ng/kg	
Total HpCDD					0.999	**20.2**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-2-22

22K0359-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:20

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 17:40

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.49		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.21		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.46		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.15		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-2-22

22K0359-03 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:20

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 17:40

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.761*	*0.655-0.886*	*24-169 %*	*87.7*	*%*	
13C12-2,3,7,8-TCDD		*0.762*	*0.655-0.886*	*25-164 %*	*98.3*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.549*	*1.318-1.783*	*24-185 %*	*85.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.553*	*1.318-1.783*	*21-178 %*	*86.7*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.628*	*1.318-1.783*	*25-181 %*	*92.3*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.516*	*0.434-0.587*	*26-152 %*	*95.1*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.523*	*0.434-0.587*	*26-123 %*	*97.8*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.514*	*0.434-0.587*	*28-136 %*	*96.3*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.497*	*0.434-0.587*	*29-147 %*	*100*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.276*	*1.054-1.426*	*32-141 %*	*93.5*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.251*	*1.054-1.426*	*28-130 %*	*89.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.440*	*0.374-0.506*	*28-143 %*	*90.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.495*	*0.374-0.506*	*26-138 %*	*94.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.062*	*0.893-1.208*	*23-140 %*	*107*	*%*	
13C12-OCDD		*0.939*	*0.757-1.024*	*17-157 %*	*107*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*103*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-2-22

22K0359-03 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 12:20
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-03
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	82.29	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-1-22

22K0359-04 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 18:29

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-04 A 01
	Preparation Batch: BKK0746	Sample Size: 14.4 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 69.48
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-04 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-04 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-04 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.811	0.655-0.886	0.109	0.999	**0.624**	ng/kg	X, J
2,3,7,8-TCDD			0.655-0.886	0.115	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF		1.262	1.318-1.783	0.145	0.999	**0.259**	ng/kg	EMPC, J, B
2,3,4,7,8-PeCDF		1.961	1.318-1.783	0.133	0.999	**0.315**	ng/kg	EMPC, J
1,2,3,7,8-PeCDD		1.238	1.318-1.783	0.191	0.999	**0.647**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		1.374	1.054-1.426	0.140	0.999	**0.750**	ng/kg	J
1,2,3,6,7,8-HxCDF		1.078	1.054-1.426	0.129	0.999	**0.531**	ng/kg	J
2,3,4,6,7,8-HxCDF		1.328	1.054-1.426	0.135	0.999	**0.876**	ng/kg	J
1,2,3,7,8,9-HxCDF		1.130	1.054-1.426	0.159	0.999	**0.231**	ng/kg	J
1,2,3,4,7,8-HxCDD		1.545	1.054-1.426	0.255	0.999	**0.686**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDD		1.355	1.054-1.426	0.253	0.999	**2.98**	ng/kg	
1,2,3,7,8,9-HxCDD		1.320	1.054-1.426	0.274	0.999	**1.49**	ng/kg	
1,2,3,4,6,7,8-HpCDF		0.948	0.893-1.208	0.164	0.999	**16.3**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.329	0.893-1.208	0.236	0.999	**1.05**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDD		1.067	0.893-1.208	0.413	2.50	**62.9**	ng/kg	
OCDF		0.885	0.757-1.024	0.366	2.50	**51.1**	ng/kg	
OCDD		0.835	0.757-1.024	0.838	9.99	**450**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**3.85**	ng/kg	
Total TCDD					0.999	**4.57**	ng/kg	
Total PeCDF					0.999	**4.72**	ng/kg	
Total PeCDD					0.999	**4.25**	ng/kg	
Total HxCDF					0.999	**17.8**	ng/kg	
Total HxCDD					0.999	**27.4**	ng/kg	
Total HpCDF					0.999	**52.1**	ng/kg	
Total HpCDD					0.999	**130**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-1-22

22K0359-04 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 18:29

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					2.58		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					2.52		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					2.16		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					1.69		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-1-22

22K0359-04 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 18:29

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.756*	*0.655-0.886*	*24-169 %*	*83.3*	*%*	
13C12-2,3,7,8-TCDD		*0.771*	*0.655-0.886*	*25-164 %*	*94.4*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.570*	*1.318-1.783*	*24-185 %*	*81.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.502*	*1.318-1.783*	*21-178 %*	*83.5*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.615*	*1.318-1.783*	*25-181 %*	*88.5*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.507*	*0.434-0.587*	*26-152 %*	*88.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.504*	*0.434-0.587*	*26-123 %*	*95.8*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.510*	*0.434-0.587*	*28-136 %*	*91.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.499*	*0.434-0.587*	*29-147 %*	*98.8*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.288*	*1.054-1.426*	*32-141 %*	*87.4*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.271*	*1.054-1.426*	*28-130 %*	*83.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.452*	*0.374-0.506*	*28-143 %*	*84.1*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.442*	*0.374-0.506*	*26-138 %*	*90.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.077*	*0.893-1.208*	*23-140 %*	*103*	*%*	
13C12-OCDD		*0.941*	*0.757-1.024*	*17-157 %*	*106*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*100*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-1-22

22K0359-04 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 12:30
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-04
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	69.48	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-2-22

22K0359-05 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:40

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 19:19

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-05 A 01
	Preparation Batch: BKK0746	Sample Size: 15.09 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 66.30
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-05 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-05 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-05 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.793	0.655-0.886	0.086	1.00	**0.971**	ng/kg	X, J
2,3,7,8-TCDD		0.468	0.655-0.886	0.119	1.00	**0.310**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.430	1.318-1.783	0.221	1.00	**0.519**	ng/kg	J, B
2,3,4,7,8-PeCDF		1.509	1.318-1.783	0.205	1.00	**0.586**	ng/kg	J
1,2,3,7,8-PeCDD		1.352	1.318-1.783	0.180	1.00	**1.27**	ng/kg	
1,2,3,4,7,8-HxCDF		0.967	1.054-1.426	0.130	1.00	**1.17**	ng/kg	EMPC
1,2,3,6,7,8-HxCDF		1.031	1.054-1.426	0.124	1.00	**0.703**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.212	1.054-1.426	0.128	1.00	**1.19**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.149	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.289	1.054-1.426	0.223	1.00	**0.958**	ng/kg	J
1,2,3,6,7,8-HxCDD		1.258	1.054-1.426	0.220	1.00	**5.28**	ng/kg	
1,2,3,7,8,9-HxCDD		1.330	1.054-1.426	0.239	1.00	**2.60**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.021	0.893-1.208	0.181	1.00	**28.7**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.806	0.893-1.208	0.257	1.00	**1.42**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDD		1.070	0.893-1.208	0.411	2.50	**105**	ng/kg	
OCDF		0.892	0.757-1.024	0.304	2.50	**90.8**	ng/kg	
OCDD		0.873	0.757-1.024	0.827	10.0	**681**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**8.94**	ng/kg	
Total TCDD					1.00	**41.9**	ng/kg	
Total PeCDF					1.00	**9.97**	ng/kg	
Total PeCDD					1.00	**15.3**	ng/kg	
Total HxCDF					1.00	**24.5**	ng/kg	
Total HxCDD					1.00	**51.9**	ng/kg	
Total HpCDF					1.00	**92.3**	ng/kg	
Total HpCDD					1.00	**211**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-2-22

22K0359-05 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 12:40
Analyzed: 12/07/2022 19:19

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					4.65		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					4.64		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					4.39		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					4.13		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-2-22

22K0359-05 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 12:40

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 19:19

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.756*	*0.655-0.886*	*24-169 %*	*78.7*	*%*	
13C12-2,3,7,8-TCDD		*0.769*	*0.655-0.886*	*25-164 %*	*91.5*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.568*	*1.318-1.783*	*24-185 %*	*81.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.558*	*1.318-1.783*	*21-178 %*	*83.8*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.634*	*1.318-1.783*	*25-181 %*	*88.6*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.499*	*0.434-0.587*	*26-152 %*	*86.6*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.468*	*0.434-0.587*	*26-123 %*	*93.5*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.507*	*0.434-0.587*	*28-136 %*	*89.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.498*	*0.434-0.587*	*29-147 %*	*98.8*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.269*	*1.054-1.426*	*32-141 %*	*85.9*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.278*	*1.054-1.426*	*28-130 %*	*81.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.445*	*0.374-0.506*	*28-143 %*	*84.2*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.436*	*0.374-0.506*	*26-138 %*	*89.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.047*	*0.893-1.208*	*23-140 %*	*104*	*%*	
13C12-OCDD		*0.920*	*0.757-1.024*	*17-157 %*	*111*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*102*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-2-22

22K0359-05 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 12:40
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-05
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	66.30	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-6-22

22K0359-06 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 13:52
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 20:08

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-06 A 01
	Preparation Batch: BKK0746	Sample Size: 12.39 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 80.75
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-06 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-06 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-06 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.108	1.00	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.112	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.113	1.00	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.108	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.184	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.095	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.093	1.00	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.096	1.00	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.120	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.201	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.316	1.054-1.426	0.202	1.00	**0.253**	ng/kg	J
1,2,3,7,8,9-HxCDD			1.054-1.426	0.218	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		0.885	0.893-1.208	0.120	1.00	**0.899**	ng/kg	EMPC, J
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.196	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.173	0.893-1.208	0.189	2.50	**3.22**	ng/kg	
OCDF		0.879	0.757-1.024	0.338	2.50	**2.53**	ng/kg	
OCDD		0.915	0.757-1.024	0.439	10.0	**23.7**	ng/kg	B
Homologue groups								
Total TCDF					1.00	ND	ng/kg	U
Total TCDD					1.00	**0.247**	ng/kg	J
Total PeCDF					1.00	**0.215**	ng/kg	J
Total PeCDD					1.00	ND	ng/kg	U
Total HxCDF					1.00	**0.453**	ng/kg	J
Total HxCDD					1.00	**0.253**	ng/kg	J
Total HpCDF					1.00	**1.91**	ng/kg	
Total HpCDD					1.00	**7.45**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-6-22

22K0359-06 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 13:52

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 20:08

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.29		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.07		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.28		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.07		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-6-22

22K0359-06 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 13:52

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 20:08

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.780*	*0.655-0.886*	*24-169 %*	*80.5*	*%*	
13C12-2,3,7,8-TCDD		*0.763*	*0.655-0.886*	*25-164 %*	*91.7*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.566*	*1.318-1.783*	*24-185 %*	*78.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.526*	*1.318-1.783*	*21-178 %*	*77.4*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.582*	*1.318-1.783*	*25-181 %*	*82.8*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.504*	*0.434-0.587*	*26-152 %*	*88.8*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.506*	*0.434-0.587*	*26-123 %*	*91.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.506*	*0.434-0.587*	*28-136 %*	*87.1*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.478*	*0.434-0.587*	*29-147 %*	*93.4*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.253*	*1.054-1.426*	*32-141 %*	*84.5*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.257*	*1.054-1.426*	*28-130 %*	*81.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.456*	*0.374-0.506*	*28-143 %*	*82.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.471*	*0.374-0.506*	*26-138 %*	*83.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.014*	*0.893-1.208*	*23-140 %*	*103*	*%*	
13C12-OCDD		*0.920*	*0.757-1.024*	*17-157 %*	*94.1*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*96.1*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-6-22

22K0359-06 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 13:52
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-06
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	80.75	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-4-22

22K0359-07 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:04
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 20:58

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-07 A 01
	Preparation Batch: BKK0746	Sample Size: 12.3 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 81.28
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-07 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-07 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-07 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.097	1.00	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.119	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.117	1.00	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.114	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.143	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.117	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDF		1.028	1.054-1.426	0.114	1.00	**0.140**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.122	1.054-1.426	0.120	1.00	**0.190**	ng/kg	J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.150	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.170	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.114	1.054-1.426	0.165	1.00	**0.243**	ng/kg	J
1,2,3,7,8,9-HxCDD		1.488	1.054-1.426	0.181	1.00	0.170	ng/kg	EMPC, J
1,2,3,4,6,7,8-HpCDF		0.803	0.893-1.208	0.098	1.00	**0.987**	ng/kg	EMPC, J
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.153	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		0.889	0.893-1.208	0.178	2.50	**3.17**	ng/kg	EMPC
OCDF		0.872	0.757-1.024	0.268	2.50	**4.27**	ng/kg	
OCDD		0.941	0.757-1.024	0.402	10.0	**23.9**	ng/kg	B
Homologue groups								
Total TCDF					1.00	ND	ng/kg	U
Total TCDD					1.00	ND	ng/kg	U
Total PeCDF					1.00	**ND**	ng/kg	U
Total PeCDD					1.00	ND	ng/kg	U
Total HxCDF					1.00	**0.451**	ng/kg	J
Total HxCDD					1.00	**0.665**	ng/kg	J
Total HpCDF					1.00	**2.45**	ng/kg	
Total HpCDD					1.00	**3.25**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-4-22

22K0359-07 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 14:04
Analyzed: 12/07/2022 20:58

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.29		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.11		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.26		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.05		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-4-22

22K0359-07 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:04

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 20:58

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.784*	*0.655-0.886*	*24-169 %*	*87.9*	*%*	
13C12-2,3,7,8-TCDD		*0.770*	*0.655-0.886*	*25-164 %*	*101*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.570*	*1.318-1.783*	*24-185 %*	*87.1*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.578*	*1.318-1.783*	*21-178 %*	*83.7*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.614*	*1.318-1.783*	*25-181 %*	*91.8*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.501*	*0.434-0.587*	*26-152 %*	*99.7*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.477*	*0.434-0.587*	*26-123 %*	*105*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.505*	*0.434-0.587*	*28-136 %*	*97.2*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.512*	*0.434-0.587*	*29-147 %*	*105*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.281*	*1.054-1.426*	*32-141 %*	*93.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.274*	*1.054-1.426*	*28-130 %*	*92.6*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.455*	*0.374-0.506*	*28-143 %*	*91.9*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.462*	*0.374-0.506*	*26-138 %*	*92.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.082*	*0.893-1.208*	*23-140 %*	*109*	*%*	
13C12-OCDD		*0.942*	*0.757-1.024*	*17-157 %*	*99.4*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*105*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-4-22

22K0359-07 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 14:04
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-07
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	81.28	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-5-22

22K0359-08 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:16
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 21:47

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-08 A 01
	Preparation Batch: BKK0746	Sample Size: 12.12 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 82.55
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-08 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-08 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-08 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.096	0.999	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.107	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.124	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.122	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.162	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.120	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDF		0.961	1.054-1.426	0.121	0.999	**0.123**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF			1.054-1.426	0.122	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.159	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.162	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.114	1.054-1.426	0.159	0.999	**0.165**	ng/kg	J
1,2,3,7,8,9-HxCDD			1.054-1.426	0.173	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		0.737	0.893-1.208	0.129	0.999	**0.855**	ng/kg	EMPC, J
1,2,3,4,7,8,9-HpCDF		0.807	0.893-1.208	0.195	0.999	**0.203**	ng/kg	EMPC, J
1,2,3,4,6,7,8-HpCDD		1.205	0.893-1.208	0.205	2.50	**2.22**	ng/kg	J
OCDF		1.039	0.757-1.024	0.282	2.50	**2.58**	ng/kg	EMPC
OCDD		0.965	0.757-1.024	0.379	9.99	**16.7**	ng/kg	B
Homologue groups								
Total TCDF					0.999	ND	ng/kg	U
Total TCDD					0.999	**0.149**	ng/kg	J
Total PeCDF					0.999	**ND**	ng/kg	U
Total PeCDD					0.999	ND	ng/kg	U
Total HxCDF					0.999	**0.318**	ng/kg	J
Total HxCDD					0.999	**0.616**	ng/kg	J
Total HpCDF					0.999	ND	ng/kg	U
Total HpCDD					0.999	**4.92**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-5-22

22K0359-08 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 14:16
Analyzed: 12/07/2022 21:47

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.26		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.07		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.25		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.04		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-5-22

22K0359-08 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:16

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/07/2022 21:47

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.765*	*0.655-0.886*	*24-169 %*	*83.5*	*%*	
13C12-2,3,7,8-TCDD		*0.774*	*0.655-0.886*	*25-164 %*	*95.5*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.563*	*1.318-1.783*	*24-185 %*	*82.4*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.584*	*1.318-1.783*	*21-178 %*	*79.3*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.617*	*1.318-1.783*	*25-181 %*	*88.0*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.501*	*0.434-0.587*	*26-152 %*	*94.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.537*	*0.434-0.587*	*26-123 %*	*98.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.500*	*0.434-0.587*	*28-136 %*	*93.7*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.504*	*0.434-0.587*	*29-147 %*	*94.8*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.291*	*1.054-1.426*	*32-141 %*	*92.2*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.235*	*1.054-1.426*	*28-130 %*	*90.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.461*	*0.374-0.506*	*28-143 %*	*87.1*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.443*	*0.374-0.506*	*26-138 %*	*87.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.076*	*0.893-1.208*	*23-140 %*	*105*	*%*	
13C12-OCDD		*0.939*	*0.757-1.024*	*17-157 %*	*98.2*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*102*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-5-22

22K0359-08 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 14:16
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-08
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	82.55	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-7-22

22K0359-09 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:45

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 00:22

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-09 A 01
	Preparation Batch: BKK0746	Sample Size: 12.53 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 79.89
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-09 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-09 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-09 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.100	0.999	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.097	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.132	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.132	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.182	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDF		1.060	1.054-1.426	0.121	0.999	**0.216**	ng/kg	J
1,2,3,6,7,8-HxCDF		1.522	1.054-1.426	0.125	0.999	**0.138**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF			1.054-1.426	0.127	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.170	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.429	1.054-1.426	0.157	0.999	**0.290**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDD		1.191	1.054-1.426	0.146	0.999	**0.655**	ng/kg	J
1,2,3,7,8,9-HxCDD			1.054-1.426	0.163	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		0.921	0.893-1.208	0.259	0.999	**3.09**	ng/kg	
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.399	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.179	0.893-1.208	0.229	2.50	**8.49**	ng/kg	
OCDF		0.866	0.757-1.024	0.337	2.50	**10.2**	ng/kg	
OCDD		0.859	0.757-1.024	0.540	9.99	**69.3**	ng/kg	B
Homologue groups								
Total TCDF					0.999	ND	ng/kg	U
Total TCDD					0.999	ND	ng/kg	U
Total PeCDF					0.999	**ND**	ng/kg	U
Total PeCDD					0.999	**0.352**	ng/kg	J
Total HxCDF					0.999	**1.78**	ng/kg	
Total HxCDD					0.999	**3.01**	ng/kg	
Total HpCDF					0.999	**9.68**	ng/kg	
Total HpCDD					0.999	**16.7**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-7-22

22K0359-09 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 14:45
Analyzed: 12/08/2022 00:22

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.46		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.27		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.44		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.23		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-7-22

22K0359-09 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 14:45

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 00:22

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.771*	*0.655-0.886*	*24-169 %*	*90.1*	*%*	
13C12-2,3,7,8-TCDD		*0.757*	*0.655-0.886*	*25-164 %*	*103*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.558*	*1.318-1.783*	*24-185 %*	*87.3*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.539*	*1.318-1.783*	*21-178 %*	*85.5*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.571*	*1.318-1.783*	*25-181 %*	*91.2*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.503*	*0.434-0.587*	*26-152 %*	*106*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.556*	*0.434-0.587*	*26-123 %*	*117*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.503*	*0.434-0.587*	*28-136 %*	*106*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.515*	*0.434-0.587*	*29-147 %*	*108*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.331*	*1.054-1.426*	*32-141 %*	*102*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.180*	*1.054-1.426*	*28-130 %*	*98.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.447*	*0.374-0.506*	*28-143 %*	*96.2*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.447*	*0.374-0.506*	*26-138 %*	*95.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.072*	*0.893-1.208*	*23-140 %*	*113*	*%*	
13C12-OCDD		*0.896*	*0.757-1.024*	*17-157 %*	*104*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*106*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-8-7-22

22K0359-09 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 14:45
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-09
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	79.89	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-3-22

22K0359-10 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 15:00
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 01:12

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-10 A 01
	Preparation Batch: BKK0746	Sample Size: 13.51 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 74.02
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-10 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-10 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-10 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.760	0.655-0.886	0.095	1.00	**0.339**	ng/kg	X, J
2,3,7,8-TCDD		0.486	0.655-0.886	0.099	1.00	**0.182**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF			1.318-1.783	0.137	1.00	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.132	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDD		1.389	1.318-1.783	0.199	1.00	**0.591**	ng/kg	J
1,2,3,4,7,8-HxCDF		1.232	1.054-1.426	0.127	1.00	**0.593**	ng/kg	J
1,2,3,6,7,8-HxCDF		1.053	1.054-1.426	0.115	1.00	**0.211**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.116	1.054-1.426	0.122	1.00	**0.672**	ng/kg	J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.155	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.222	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDD		1.428	1.054-1.426	0.219	1.00	**2.53**	ng/kg	EMPC
1,2,3,7,8,9-HxCDD		1.481	1.054-1.426	0.238	1.00	**1.10**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDF		1.018	0.893-1.208	0.204	1.00	**18.4**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.073	0.893-1.208	0.303	1.00	**0.789**	ng/kg	J
1,2,3,4,6,7,8-HpCDD		1.069	0.893-1.208	0.362	2.50	**47.0**	ng/kg	
OCDF		0.882	0.757-1.024	0.402	2.50	**69.8**	ng/kg	
OCDD		0.809	0.757-1.024	0.726	10.0	**314**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**2.11**	ng/kg	
Total TCDD					1.00	**5.61**	ng/kg	
Total PeCDF					1.00	**3.60**	ng/kg	
Total PeCDD					1.00	**2.43**	ng/kg	
Total HxCDF					1.00	**19.0**	ng/kg	
Total HxCDD					1.00	**24.3**	ng/kg	
Total HpCDF					1.00	**70.8**	ng/kg	
Total HpCDD					1.00	**101**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-3-22

22K0359-10 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 15:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 01:12

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					2.14		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					2.09		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					1.85		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					1.53		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-3-22

22K0359-10 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 15:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 01:12

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.778*	*0.655-0.886*	*24-169 %*	*88.6*	*%*	
13C12-2,3,7,8-TCDD		*0.772*	*0.655-0.886*	*25-164 %*	*100*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.563*	*1.318-1.783*	*24-185 %*	*86.1*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.543*	*1.318-1.783*	*21-178 %*	*88.2*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.611*	*1.318-1.783*	*25-181 %*	*93.2*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.504*	*0.434-0.587*	*26-152 %*	*96.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.459*	*0.434-0.587*	*26-123 %*	*105*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.491*	*0.434-0.587*	*28-136 %*	*100*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.499*	*0.434-0.587*	*29-147 %*	*104*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.270*	*1.054-1.426*	*32-141 %*	*93.8*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.230*	*1.054-1.426*	*28-130 %*	*91.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.442*	*0.374-0.506*	*28-143 %*	*93.5*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.439*	*0.374-0.506*	*26-138 %*	*98.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.057*	*0.893-1.208*	*23-140 %*	*112*	*%*	
13C12-OCDD		*0.913*	*0.757-1.024*	*17-157 %*	*116*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*109*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC-2-3-22

22K0359-10 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 15:00
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-10
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	74.02	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-1-22

22K0359-11 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 02:01

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-11 A 01
	Preparation Batch: BKK0746	Sample Size: 19.98 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 50.10
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-11 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-11 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-11 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.782	0.655-0.886	0.213	0.999	**2.62**	ng/kg	X
2,3,7,8-TCDD		0.604	0.655-0.886	0.181	0.999	**0.547**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.285	1.318-1.783	0.349	0.999	**1.06**	ng/kg	EMPC, B
2,3,4,7,8-PeCDF		1.901	1.318-1.783	0.327	0.999	**1.10**	ng/kg	EMPC
1,2,3,7,8-PeCDD		1.351	1.318-1.783	0.326	0.999	**3.02**	ng/kg	
1,2,3,4,7,8-HxCDF		1.042	1.054-1.426	0.290	0.999	**2.37**	ng/kg	EMPC
1,2,3,6,7,8-HxCDF		1.316	1.054-1.426	0.271	0.999	**1.33**	ng/kg	
2,3,4,6,7,8-HxCDF		1.150	1.054-1.426	0.276	0.999	**2.85**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.353	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.544	1.054-1.426	0.414	0.999	**2.06**	ng/kg	EMPC
1,2,3,6,7,8-HxCDD		1.196	1.054-1.426	0.403	0.999	**10.1**	ng/kg	
1,2,3,7,8,9-HxCDD		1.475	1.054-1.426	0.441	0.999	**4.35**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDF		0.999	0.893-1.208	0.335	0.999	**58.5**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.901	0.893-1.208	0.507	0.999	**2.60**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.125	0.893-1.208	0.827	2.50	**197**	ng/kg	
OCDF		0.873	0.757-1.024	0.639	2.50	**168**	ng/kg	
OCDD		0.887	0.757-1.024	1.25	9.99	**1300**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**16.7**	ng/kg	
Total TCDD					0.999	**72.1**	ng/kg	
Total PeCDF					0.999	**19.8**	ng/kg	
Total PeCDD					0.999	**41.8**	ng/kg	
Total HxCDF					0.999	**56.2**	ng/kg	
Total HxCDD					0.999	**102**	ng/kg	
Total HpCDF					0.999	**181**	ng/kg	
Total HpCDD					0.999	**389**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-1-22

22K0359-11 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 10:30
Analyzed: 12/08/2022 02:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					9.54		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					9.52		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					8.64		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					7.73		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-1-22

22K0359-11 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 02:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.752*	*0.655-0.886*	*24-169 %*	*44.0*	*%*	
13C12-2,3,7,8-TCDD		*0.765*	*0.655-0.886*	*25-164 %*	*50.5*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.522*	*1.318-1.783*	*24-185 %*	*42.9*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.552*	*1.318-1.783*	*21-178 %*	*43.5*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.629*	*1.318-1.783*	*25-181 %*	*46.9*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.511*	*0.434-0.587*	*26-152 %*	*49.1*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.504*	*0.434-0.587*	*26-123 %*	*52.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.502*	*0.434-0.587*	*28-136 %*	*48.9*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.498*	*0.434-0.587*	*29-147 %*	*50.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.293*	*1.054-1.426*	*32-141 %*	*48.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.331*	*1.054-1.426*	*28-130 %*	*44.8*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.435*	*0.374-0.506*	*28-143 %*	*45.0*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.479*	*0.374-0.506*	*26-138 %*	*48.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.152*	*0.893-1.208*	*23-140 %*	*54.6*	*%*	
13C12-OCDD		*0.840*	*0.757-1.024*	*17-157 %*	*55.8*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*89.3*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-1-22

22K0359-11 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 10:30

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-11

Preparation Batch: BKK0598 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	50.10	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-2-22

22K0359-12 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 02:51

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-12 B 01
	Preparation Batch: BKK0746	Sample Size: 19.43 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 51.52
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-12 B 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-12 B 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-12 B 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.733	0.655-0.886	0.156	0.999	**3.65**	ng/kg	X
2,3,7,8-TCDD		0.628	0.655-0.886	0.144	0.999	**0.828**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.637	1.318-1.783	0.302	0.999	**1.64**	ng/kg	B
2,3,4,7,8-PeCDF		1.463	1.318-1.783	0.280	0.999	**2.84**	ng/kg	
1,2,3,7,8-PeCDD		1.500	1.318-1.783	0.228	0.999	**7.50**	ng/kg	
1,2,3,4,7,8-HxCDF		1.228	1.054-1.426	0.292	0.999	**7.53**	ng/kg	
1,2,3,6,7,8-HxCDF		1.282	1.054-1.426	0.285	0.999	**3.94**	ng/kg	
2,3,4,6,7,8-HxCDF		1.250	1.054-1.426	0.289	0.999	**8.22**	ng/kg	
1,2,3,7,8,9-HxCDF		1.087	1.054-1.426	0.351	0.999	**2.05**	ng/kg	
1,2,3,4,7,8-HxCDD		1.286	1.054-1.426	0.469	0.999	**4.94**	ng/kg	
1,2,3,6,7,8-HxCDD		1.222	1.054-1.426	0.452	0.999	**34.7**	ng/kg	
1,2,3,7,8,9-HxCDD		1.227	1.054-1.426	0.497	0.999	**11.9**	ng/kg	
1,2,3,4,6,7,8-HpCDF		0.987	0.893-1.208	0.517	0.999	**213**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.946	0.893-1.208	0.770	0.999	**13.7**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.069	0.893-1.208	1.09	2.50	**767**	ng/kg	
OCDF		0.896	0.757-1.024	0.500	2.50	**778**	ng/kg	
OCDD		0.879	0.757-1.024	0.782	9.99	**6010**	ng/kg	E, B
Homologue groups								
Total TCDF					0.999	**32.5**	ng/kg	
Total TCDD					0.999	**38.8**	ng/kg	
Total PeCDF					0.999	**53.4**	ng/kg	
Total PeCDD					0.999	**40.1**	ng/kg	
Total HxCDF					0.999	**227**	ng/kg	
Total HxCDD					0.999	**283**	ng/kg	
Total HpCDF					0.999	**805**	ng/kg	
Total HpCDD					0.999	**1380**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-2-22

22K0359-12 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 10:35
Analyzed: 12/08/2022 02:51

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					28.90		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					28.90		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					28.48		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					28.07		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-2-22

22K0359-12 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:35

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 02:51

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.778*	*0.655-0.886*	*24-169 %*	*69.7*	*%*	
13C12-2,3,7,8-TCDD		*0.775*	*0.655-0.886*	*25-164 %*	*78.7*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.565*	*1.318-1.783*	*24-185 %*	*67.3*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.544*	*1.318-1.783*	*21-178 %*	*69.4*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.609*	*1.318-1.783*	*25-181 %*	*74.1*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.496*	*0.434-0.587*	*26-152 %*	*75.9*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.504*	*0.434-0.587*	*26-123 %*	*75.3*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.507*	*0.434-0.587*	*28-136 %*	*76.0*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.504*	*0.434-0.587*	*29-147 %*	*84.5*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.253*	*1.054-1.426*	*32-141 %*	*74.6*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.255*	*1.054-1.426*	*28-130 %*	*69.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.455*	*0.374-0.506*	*28-143 %*	*71.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.452*	*0.374-0.506*	*26-138 %*	*74.8*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.072*	*0.893-1.208*	*23-140 %*	*89.2*	*%*	
13C12-OCDD		*0.910*	*0.757-1.024*	*17-157 %*	*95.0*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*92.1*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-PH3B-2-22

22K0359-12 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 10:35
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-12
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	51.52	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-5-22

22K0359-13 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:40

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 03:40

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-13 A 01
	Preparation Batch: BKK0746	Sample Size: 12.53 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 79.92
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-13 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-13 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-13 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.759	0.655-0.886	0.129	0.999	**0.481**	ng/kg	X, J
2,3,7,8-TCDD			0.655-0.886	0.124	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF		1.611	1.318-1.783	0.164	0.999	**0.201**	ng/kg	J, B
2,3,4,7,8-PeCDF			1.318-1.783	0.161	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD		1.964	1.318-1.783	0.218	0.999	**0.549**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		1.469	1.054-1.426	0.172	0.999	**0.488**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDF			1.054-1.426	0.169	0.999	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.170	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.225	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.074	1.054-1.426	0.202	0.999	**0.269**	ng/kg	J
1,2,3,6,7,8-HxCDD		1.108	1.054-1.426	0.197	0.999	**1.99**	ng/kg	
1,2,3,7,8,9-HxCDD		1.076	1.054-1.426	0.215	0.999	**1.07**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.012	0.893-1.208	0.280	0.999	**10.7**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.982	0.893-1.208	0.456	0.999	**0.719**	ng/kg	J
1,2,3,4,6,7,8-HpCDD		1.054	0.893-1.208	0.346	2.50	**34.7**	ng/kg	
OCDF		0.864	0.757-1.024	1.24	2.50	**35.0**	ng/kg	
OCDD		0.854	0.757-1.024	1.05	9.99	**243**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**1.28**	ng/kg	
Total TCDD					0.999	**1.09**	ng/kg	
Total PeCDF					0.999	**2.94**	ng/kg	
Total PeCDD					0.999	**1.30**	ng/kg	
Total HxCDF					0.999	**11.2**	ng/kg	
Total HxCDD					0.999	**12.0**	ng/kg	
Total HpCDF					0.999	**36.3**	ng/kg	
Total HpCDD					0.999	**67.9**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-5-22

22K0359-13 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 10:40
Analyzed: 12/08/2022 03:40

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					1.64		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					1.53		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					1.34		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.93		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-5-22

22K0359-13 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:40

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 03:40

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.772*	*0.655-0.886*	*24-169 %*	*74.1*	*%*	
13C12-2,3,7,8-TCDD		*0.771*	*0.655-0.886*	*25-164 %*	*84.7*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.558*	*1.318-1.783*	*24-185 %*	*72.8*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.588*	*1.318-1.783*	*21-178 %*	*70.7*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.617*	*1.318-1.783*	*25-181 %*	*75.5*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.490*	*0.434-0.587*	*26-152 %*	*84.2*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.503*	*0.434-0.587*	*26-123 %*	*86.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.505*	*0.434-0.587*	*28-136 %*	*85.5*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.505*	*0.434-0.587*	*29-147 %*	*85.5*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.284*	*1.054-1.426*	*32-141 %*	*80.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.268*	*1.054-1.426*	*28-130 %*	*79.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.455*	*0.374-0.506*	*28-143 %*	*76.3*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.451*	*0.374-0.506*	*26-138 %*	*75.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.090*	*0.893-1.208*	*23-140 %*	*91.1*	*%*	
13C12-OCDD		*0.891*	*0.757-1.024*	*17-157 %*	*80.6*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*90.1*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-5-22

22K0359-13 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 10:40

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-13

Preparation Batch: BKK0598 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	79.92	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-6-22

22K0359-14 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:50

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 04:30

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-14 A 01
	Preparation Batch: BKK0746	Sample Size: 14.09 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 71.07
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-14 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-14 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-14 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.800	0.655-0.886	0.201	0.999	**1.60**	ng/kg	X
2,3,7,8-TCDD			0.655-0.886	0.162	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.231	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF		1.385	1.318-1.783	0.219	0.999	**0.294**	ng/kg	J
1,2,3,7,8-PeCDD		1.645	1.318-1.783	0.242	0.999	**1.22**	ng/kg	
1,2,3,4,7,8-HxCDF		1.478	1.054-1.426	0.317	0.999	**1.10**	ng/kg	EMPC
1,2,3,6,7,8-HxCDF		1.865	1.054-1.426	0.311	0.999	**0.587**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.407	1.054-1.426	0.323	0.999	**1.17**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.406	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.010	1.054-1.426	0.392	0.999	**0.841**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDD		1.181	1.054-1.426	0.379	0.999	**4.48**	ng/kg	
1,2,3,7,8,9-HxCDD		1.132	1.054-1.426	0.416	0.999	**2.21**	ng/kg	
1,2,3,4,6,7,8-HpCDF		0.957	0.893-1.208	0.279	0.999	**26.2**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.311	0.893-1.208	0.432	0.999	**1.57**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDD		1.049	0.893-1.208	0.660	2.50	**94.5**	ng/kg	
OCDF		0.859	0.757-1.024	0.614	2.50	**92.1**	ng/kg	
OCDD		0.933	0.757-1.024	1.37	9.99	**699**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**6.09**	ng/kg	
Total TCDD					0.999	**13.0**	ng/kg	
Total PeCDF					0.999	**9.04**	ng/kg	
Total PeCDD					0.999	**8.30**	ng/kg	
Total HxCDF					0.999	**29.4**	ng/kg	
Total HxCDD					0.999	**33.9**	ng/kg	
Total HpCDF					0.999	**92.8**	ng/kg	
Total HpCDD					0.999	**188**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-6-22

22K0359-14 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 10:50
Analyzed: 12/08/2022 04:30

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					4.07		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					3.97		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					3.94		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					3.70		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-6-22

22K0359-14 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:50

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 04:30

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.798*	*0.655-0.886*	*24-169 %*	*55.2*	*%*	
13C12-2,3,7,8-TCDD		*0.766*	*0.655-0.886*	*25-164 %*	*62.4*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.579*	*1.318-1.783*	*24-185 %*	*53.7*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.571*	*1.318-1.783*	*21-178 %*	*53.3*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.625*	*1.318-1.783*	*25-181 %*	*57.9*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.491*	*0.434-0.587*	*26-152 %*	*61.6*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.499*	*0.434-0.587*	*26-123 %*	*62.5*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.499*	*0.434-0.587*	*28-136 %*	*61.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.487*	*0.434-0.587*	*29-147 %*	*64.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.249*	*1.054-1.426*	*32-141 %*	*59.3*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.263*	*1.054-1.426*	*28-130 %*	*57.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.453*	*0.374-0.506*	*28-143 %*	*57.0*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.459*	*0.374-0.506*	*26-138 %*	*56.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.102*	*0.893-1.208*	*23-140 %*	*67.3*	*%*	
13C12-OCDD		*0.899*	*0.757-1.024*	*17-157 %*	*63.1*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*85.0*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-6-22

22K0359-14 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 10:50

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-14

Preparation Batch: BKK0598 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	71.07	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-7-22

22K0359-15 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:57
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 05:19

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-15 A 01
	Preparation Batch: BKK0746	Sample Size: 14.92 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 67.01
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-15 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-15 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-15 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.634	0.655-0.886	0.133	1.00	**0.899**	ng/kg	EMPC, X, J
2,3,7,8-TCDD		0.543	0.655-0.886	0.101	1.00	**0.328**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		1.137	1.318-1.783	0.229	1.00	**0.345**	ng/kg	EMPC, J, B
2,3,4,7,8-PeCDF		1.367	1.318-1.783	0.217	1.00	**0.483**	ng/kg	J
1,2,3,7,8-PeCDD		1.427	1.318-1.783	0.240	1.00	**1.20**	ng/kg	
1,2,3,4,7,8-HxCDF		1.157	1.054-1.426	0.173	1.00	**1.06**	ng/kg	
1,2,3,6,7,8-HxCDF		0.842	1.054-1.426	0.175	1.00	**0.484**	ng/kg	EMPC, J
2,3,4,6,7,8-HxCDF		1.317	1.054-1.426	0.169	1.00	**1.24**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.207	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.201	1.054-1.426	0.281	1.00	**1.05**	ng/kg	
1,2,3,6,7,8-HxCDD		1.259	1.054-1.426	0.273	1.00	**4.50**	ng/kg	
1,2,3,7,8,9-HxCDD		1.081	1.054-1.426	0.298	1.00	**2.36**	ng/kg	
1,2,3,4,6,7,8-HpCDF		1.000	0.893-1.208	0.317	1.00	**24.6**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.121	0.893-1.208	0.447	1.00	**1.57**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.033	0.893-1.208	0.521	2.50	**91.0**	ng/kg	
OCDF		0.872	0.757-1.024	0.498	2.50	**79.4**	ng/kg	
OCDD		0.866	0.757-1.024	1.15	10.0	**790**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**5.84**	ng/kg	
Total TCDD					1.00	**18.9**	ng/kg	
Total PeCDF					1.00	**6.67**	ng/kg	
Total PeCDD					1.00	**17.3**	ng/kg	
Total HxCDF					1.00	**25.6**	ng/kg	
Total HxCDD					1.00	**57.2**	ng/kg	
Total HpCDF					1.00	**81.5**	ng/kg	
Total HpCDD					1.00	**181**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-7-22

22K0359-15 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 10:57
Analyzed: 12/08/2022 05:19

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					4.29		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					4.28		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					4.05		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					3.80		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-7-22

22K0359-15 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 10:57

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 05:19

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.767*	*0.655-0.886*	*24-169 %*	*64.7*	*%*	
13C12-2,3,7,8-TCDD		*0.766*	*0.655-0.886*	*25-164 %*	*74.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.544*	*1.318-1.783*	*24-185 %*	*63.7*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.618*	*1.318-1.783*	*21-178 %*	*64.9*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.601*	*1.318-1.783*	*25-181 %*	*68.8*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.510*	*0.434-0.587*	*26-152 %*	*71.3*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.511*	*0.434-0.587*	*26-123 %*	*70.9*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.507*	*0.434-0.587*	*28-136 %*	*72.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.499*	*0.434-0.587*	*29-147 %*	*77.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.258*	*1.054-1.426*	*32-141 %*	*70.1*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.253*	*1.054-1.426*	*28-130 %*	*66.0*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.467*	*0.374-0.506*	*28-143 %*	*67.2*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.435*	*0.374-0.506*	*26-138 %*	*69.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.059*	*0.893-1.208*	*23-140 %*	*81.6*	*%*	
13C12-OCDD		*0.930*	*0.757-1.024*	*17-157 %*	*81.9*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*77.0*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-7-22

22K0359-15 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 10:57

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-15

Preparation Batch: BKK0598 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	67.01	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-8-22

22K0359-16 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:05
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 06:09

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-16 A 01
	Preparation Batch: BKK0746	Sample Size: 13.74 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 72.80
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-16 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-16 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-16 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.876	0.655-0.886	0.133	1.00	**0.578**	ng/kg	J
2,3,7,8-TCDD		0.641	0.655-0.886	0.120	1.00	**0.266**	ng/kg	EMPC, J
1,2,3,7,8-PeCDF		2.226	1.318-1.783	0.172	1.00	**0.182**	ng/kg	EMPC, J, B
2,3,4,7,8-PeCDF		1.233	1.318-1.783	0.166	1.00	**0.300**	ng/kg	EMPC, J
1,2,3,7,8-PeCDD		1.795	1.318-1.783	0.287	1.00	**0.580**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		1.326	1.054-1.426	0.172	1.00	**0.524**	ng/kg	J
1,2,3,6,7,8-HxCDF		1.109	1.054-1.426	0.161	1.00	**0.460**	ng/kg	J
2,3,4,6,7,8-HxCDF		1.016	1.054-1.426	0.169	1.00	**0.572**	ng/kg	EMPC, J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.217	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.528	1.054-1.426	0.301	1.00	**0.380**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDD		1.110	1.054-1.426	0.288	1.00	**2.21**	ng/kg	
1,2,3,7,8,9-HxCDD		1.522	1.054-1.426	0.318	1.00	**1.27**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDF		0.986	0.893-1.208	0.271	1.00	**12.0**	ng/kg	
1,2,3,4,7,8,9-HpCDF		1.428	0.893-1.208	0.398	1.00	**0.563**	ng/kg	EMPC, J
1,2,3,4,6,7,8-HpCDD		1.045	0.893-1.208	0.460	2.50	**40.3**	ng/kg	
OCDF		0.906	0.757-1.024	0.583	2.50	**32.0**	ng/kg	
OCDD		0.900	0.757-1.024	1.18	10.0	**244**	ng/kg	B
Homologue groups								
Total TCDF					1.00	**3.12**	ng/kg	
Total TCDD					1.00	**8.34**	ng/kg	
Total PeCDF					1.00	**3.05**	ng/kg	
Total PeCDD					1.00	**3.12**	ng/kg	
Total HxCDF					1.00	**12.1**	ng/kg	
Total HxCDD					1.00	**20.2**	ng/kg	
Total HpCDF					1.00	**37.0**	ng/kg	
Total HpCDD					1.00	**82.9**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-8-22

22K0359-16 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 11:05
Analyzed: 12/08/2022 06:09

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					2.16		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					2.15		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					1.58		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.98		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-8-22

22K0359-16 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:05

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 06:09

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.765*	*0.655-0.886*	*24-169 %*	*75.0*	*%*	
13C12-2,3,7,8-TCDD		*0.775*	*0.655-0.886*	*25-164 %*	*85.2*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.559*	*1.318-1.783*	*24-185 %*	*70.3*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.536*	*1.318-1.783*	*21-178 %*	*69.8*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.674*	*1.318-1.783*	*25-181 %*	*78.3*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.501*	*0.434-0.587*	*26-152 %*	*86.3*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.523*	*0.434-0.587*	*26-123 %*	*91.1*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.513*	*0.434-0.587*	*28-136 %*	*87.9*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.509*	*0.434-0.587*	*29-147 %*	*90.6*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.288*	*1.054-1.426*	*32-141 %*	*83.4*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.265*	*1.054-1.426*	*28-130 %*	*78.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.451*	*0.374-0.506*	*28-143 %*	*78.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.458*	*0.374-0.506*	*26-138 %*	*78.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.075*	*0.893-1.208*	*23-140 %*	*92.7*	*%*	
13C12-OCDD		*0.802*	*0.757-1.024*	*17-157 %*	*92.9*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*90.0*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-8-22

22K0359-16 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 11:05

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-16

Preparation Batch: BKK0598 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	72.80	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC8-12-22

22K0359-17 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:15

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 06:58

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-17 A 01
	Preparation Batch: BKK0746	Sample Size: 12.02 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 83.27
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-17 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-17 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-17 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.134	0.999	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.167	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.153	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.150	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.179	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.174	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.170	0.999	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.174	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.229	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.298	0.999	ND	ng/kg	U
1,2,3,6,7,8-HxCDD			1.054-1.426	0.297	0.999	ND	ng/kg	U
1,2,3,7,8,9-HxCDD			1.054-1.426	0.321	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		0.927	0.893-1.208	0.209	0.999	**2.01**	ng/kg	
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.304	0.999	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.030	0.893-1.208	0.372	2.50	**4.74**	ng/kg	
OCDF		0.987	0.757-1.024	0.850	2.50	**6.51**	ng/kg	
OCDD		0.928	0.757-1.024	1.37	9.99	**38.9**	ng/kg	B
Homologue groups								
Total TCDF					0.999	ND	ng/kg	U
Total TCDD					0.999	ND	ng/kg	U
Total PeCDF					0.999	**0.389**	ng/kg	J
Total PeCDD					0.999	ND	ng/kg	U
Total HxCDF					0.999	**1.35**	ng/kg	
Total HxCDD					0.999	**0.903**	ng/kg	J
Total HpCDF					0.999	**2.01**	ng/kg	
Total HpCDD					0.999	**10.2**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC8-12-22

22K0359-17 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 11:15
Analyzed: 12/08/2022 06:58

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.37		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.08		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.37		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.08		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC8-12-22

22K0359-17 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:15

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 06:58

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.785*	*0.655-0.886*	*24-169 %*	*79.8*	*%*	
13C12-2,3,7,8-TCDD		*0.774*	*0.655-0.886*	*25-164 %*	*91.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.553*	*1.318-1.783*	*24-185 %*	*77.9*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.564*	*1.318-1.783*	*21-178 %*	*76.6*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.586*	*1.318-1.783*	*25-181 %*	*80.9*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.507*	*0.434-0.587*	*26-152 %*	*85.6*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.496*	*0.434-0.587*	*26-123 %*	*88.7*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.498*	*0.434-0.587*	*28-136 %*	*85.7*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.521*	*0.434-0.587*	*29-147 %*	*90.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.322*	*1.054-1.426*	*32-141 %*	*83.0*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.243*	*1.054-1.426*	*28-130 %*	*77.8*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.452*	*0.374-0.506*	*28-143 %*	*80.5*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.445*	*0.374-0.506*	*26-138 %*	*81.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.047*	*0.893-1.208*	*23-140 %*	*95.7*	*%*	
13C12-OCDD		*0.881*	*0.757-1.024*	*17-157 %*	*88.9*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*96.9*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC8-12-22

22K0359-17 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 11:15
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-17
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	83.27	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-9-22

22K0359-18 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:25

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 07:48

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-18 A 01
	Preparation Batch: BKK0746	Sample Size: 12.04 g (wet)	Dry Weight:10.00 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 83.08
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-18 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-18 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-18 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.174	1.00	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.203	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.310	1.00	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.306	1.00	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.367	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.273	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.276	1.00	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.274	1.00	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.364	1.00	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.355	1.00	ND	ng/kg	U
1,2,3,6,7,8-HxCDD			1.054-1.426	0.353	1.00	ND	ng/kg	U
1,2,3,7,8,9-HxCDD			1.054-1.426	0.382	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		1.166	0.893-1.208	0.295	1.00	**1.57**	ng/kg	
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.398	1.00	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.162	0.893-1.208	0.478	2.50	**4.24**	ng/kg	
OCDF		0.939	0.757-1.024	0.388	2.50	**4.39**	ng/kg	
OCDD		0.915	0.757-1.024	0.788	10.0	**28.2**	ng/kg	B
Homologue groups								
Total TCDF					1.00	ND	ng/kg	U
Total TCDD					1.00	ND	ng/kg	U
Total PeCDF					1.00	**ND**	ng/kg	U
Total PeCDD					1.00	ND	ng/kg	U
Total HxCDF					1.00	**0.662**	ng/kg	J
Total HxCDD					1.00	**0.894**	ng/kg	J
Total HpCDF					1.00	**1.57**	ng/kg	
Total HpCDD					1.00	**8.76**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-9-22

22K0359-18 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 11:25
Analyzed: 12/08/2022 07:48

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.53		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.07		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.53		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.07		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-9-22

22K0359-18 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 11:25

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 07:48

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.791*	*0.655-0.886*	*24-169 %*	*74.2*	*%*	
13C12-2,3,7,8-TCDD		*0.763*	*0.655-0.886*	*25-164 %*	*86.3*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.549*	*1.318-1.783*	*24-185 %*	*73.8*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.556*	*1.318-1.783*	*21-178 %*	*72.4*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.635*	*1.318-1.783*	*25-181 %*	*78.4*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.497*	*0.434-0.587*	*26-152 %*	*81.2*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.521*	*0.434-0.587*	*26-123 %*	*86.7*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.489*	*0.434-0.587*	*28-136 %*	*82.4*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.494*	*0.434-0.587*	*29-147 %*	*83.6*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.281*	*1.054-1.426*	*32-141 %*	*83.2*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.241*	*1.054-1.426*	*28-130 %*	*78.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.458*	*0.374-0.506*	*28-143 %*	*75.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.408*	*0.374-0.506*	*26-138 %*	*82.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.040*	*0.893-1.208*	*23-140 %*	*92.0*	*%*	
13C12-OCDD		*0.805*	*0.757-1.024*	*17-157 %*	*88.8*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*90.7*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-9-22

22K0359-18 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 11:25
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-18
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	83.08	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-10-22

22K0359-19 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:03
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 08:37

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-19 A 01
	Preparation Batch: BKK0746	Sample Size: 12.78 g (wet)	Dry Weight:10.01 g
	Prepared: 11/30/2022	Final Volume: 20 uL	% Solids: 78.31
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-19 A 01
	Cleanup Batch: CKL0057	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-19 A 01
	Cleanup Batch: CKL0056	Initial Volume: 20 uL	
	Cleaned: 01-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-19 A 01
	Cleanup Batch: CKL0058	Initial Volume: 20 uL	
	Cleaned: 02-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.622	0.655-0.886	0.141	0.999	**0.166**	ng/kg	EMPC, J
2,3,7,8-TCDD			0.655-0.886	0.136	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.166	0.999	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.158	0.999	ND	ng/kg	U
1,2,3,7,8-PeCDD		3.209	1.318-1.783	0.265	0.999	**0.315**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		0.822	1.054-1.426	0.143	0.999	**0.297**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDF		1.083	1.054-1.426	0.138	0.999	**0.247**	ng/kg	J
2,3,4,6,7,8-HxCDF		1.184	1.054-1.426	0.139	0.999	**0.358**	ng/kg	J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.170	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.973	1.054-1.426	0.205	0.999	**0.281**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDD		1.311	1.054-1.426	0.201	0.999	**1.20**	ng/kg	
1,2,3,7,8,9-HxCDD		1.069	1.054-1.426	0.219	0.999	**0.657**	ng/kg	J
1,2,3,4,6,7,8-HpCDF		0.968	0.893-1.208	0.158	0.999	**6.85**	ng/kg	
1,2,3,4,7,8,9-HpCDF		0.613	0.893-1.208	0.236	0.999	**0.311**	ng/kg	EMPC, J
1,2,3,4,6,7,8-HpCDD		1.104	0.893-1.208	0.286	2.50	**24.2**	ng/kg	
OCDF		0.857	0.757-1.024	0.380	2.50	**26.7**	ng/kg	
OCDD		0.840	0.757-1.024	0.408	9.99	**167**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**0.624**	ng/kg	J
Total TCDD					0.999	**2.19**	ng/kg	
Total PeCDF					0.999	**2.06**	ng/kg	
Total PeCDD					0.999	**1.19**	ng/kg	
Total HxCDF					0.999	**5.89**	ng/kg	
Total HxCDD					0.999	**12.7**	ng/kg	
Total HpCDF					0.999	**22.9**	ng/kg	
Total HpCDD					0.999	**46.2**	ng/kg	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-10-22

22K0359-19 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 13:03
Analyzed: 12/08/2022 08:37

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					1.11		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					1.01		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.91		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.61		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-10-22

22K0359-19 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:03

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/08/2022 08:37

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.774*	*0.655-0.886*	*24-169 %*	*76.5*	*%*	
13C12-2,3,7,8-TCDD		*0.768*	*0.655-0.886*	*25-164 %*	*89.4*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.535*	*1.318-1.783*	*24-185 %*	*78.5*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.563*	*1.318-1.783*	*21-178 %*	*79.8*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.598*	*1.318-1.783*	*25-181 %*	*83.7*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.498*	*0.434-0.587*	*26-152 %*	*87.2*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.517*	*0.434-0.587*	*26-123 %*	*89.8*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.505*	*0.434-0.587*	*28-136 %*	*90.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.501*	*0.434-0.587*	*29-147 %*	*96.1*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.294*	*1.054-1.426*	*32-141 %*	*84.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.256*	*1.054-1.426*	*28-130 %*	*78.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.437*	*0.374-0.506*	*28-143 %*	*81.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.444*	*0.374-0.506*	*26-138 %*	*86.3*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.042*	*0.893-1.208*	*23-140 %*	*97.8*	*%*	
13C12-OCDD		*0.892*	*0.757-1.024*	*17-157 %*	*95.4*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*89.3*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-10-22

22K0359-19 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 13:03
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-19
Preparation Batch: BKK0598 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	78.31	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-11-22

22K0359-20 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:07
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 12:04

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-20 A 01
	Preparation Batch: BKK0747	Sample Size: 12.56 g (wet)	Dry Weight:10.03 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 79.85
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-20 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-20 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-20 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.155	0.997	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.198	0.997	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.262	0.997	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.251	0.997	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.298	0.997	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.385	0.997	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.357	0.997	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.393	0.997	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.484	0.997	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.465	0.997	ND	ng/kg	U
1,2,3,6,7,8-HxCDD			1.054-1.426	0.448	0.997	ND	ng/kg	U
1,2,3,7,8,9-HxCDD		1.642	1.054-1.426	0.493	0.997	**0.732**	ng/kg	EMPC, J, B
1,2,3,4,6,7,8-HpCDF		1.338	0.893-1.208	0.311	0.997	**2.14**	ng/kg	EMPC, B
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.461	0.997	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		0.949	0.893-1.208	0.420	2.49	**7.16**	ng/kg	B
OCDF		0.919	0.757-1.024	0.331	2.49	**7.35**	ng/kg	B
OCDD		0.823	0.757-1.024	0.528	9.97	**49.5**	ng/kg	B
Homologue groups								
Total TCDF					0.997	**0.178**	ng/kg	J
Total TCDD					0.997	ND	ng/kg	U
Total PeCDF					0.997	**0.256**	ng/kg	J
Total PeCDD					0.997	ND	ng/kg	U
Total HxCDF					0.997	**2.26**	ng/kg	
Total HxCDD					0.997	0.397	ng/kg	J
Total HpCDF					0.997	**4.89**	ng/kg	B
Total HpCDD					0.997	**13.8**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-11-22

22K0359-20 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 13:07
Analyzed: 12/14/2022 12:04

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.61		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.18		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.56		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.09		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-11-22

22K0359-20 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:07

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 12:04

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.758*	*0.655-0.886*	*24-169 %*	*61.3*	*%*	
13C12-2,3,7,8-TCDD		*0.757*	*0.655-0.886*	*25-164 %*	*77.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.581*	*1.318-1.783*	*24-185 %*	*62.9*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.546*	*1.318-1.783*	*21-178 %*	*63.0*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.565*	*1.318-1.783*	*25-181 %*	*71.9*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.499*	*0.434-0.587*	*26-152 %*	*66.8*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.467*	*0.434-0.587*	*26-123 %*	*73.0*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.500*	*0.434-0.587*	*28-136 %*	*67.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.509*	*0.434-0.587*	*29-147 %*	*71.7*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.292*	*1.054-1.426*	*32-141 %*	*71.5*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.255*	*1.054-1.426*	*28-130 %*	*66.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.465*	*0.374-0.506*	*28-143 %*	*60.5*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.447*	*0.374-0.506*	*26-138 %*	*65.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.060*	*0.893-1.208*	*23-140 %*	*75.7*	*%*	
13C12-OCDD		*0.902*	*0.757-1.024*	*17-157 %*	*81.0*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*78.2*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-11-22

22K0359-20 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 13:07
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-20
Preparation Batch: BKK0599 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	79.85	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-8-22

22K0359-21 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:22
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 12:53

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-21 A 01
	Preparation Batch: BKK0747	Sample Size: 12.75 g (wet)	Dry Weight:10.04 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 78.71
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-21 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-21 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-21 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.374	0.996	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.501	0.996	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.339	0.996	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.312	0.996	ND	ng/kg	U
1,2,3,7,8-PeCDD			1.318-1.783	0.437	0.996	ND	ng/kg	U
1,2,3,4,7,8-HxCDF			1.054-1.426	0.383	0.996	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.362	0.996	ND	ng/kg	U
2,3,4,6,7,8-HxCDF		2.158	1.054-1.426	0.394	0.996	**0.395**	ng/kg	EMPC, J
1,2,3,7,8,9-HxCDF			1.054-1.426	0.464	0.996	ND	ng/kg	U
1,2,3,4,7,8-HxCDD			1.054-1.426	0.453	0.996	ND	ng/kg	U
1,2,3,6,7,8-HxCDD			1.054-1.426	0.446	0.996	ND	ng/kg	U
1,2,3,7,8,9-HxCDD			1.054-1.426	0.485	0.996	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDF		0.967	0.893-1.208	0.446	0.996	**2.86**	ng/kg	B
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.595	0.996	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		0.979	0.893-1.208	0.535	2.49	**12.1**	ng/kg	B
OCDF		0.961	0.757-1.024	0.821	2.49	**9.74**	ng/kg	B
OCDD		0.837	0.757-1.024	0.747	9.96	**79.0**	ng/kg	B
Homologue groups								
Total TCDF					0.996	ND	ng/kg	U
Total TCDD					0.996	**1.66**	ng/kg	
Total PeCDF					0.996	**ND**	ng/kg	U
Total PeCDD					0.996	ND	ng/kg	U
Total HxCDF					0.996	**3.05**	ng/kg	
Total HxCDD					0.996	**3.68**	ng/kg	
Total HpCDF					0.996	**2.86**	ng/kg	B
Total HpCDD					0.996	**23.3**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-8-22

22K0359-21 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/16/2022 13:22
Analyzed: 12/14/2022 12:53

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					0.89		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					0.22		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					0.87		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					0.18		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-8-22

22K0359-21 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:22

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 12:53

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.756*	*0.655-0.886*	*24-169 %*	*75.4*	*%*	
13C12-2,3,7,8-TCDD		*0.752*	*0.655-0.886*	*25-164 %*	*91.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.578*	*1.318-1.783*	*24-185 %*	*74.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.557*	*1.318-1.783*	*21-178 %*	*74.1*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.600*	*1.318-1.783*	*25-181 %*	*84.0*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.487*	*0.434-0.587*	*26-152 %*	*81.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.473*	*0.434-0.587*	*26-123 %*	*85.1*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.503*	*0.434-0.587*	*28-136 %*	*80.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.489*	*0.434-0.587*	*29-147 %*	*88.2*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.244*	*1.054-1.426*	*32-141 %*	*85.1*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.250*	*1.054-1.426*	*28-130 %*	*78.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.454*	*0.374-0.506*	*28-143 %*	*70.5*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.438*	*0.374-0.506*	*26-138 %*	*76.6*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*0.968*	*0.893-1.208*	*23-140 %*	*92.4*	*%*	
13C12-OCDD		*0.899*	*0.757-1.024*	*17-157 %*	*95.8*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*90.7*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-DS-8-22

22K0359-21 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 13:22
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-21
Preparation Batch: BKK0599 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	78.71	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-4-22

22K0359-22 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:41
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 13:43

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-22 A 01
	Preparation Batch: BKK0747	Sample Size: 14.24 g (wet)	Dry Weight:10.02 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 70.37
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-22 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-22 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-22 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF			0.655-0.886	0.279	0.998	ND	ng/kg	U
2,3,7,8-TCDD			0.655-0.886	0.266	0.998	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.532	0.998	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.505	0.998	ND	ng/kg	U
1,2,3,7,8-PeCDD		1.464	1.318-1.783	0.687	0.998	**0.776**	ng/kg	J
1,2,3,4,7,8-HxCDF			1.054-1.426	0.464	0.998	ND	ng/kg	U
1,2,3,6,7,8-HxCDF			1.054-1.426	0.449	0.998	ND	ng/kg	U
2,3,4,6,7,8-HxCDF		0.961	1.054-1.426	0.433	0.998	**1.09**	ng/kg	EMPC
1,2,3,7,8,9-HxCDF			1.054-1.426	0.535	0.998	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		2.101	1.054-1.426	0.496	0.998	**1.03**	ng/kg	EMPC
1,2,3,6,7,8-HxCDD		1.433	1.054-1.426	0.511	0.998	**4.52**	ng/kg	EMPC
1,2,3,7,8,9-HxCDD		1.062	1.054-1.426	0.544	0.998	**2.00**	ng/kg	B
1,2,3,4,6,7,8-HpCDF		0.961	0.893-1.208	0.443	0.998	**24.5**	ng/kg	B
1,2,3,4,7,8,9-HpCDF			0.893-1.208	0.667	0.998	ND	ng/kg	U
1,2,3,4,6,7,8-HpCDD		1.013	0.893-1.208	1.06	2.49	**142**	ng/kg	B
OCDF		0.850	0.757-1.024	0.822	2.49	**75.0**	ng/kg	B
OCDD		0.868	0.757-1.024	1.70	9.98	**1680**	ng/kg	B
Homologue groups								
Total TCDF					0.998	ND	ng/kg	U
Total TCDD					0.998	**4.02**	ng/kg	
Total PeCDF					0.998	**3.49**	ng/kg	
Total PeCDD					0.998	**2.40**	ng/kg	
Total HxCDF					0.998	**19.1**	ng/kg	
Total HxCDD					0.998	**16.5**	ng/kg	
Total HpCDF					0.998	**87.2**	ng/kg	B
Total HpCDD					0.998	**245**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-4-22

22K0359-22 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:41

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 13:43

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					4.14		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					3.83		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					3.81		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					3.17		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-4-22

22K0359-22 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/16/2022 13:41
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 13:43

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.752*	*0.655-0.886*	*24-169 %*	*65.3*	*%*	
13C12-2,3,7,8-TCDD		*0.762*	*0.655-0.886*	*25-164 %*	*80.8*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.555*	*1.318-1.783*	*24-185 %*	*64.6*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.569*	*1.318-1.783*	*21-178 %*	*64.0*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.601*	*1.318-1.783*	*25-181 %*	*75.2*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.495*	*0.434-0.587*	*26-152 %*	*70.0*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.468*	*0.434-0.587*	*26-123 %*	*74.5*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.469*	*0.434-0.587*	*28-136 %*	*74.6*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.496*	*0.434-0.587*	*29-147 %*	*79.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.210*	*1.054-1.426*	*32-141 %*	*75.7*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.217*	*1.054-1.426*	*28-130 %*	*71.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.448*	*0.374-0.506*	*28-143 %*	*62.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.439*	*0.374-0.506*	*26-138 %*	*66.0*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.072*	*0.893-1.208*	*23-140 %*	*80.5*	*%*	
13C12-OCDD		*0.865*	*0.757-1.024*	*17-157 %*	*86.9*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*88.6*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-4-22

22K0359-22 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/16/2022 13:41
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-22
Preparation Batch: BKK0599 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	70.37	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-1-22

22K0359-23 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 12:00
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 14:32

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-23 A 01
	Preparation Batch: BKK0747	Sample Size: 24.66 g (wet)	Dry Weight:10.01 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 40.59
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-23 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-23 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-23 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.768	0.655-0.886	0.402	0.999	**2.33**	ng/kg	X
2,3,7,8-TCDD		0.668	0.655-0.886	0.300	0.999	**0.694**	ng/kg	J
1,2,3,7,8-PeCDF		1.443	1.318-1.783	0.454	0.999	**0.980**	ng/kg	J
2,3,4,7,8-PeCDF		1.535	1.318-1.783	0.433	0.999	**1.76**	ng/kg	
1,2,3,7,8-PeCDD		1.386	1.318-1.783	0.502	0.999	**4.44**	ng/kg	
1,2,3,4,7,8-HxCDF		1.093	1.054-1.426	0.298	0.999	**3.22**	ng/kg	
1,2,3,6,7,8-HxCDF		1.179	1.054-1.426	0.281	0.999	**1.59**	ng/kg	
2,3,4,6,7,8-HxCDF		1.272	1.054-1.426	0.290	0.999	**4.03**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.372	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.193	1.054-1.426	0.567	0.999	**3.19**	ng/kg	
1,2,3,6,7,8-HxCDD		1.211	1.054-1.426	0.548	0.999	**16.1**	ng/kg	
1,2,3,7,8,9-HxCDD		1.197	1.054-1.426	0.602	0.999	**6.31**	ng/kg	B
1,2,3,4,6,7,8-HpCDF		0.995	0.893-1.208	0.479	0.999	**74.3**	ng/kg	B
1,2,3,4,7,8,9-HpCDF		1.068	0.893-1.208	0.736	0.999	**4.07**	ng/kg	
1,2,3,4,6,7,8-HpCDD		0.982	0.893-1.208	0.999	2.50	**343**	ng/kg	B
OCDF		0.858	0.757-1.024	0.549	2.50	**214**	ng/kg	B
OCDD		0.872	0.757-1.024	0.813	9.99	**2360**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**16.8**	ng/kg	
Total TCDD					0.999	**41.9**	ng/kg	
Total PeCDF					0.999	**25.2**	ng/kg	
Total PeCDD					0.999	**52.4**	ng/kg	
Total HxCDF					0.999	**97.0**	ng/kg	
Total HxCDD					0.999	**246**	ng/kg	
Total HpCDF					0.999	**260**	ng/kg	B
Total HpCDD					0.999	**804**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-1-22

22K0359-23 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 12:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 14:32

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					14.37		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					14.35		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					14.37		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					14.35		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-1-22

22K0359-23 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 12:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 14:32

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.745*	*0.655-0.886*	*24-169 %*	*57.8*	*%*	
13C12-2,3,7,8-TCDD		*0.764*	*0.655-0.886*	*25-164 %*	*72.8*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.557*	*1.318-1.783*	*24-185 %*	*58.9*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.541*	*1.318-1.783*	*21-178 %*	*58.4*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.608*	*1.318-1.783*	*25-181 %*	*67.5*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.499*	*0.434-0.587*	*26-152 %*	*61.7*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.457*	*0.434-0.587*	*26-123 %*	*68.1*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.493*	*0.434-0.587*	*28-136 %*	*64.2*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.496*	*0.434-0.587*	*29-147 %*	*67.4*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.306*	*1.054-1.426*	*32-141 %*	*66.0*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.244*	*1.054-1.426*	*28-130 %*	*62.7*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.446*	*0.374-0.506*	*28-143 %*	*55.6*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.452*	*0.374-0.506*	*26-138 %*	*58.1*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.067*	*0.893-1.208*	*23-140 %*	*71.1*	*%*	
13C12-OCDD		*0.903*	*0.757-1.024*	*17-157 %*	*76.8*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*88.4*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-1-22

22K0359-23 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 07/20/2022 12:00
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-23
Preparation Batch: BKK0599 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	40.59	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-2-22

22K0359-24 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 12:30
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 15:22

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-24 A 01
	Preparation Batch: BKK0747	Sample Size: 28.79 g (wet)	Dry Weight:10.01 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 34.76
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-24 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-24 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-24 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.674	0.655-0.886	0.199	0.999	**5.26**	ng/kg	X
2,3,7,8-TCDD		0.879	0.655-0.886	0.166	0.999	**0.906**	ng/kg	J
1,2,3,7,8-PeCDF		1.317	1.318-1.783	0.289	0.999	**1.53**	ng/kg	EMPC
2,3,4,7,8-PeCDF		1.306	1.318-1.783	0.271	0.999	**3.09**	ng/kg	EMPC
1,2,3,7,8-PeCDD		1.440	1.318-1.783	0.551	0.999	**8.02**	ng/kg	
1,2,3,4,7,8-HxCDF		1.234	1.054-1.426	0.291	0.999	**6.27**	ng/kg	
1,2,3,6,7,8-HxCDF		1.232	1.054-1.426	0.290	0.999	**3.26**	ng/kg	
2,3,4,6,7,8-HxCDF		1.162	1.054-1.426	0.293	0.999	**6.79**	ng/kg	
1,2,3,7,8,9-HxCDF			1.054-1.426	0.369	0.999	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.153	1.054-1.426	0.471	0.999	**4.25**	ng/kg	
1,2,3,6,7,8-HxCDD		1.267	1.054-1.426	0.452	0.999	**28.6**	ng/kg	
1,2,3,7,8,9-HxCDD		1.248	1.054-1.426	0.498	0.999	**9.66**	ng/kg	B
1,2,3,4,6,7,8-HpCDF		1.008	0.893-1.208	0.515	0.999	**136**	ng/kg	B
1,2,3,4,7,8,9-HpCDF		1.002	0.893-1.208	0.767	0.999	**7.37**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.020	0.893-1.208	1.48	2.50	**557**	ng/kg	B
OCDF		0.891	0.757-1.024	0.572	2.50	**391**	ng/kg	B
OCDD		0.881	0.757-1.024	1.29	9.99	**4940**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**37.1**	ng/kg	
Total TCDD					0.999	**69.1**	ng/kg	
Total PeCDF					0.999	**63.7**	ng/kg	
Total PeCDD					0.999	**72.3**	ng/kg	
Total HxCDF					0.999	**211**	ng/kg	
Total HxCDD					0.999	**291**	ng/kg	
Total HpCDF					0.999	**517**	ng/kg	B
Total HpCDD					0.999	**1100**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-2-22

22K0359-24 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 07/20/2022 12:30
Analyzed: 12/14/2022 15:22

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					24.93		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					24.91		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					24.44		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					23.94		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-2-22

22K0359-24 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 12:30

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 15:22

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.761*	*0.655-0.886*	*24-169 %*	*64.1*	*%*	
13C12-2,3,7,8-TCDD		*0.755*	*0.655-0.886*	*25-164 %*	*79.0*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.578*	*1.318-1.783*	*24-185 %*	*64.0*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.546*	*1.318-1.783*	*21-178 %*	*64.1*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.576*	*1.318-1.783*	*25-181 %*	*73.0*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.498*	*0.434-0.587*	*26-152 %*	*68.1*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.491*	*0.434-0.587*	*26-123 %*	*70.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.500*	*0.434-0.587*	*28-136 %*	*69.5*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.503*	*0.434-0.587*	*29-147 %*	*74.1*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.243*	*1.054-1.426*	*32-141 %*	*73.6*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.240*	*1.054-1.426*	*28-130 %*	*67.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.435*	*0.374-0.506*	*28-143 %*	*59.9*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.440*	*0.374-0.506*	*26-138 %*	*63.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.056*	*0.893-1.208*	*23-140 %*	*80.0*	*%*	
13C12-OCDD		*0.908*	*0.757-1.024*	*17-157 %*	*87.2*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*80.8*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-2-22

22K0359-24 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 07/20/2022 12:30

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-24

Preparation Batch: BKK0599 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	34.76	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-3-22

22K0359-25 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 13:00
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 16:11

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-25 A 01
	Preparation Batch: BKK0747	Sample Size: 31.9 g (wet)	Dry Weight:10.01 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 31.39
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-25 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-25 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-25 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		0.748	0.655-0.886	0.150	0.999	**6.45**	ng/kg	X
2,3,7,8-TCDD		0.806	0.655-0.886	0.193	0.999	**1.97**	ng/kg	
1,2,3,7,8-PeCDF		1.447	1.318-1.783	0.363	0.999	**2.50**	ng/kg	
2,3,4,7,8-PeCDF		1.339	1.318-1.783	0.326	0.999	**4.13**	ng/kg	
1,2,3,7,8-PeCDD		1.491	1.318-1.783	0.415	0.999	**13.8**	ng/kg	
1,2,3,4,7,8-HxCDF		1.247	1.054-1.426	0.259	0.999	**10.5**	ng/kg	
1,2,3,6,7,8-HxCDF		1.195	1.054-1.426	0.249	0.999	**4.90**	ng/kg	
2,3,4,6,7,8-HxCDF		1.252	1.054-1.426	0.253	0.999	**10.9**	ng/kg	
1,2,3,7,8,9-HxCDF		1.216	1.054-1.426	0.318	0.999	**4.46**	ng/kg	
1,2,3,4,7,8-HxCDD		1.118	1.054-1.426	0.612	0.999	**8.99**	ng/kg	
1,2,3,6,7,8-HxCDD		1.125	1.054-1.426	0.588	0.999	**49.2**	ng/kg	
1,2,3,7,8,9-HxCDD		1.126	1.054-1.426	0.648	0.999	**20.3**	ng/kg	B
1,2,3,4,6,7,8-HpCDF		0.984	0.893-1.208	0.739	0.999	**221**	ng/kg	B
1,2,3,4,7,8,9-HpCDF		1.061	0.893-1.208	0.957	0.999	**14.9**	ng/kg	
1,2,3,4,6,7,8-HpCDD		1.031	0.893-1.208	1.79	2.50	**1550**	ng/kg	B
OCDF		0.875	0.757-1.024	0.654	2.50	**937**	ng/kg	B
OCDD		0.874	0.757-1.024	1.50	9.99	**23500**	ng/kg	B
Homologue groups								
Total TCDF					0.999	**72.8**	ng/kg	
Total TCDD					0.999	**231**	ng/kg	
Total PeCDF					0.999	**114**	ng/kg	
Total PeCDD					0.999	**139**	ng/kg	
Total HxCDF					0.999	**306**	ng/kg	
Total HxCDD					0.999	**481**	ng/kg	
Total HpCDF					0.999	**1000**	ng/kg	B
Total HpCDD					0.999	**2740**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-3-22

22K0359-25 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 13:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 16:11

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					53.84		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					53.84		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					53.84		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					53.84		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-3-22

22K0359-25 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 07/20/2022 13:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 16:11

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.791*	*0.655-0.886*	*24-169 %*	*63.3*	*%*	
13C12-2,3,7,8-TCDD		*0.759*	*0.655-0.886*	*25-164 %*	*78.9*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.563*	*1.318-1.783*	*24-185 %*	*63.2*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.520*	*1.318-1.783*	*21-178 %*	*64.8*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.573*	*1.318-1.783*	*25-181 %*	*76.1*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.505*	*0.434-0.587*	*26-152 %*	*68.3*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.477*	*0.434-0.587*	*26-123 %*	*70.4*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.495*	*0.434-0.587*	*28-136 %*	*69.1*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.508*	*0.434-0.587*	*29-147 %*	*74.9*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.253*	*1.054-1.426*	*32-141 %*	*72.9*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.245*	*1.054-1.426*	*28-130 %*	*69.0*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.446*	*0.374-0.506*	*28-143 %*	*58.2*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.464*	*0.374-0.506*	*26-138 %*	*68.5*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.054*	*0.893-1.208*	*23-140 %*	*83.2*	*%*	
13C12-OCDD		*0.918*	*0.757-1.024*	*17-157 %*	*98.4*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*89.7*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-WW-3-22

22K0359-25 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 07/20/2022 13:00

Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-25

Preparation Batch: BKK0599 — Sample Size: 1 g (wet)

Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	31.39	%	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-3-22-D

22K0359-26 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 15:00
Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 17:01

Analysis by: Analytical Resources, LLC

Sample Preparation:	Preparation Method: EPA 1613		Extract ID: 22K0359-26 A 01
	Preparation Batch: BKK0747	Sample Size: 13.18 g (wet)	Dry Weight:10.04 g
	Prepared: 11/28/2022	Final Volume: 20 uL	% Solids: 76.17
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 22K0359-26 A 01
	Cleanup Batch: CKL0104	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:22K0359-26 A 01
	Cleanup Batch: CKL0103	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	
Sample Cleanup:	Cleanup Method: Florisil		Extract ID:22K0359-26 A 01
	Cleanup Batch: CKL0105	Initial Volume: 20 uL	
	Cleaned: 07-Dec-2022	Final Volume: 20 uL	

Analyte	DF/Split	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	Notes
2,3,7,8-TCDF		1.398	0.655-0.886	0.194	0.996	**0.339**	ng/kg	EMPC, J
2,3,7,8-TCDD			0.655-0.886	0.204	0.996	ND	ng/kg	U
1,2,3,7,8-PeCDF			1.318-1.783	0.257	0.996	ND	ng/kg	U
2,3,4,7,8-PeCDF			1.318-1.783	0.247	0.996	ND	ng/kg	U
1,2,3,7,8-PeCDD		0.938	1.318-1.783	0.283	0.996	**0.573**	ng/kg	EMPC, J
1,2,3,4,7,8-HxCDF		0.982	1.054-1.426	0.239	0.996	**0.391**	ng/kg	EMPC, J
1,2,3,6,7,8-HxCDF			1.054-1.426	0.236	0.996	ND	ng/kg	U
2,3,4,6,7,8-HxCDF			1.054-1.426	0.232	0.996	ND	ng/kg	U
1,2,3,7,8,9-HxCDF			1.054-1.426	0.289	0.996	ND	ng/kg	U
1,2,3,4,7,8-HxCDD		1.312	1.054-1.426	0.303	0.996	**0.333**	ng/kg	J
1,2,3,6,7,8-HxCDD		1.258	1.054-1.426	0.303	0.996	**1.89**	ng/kg	
1,2,3,7,8,9-HxCDD		1.598	1.054-1.426	0.327	0.996	**0.859**	ng/kg	EMPC, J, B
1,2,3,4,6,7,8-HpCDF		1.042	0.893-1.208	0.297	0.996	**15.6**	ng/kg	B
1,2,3,4,7,8,9-HpCDF		0.787	0.893-1.208	0.420	0.996	**1.06**	ng/kg	EMPC
1,2,3,4,6,7,8-HpCDD		1.102	0.893-1.208	0.496	2.49	**52.8**	ng/kg	B
OCDF		0.920	0.757-1.024	0.532	2.49	**89.2**	ng/kg	B
OCDD		0.873	0.757-1.024	0.914	9.96	**439**	ng/kg	B
Homologue groups								
Total TCDF					0.996	ND	ng/kg	U
Total TCDD					0.996	**2.25**	ng/kg	
Total PeCDF					0.996	**1.87**	ng/kg	
Total PeCDD					0.996	**2.13**	ng/kg	
Total HxCDF					0.996	**9.77**	ng/kg	
Total HxCDD					0.996	**13.5**	ng/kg	
Total HpCDF					0.996	**65.4**	ng/kg	B
Total HpCDD					0.996	**93.5**	ng/kg	B

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-3-22-D

22K0359-26 (Solid)

Dioxins/Furans

Method: EPA 1613B
Instrument: AUTOSPEC01 Analyst: pk

Sampled: 11/15/2022 15:00
Analyzed: 12/14/2022 17:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):					1.99		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):					1.81		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC = ND):					1.62		
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, EMPC = ND):					1.06		

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-3-22-D

22K0359-26 (Solid)

Dioxins/Furans

Method: EPA 1613B — Sampled: 11/15/2022 15:00

Instrument: AUTOSPEC01 Analyst: pk — Analyzed: 12/14/2022 17:01

Analysis by: Analytical Resources, LLC

Analyte	DF/Split	Ion Ratio	Ratio Limits	Reporting Limit	Result	Units	Notes
Labeled compounds							
13C12-2,3,7,8-TCDF		*0.762*	*0.655-0.886*	*24-169 %*	*64.8*	*%*	
13C12-2,3,7,8-TCDD		*0.764*	*0.655-0.886*	*25-164 %*	*82.7*	*%*	
13C12-1,2,3,7,8-PeCDF		*1.515*	*1.318-1.783*	*24-185 %*	*70.1*	*%*	
13C12-2,3,4,7,8-PeCDF		*1.532*	*1.318-1.783*	*21-178 %*	*70.4*	*%*	
13C12-1,2,3,7,8-PeCDD		*1.597*	*1.318-1.783*	*25-181 %*	*81.4*	*%*	
13C12-1,2,3,4,7,8-HxCDF		*0.496*	*0.434-0.587*	*26-152 %*	*71.7*	*%*	
13C12-1,2,3,6,7,8-HxCDF		*0.503*	*0.434-0.587*	*26-123 %*	*73.6*	*%*	
13C12-2,3,4,6,7,8-HxCDF		*0.501*	*0.434-0.587*	*28-136 %*	*74.8*	*%*	
13C12-1,2,3,7,8,9-HxCDF		*0.513*	*0.434-0.587*	*29-147 %*	*83.4*	*%*	
13C12-1,2,3,4,7,8-HxCDD		*1.246*	*1.054-1.426*	*32-141 %*	*76.5*	*%*	
13C12-1,2,3,6,7,8-HxCDD		*1.240*	*1.054-1.426*	*28-130 %*	*73.9*	*%*	
13C12-1,2,3,4,6,7,8-HpCDF		*0.461*	*0.374-0.506*	*28-143 %*	*64.4*	*%*	
13C12-1,2,3,4,7,8,9-HpCDF		*0.459*	*0.374-0.506*	*26-138 %*	*70.4*	*%*	
13C12-1,2,3,4,6,7,8-HpCDD		*1.093*	*0.893-1.208*	*23-140 %*	*85.9*	*%*	
13C12-OCDD		*0.927*	*0.757-1.024*	*17-157 %*	*91.3*	*%*	
37Cl4-2,3,7,8-TCDD				*35-197 %*	*86.1*	*%*	

Analytical Resources, LLC
Analytical Chemists and Consultants

Analytical Report

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

CP-TLC2-3-22-D

22K0359-26 (Solid)

Extractions

Method: ASTM D2216 — Sampled: 11/15/2022 15:00
Instrument: N/A Analyst: TW — Analyzed: 11/23/2022 05:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep-Organics — Extract ID: 22K0359-26
Preparation Batch: BKK0599 — Sample Size: 1 g (wet)
Prepared: 11/22/2022 — Final Volume: 1 g

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Total Solids		1	0.01	76.17	%	

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKK0746-BLK1)				Prepared: 30-Nov-2022 Analyzed: 07-Dec-2022 12:39							
2,3,7,8-TCDF		0.655-0.886	0.141	1.00	ND	ng/kg					U
2,3,7,8-TCDD		0.655-0.886	0.190	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDF	0.636	1.318-1.783		1.00	0.119	ng/kg					EMPC, J
2,3,4,7,8-PeCDF		1.318-1.783	0.139	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDD		1.318-1.783	0.165	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDF		1.054-1.426	0.149	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDF		1.054-1.426	0.144	1.00	ND	ng/kg					U
2,3,4,6,7,8-HxCDF		1.054-1.426	0.149	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDF		1.054-1.426	0.189	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDD		1.054-1.426	0.184	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDD		1.054-1.426	0.181	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDD		1.054-1.426	0.197	1.00	ND	ng/kg					U
1,2,3,4,6,7,8-HpCDF		0.893-1.208	0.141	1.00	ND	ng/kg					U
1,2,3,4,7,8,9-HpCDF		0.893-1.208	0.220	1.00	ND	ng/kg					U
1,2,3,4,6,7,8-HpCDD		0.893-1.208	0.251	2.50	ND	ng/kg					U
OCDF		0.757-1.024	0.334	2.50	ND	ng/kg					U
OCDD	0.973	0.757-1.024		10.0	1.37	ng/kg					J
Homologue group											
Total TCDF				1.00	ND	ng/kg					U
Total TCDD				1.00	ND	ng/kg					U
Total PeCDF				1.00	ND	ng/kg					U
Total PeCDD				1.00	ND	ng/kg					U
Total HxCDF				1.00	ND	ng/kg					U
Total HxCDD				1.00	ND	ng/kg					U
Total HpCDF				1.00	ND	ng/kg					U
Total HpCDD				1.00	ND	ng/kg					U

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.14
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.00
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.14
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKK0746-BLK1)				Prepared: 30-Nov-2022 Analyzed: 07-Dec-2022 12:39							
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.790*	*0.655-0.886*			*93.6*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.768*	*0.655-0.886*			*105*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.561*	*1.318-1.783*			*100*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.586*	*1.318-1.783*			*99.4*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.615*	*1.318-1.783*			*109*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.507*	*0.434-0.587*			*105*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.509*	*0.434-0.587*			*108*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.509*	*0.434-0.587*			*105*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.497*	*0.434-0.587*			*109*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.265*	*1.054-1.426*			*103*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.263*	*1.054-1.426*			*101*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.462*	*0.374-0.506*			*103*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.448*	*0.374-0.506*			*103*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.095*	*0.893-1.208*			*123*			*23-140 %*			
13C12-OCDD	*0.911*	*0.757-1.024*			*118*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*110*			*35-197 %*			
LCS (BKK0746-BS1)				Prepared: 30-Nov-2022 Analyzed: 07-Dec-2022 13:33							
2,3,7,8-TCDF	0.739	0.655-0.886		1.00	20.7	ng/kg	104	75-158 %			
2,3,7,8-TCDD	0.807	0.655-0.886		1.00	22.3	ng/kg	111	67-158 %			
1,2,3,7,8-PeCDF	1.585	1.318-1.783		1.00	108	ng/kg	108	80-134 %			B
2,3,4,7,8-PeCDF	1.542	1.318-1.783		1.00	108	ng/kg	108	68-160 %			
1,2,3,7,8-PeCDD	1.538	1.318-1.783		1.00	111	ng/kg	111	70-142 %			
1,2,3,4,7,8-HxCDF	1.252	1.054-1.426		1.00	117	ng/kg	117	72-134 %			
1,2,3,6,7,8-HxCDF	1.257	1.054-1.426		1.00	117	ng/kg	117	84-130 %			
2,3,4,6,7,8-HxCDF	1.240	1.054-1.426		1.00	114	ng/kg	114	70-156 %			
1,2,3,7,8,9-HxCDF	1.264	1.054-1.426		1.00	117	ng/kg	117	78-130 %			
1,2,3,4,7,8-HxCDD	1.230	1.054-1.426		1.00	121	ng/kg	121	70-164 %			
1,2,3,6,7,8-HxCDD	1.225	1.054-1.426		1.00	113	ng/kg	113	76-134 %			
1,2,3,7,8,9-HxCDD	1.218	1.054-1.426		1.00	120	ng/kg	120	64-162 %			
1,2,3,4,6,7,8-HpCDF	1.012	0.893-1.208		1.00	111	ng/kg	111	82-122 %			
1,2,3,4,7,8,9-HpCDF	1.029	0.893-1.208		1.00	112	ng/kg	112	78-138 %			
1,2,3,4,6,7,8-HpCDD	1.054	0.893-1.208		2.50	113	ng/kg	113	70-140 %			
OCDF	0.906	0.757-1.024		2.50	198	ng/kg	98.8	63-170 %			
OCDD	0.886	0.757-1.024		10.0	221	ng/kg	111	78-144 %			B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKK0746-BS1)				Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 13:33						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.776*	*0.655-0.886*			*78.9*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.768*	*0.655-0.886*			*91.1*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.556*	*1.318-1.783*			*89.7*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.583*	*1.318-1.783*			*89.8*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.630*	*1.318-1.783*			*97.3*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.505*	*0.434-0.587*			*94.4*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.477*	*0.434-0.587*			*104*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.514*	*0.434-0.587*			*93.3*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.512*	*0.434-0.587*			*98.6*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.266*	*1.054-1.426*			*92.9*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.297*	*1.054-1.426*			*92.0*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.456*	*0.374-0.506*			*92.4*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.461*	*0.374-0.506*			*97.2*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.079*	*0.893-1.208*			*113*			*23-140 %*			
13C12-OCDD	*0.922*	*0.757-1.024*			*108*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*92.9*			*35-197 %*			
Matrix Spike (BKK0746-MS1)		**Source: 22K0359-01**		Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 14:22						
2,3,7,8-TCDF	0.739	0.655-0.886		1.00	21.1	ng/kg	106	0-200 %			
2,3,7,8-TCDD	0.813	0.655-0.886		1.00	22.6	ng/kg	113	0-200 %			
1,2,3,7,8-PeCDF	1.588	1.318-1.783		1.00	112	ng/kg	112	0-200 %			B
2,3,4,7,8-PeCDF	1.595	1.318-1.783		1.00	107	ng/kg	107	0-200 %			
1,2,3,7,8-PeCDD	1.554	1.318-1.783		1.00	113	ng/kg	113	0-200 %			
1,2,3,4,7,8-HxCDF	1.264	1.054-1.426		1.00	114	ng/kg	114	0-200 %			
1,2,3,6,7,8-HxCDF	1.271	1.054-1.426		1.00	115	ng/kg	115	0-200 %			
2,3,4,6,7,8-HxCDF	1.256	1.054-1.426		1.00	117	ng/kg	116	0-200 %			
1,2,3,7,8,9-HxCDF	1.203	1.054-1.426		1.00	117	ng/kg	117	0-200 %			
1,2,3,4,7,8-HxCDD	1.227	1.054-1.426		1.00	115	ng/kg	115	0-200 %			
1,2,3,6,7,8-HxCDD	1.246	1.054-1.426		1.00	122	ng/kg	122	0-200 %			
1,2,3,7,8,9-HxCDD	1.415	1.054-1.426		1.00	126	ng/kg	125	0-200 %			
1,2,3,4,6,7,8-HpCDF	1.018	0.893-1.208		1.00	115	ng/kg	112	0-200 %			
1,2,3,4,7,8,9-HpCDF	1.032	0.893-1.208		1.00	112	ng/kg	112	0-200 %			
1,2,3,4,6,7,8-HpCDD	1.043	0.893-1.208		2.50	122	ng/kg	110	0-200 %			
OCDF	0.932	0.757-1.024		2.50	209	ng/kg	98.7	0-200 %			
OCDD	0.845	0.757-1.024		10.0	305	ng/kg	106	0-200 %			B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BKK0746-MS1)		**Source: 22K0359-01**		Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 14:22						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.767*	*0.655-0.886*			*84.0*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.774*	*0.655-0.886*			*95.7*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.603*	*1.318-1.783*			*83.3*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.594*	*1.318-1.783*			*84.9*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.613*	*1.318-1.783*			*90.3*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.508*	*0.434-0.587*			*93.1*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.484*	*0.434-0.587*			*97.5*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.498*	*0.434-0.587*			*95.0*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.514*	*0.434-0.587*			*99.2*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.273*	*1.054-1.426*			*93.6*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.268*	*1.054-1.426*			*86.2*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.446*	*0.374-0.506*			*90.5*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.463*	*0.374-0.506*			*94.2*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.074*	*0.893-1.208*			*108*			*23-140 %*			
13C12-OCDD	*0.930*	*0.757-1.024*			*110*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*102*			*35-197 %*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BKK0746-MSD1)		**Source: 22K0359-01**		Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 15:11						
2,3,7,8-TCDF	0.771	0.655-0.886		1.00	21.5	ng/kg	108	0-200 %	1.95	200	
2,3,7,8-TCDD	0.772	0.655-0.886		1.00	22.6	ng/kg	113	0-200 %	0.15	200	
1,2,3,7,8-PeCDF	1.604	1.318-1.783		1.00	113	ng/kg	113	0-200 %	0.89	200	B
2,3,4,7,8-PeCDF	1.618	1.318-1.783		1.00	107	ng/kg	107	0-200 %	0.14	200	
1,2,3,7,8-PeCDD	1.552	1.318-1.783		1.00	107	ng/kg	106	0-200 %	5.71	200	
1,2,3,4,7,8-HxCDF	1.245	1.054-1.426		1.00	118	ng/kg	118	0-200 %	3.44	200	
1,2,3,6,7,8-HxCDF	1.283	1.054-1.426		1.00	114	ng/kg	114	0-200 %	1.37	200	
2,3,4,6,7,8-HxCDF	1.247	1.054-1.426		1.00	115	ng/kg	115	0-200 %	1.21	200	
1,2,3,7,8,9-HxCDF	1.300	1.054-1.426		1.00	117	ng/kg	117	0-200 %	0.60	200	
1,2,3,4,7,8-HxCDD	1.238	1.054-1.426		1.00	120	ng/kg	120	0-200 %	4.31	200	
1,2,3,6,7,8-HxCDD	1.234	1.054-1.426		1.00	115	ng/kg	115	0-200 %	5.96	200	
1,2,3,7,8,9-HxCDD	1.185	1.054-1.426		1.00	120	ng/kg	119	0-200 %	4.92	200	
1,2,3,4,6,7,8-HpCDF	1.041	0.893-1.208		1.00	117	ng/kg	113	0-200 %	1.43	200	
1,2,3,4,7,8,9-HpCDF	1.030	0.893-1.208		1.00	113	ng/kg	113	0-200 %	0.74	200	
1,2,3,4,6,7,8-HpCDD	1.073	0.893-1.208		2.50	127	ng/kg	114	0-200 %	3.72	200	
OCDF	0.933	0.757-1.024		2.50	209	ng/kg	98.5	0-200 %	0.20	200	

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BKK0746-MSD1)	**Source: 22K0359-01**			Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 15:11						
OCDD	0.925	0.757-1.024		10.0	308	ng/kg	107	0-200 %	0.68	200	B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0746 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BKK0746-MSD1)	**Source: 22K0359-01**			Prepared: 30-Nov-2022	Analyzed: 07-Dec-2022 15:11						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.761*	*0.655-0.886*					*73.5*	*24-169 %*			
13C12-2,3,7,8-TCDD	*0.783*	*0.655-0.886*					*86.7*	*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.584*	*1.318-1.783*					*79.6*	*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.526*	*1.318-1.783*					*81.1*	*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.689*	*1.318-1.783*					*89.0*	*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.504*	*0.434-0.587*					*93.2*	*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.475*	*0.434-0.587*					*101*	*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.506*	*0.434-0.587*					*96.7*	*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.512*	*0.434-0.587*					*101*	*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.295*	*1.054-1.426*					*93.0*	*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.224*	*1.054-1.426*					*88.1*	*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.441*	*0.374-0.506*					*88.0*	*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.440*	*0.374-0.506*					*89.7*	*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.058*	*0.893-1.208*					*104*	*23-140 %*			
13C12-OCDD	*0.919*	*0.757-1.024*					*103*	*17-157 %*			
37Cl4-2,3,7,8-TCDD							*89.9*	*35-197 %*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKK0747-BLK1)				Prepared: 28-Nov-2022 Analyzed: 14-Dec-2022 08:46							
2,3,7,8-TCDF		0.655-0.886	0.208	1.00	ND	ng/kg					U
2,3,7,8-TCDD		0.655-0.886	0.237	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDF		1.318-1.783	0.257	1.00	ND	ng/kg					U
2,3,4,7,8-PeCDF		1.318-1.783	0.250	1.00	ND	ng/kg					U
1,2,3,7,8-PeCDD		1.318-1.783	0.287	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDF		1.054-1.426	0.359	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDF		1.054-1.426	0.349	1.00	ND	ng/kg					U
2,3,4,6,7,8-HxCDF		1.054-1.426	0.361	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDF		1.054-1.426	0.452	1.00	ND	ng/kg					U
1,2,3,4,7,8-HxCDD		1.054-1.426	0.471	1.00	ND	ng/kg					U
1,2,3,6,7,8-HxCDD		1.054-1.426	0.462	1.00	ND	ng/kg					U
1,2,3,7,8,9-HxCDD	0.753	1.054-1.426		1.00	0.581	ng/kg					EMPC, J
1,2,3,4,6,7,8-HpCDF	2.388	0.893-1.208		1.00	0.404	ng/kg					EMPC, J
1,2,3,4,7,8,9-HpCDF		0.893-1.208	0.356	1.00	ND	ng/kg					U
1,2,3,4,6,7,8-HpCDD	0.838	0.893-1.208		2.50	0.687	ng/kg					EMPC, J
OCDF	1.290	0.757-1.024		2.50	1.09	ng/kg					EMPC, J
OCDD	0.865	0.757-1.024		10.0	4.45	ng/kg					J
Homologue group											
Total TCDF				1.00	ND	ng/kg					U
Total TCDD				1.00	ND	ng/kg					U
Total PeCDF				1.00	ND	ng/kg					U
Total PeCDD				1.00	ND	ng/kg					U
Total HxCDF				1.00	ND	ng/kg					U
Total HxCDD				1.00	ND	ng/kg					U
Total HpCDF				1.00	0.629	ng/kg					J
Total HpCDD				1.00	0.413	ng/kg					J

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC):	0.29
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC):	0.07
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, EMPC=ND):	0.23
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0 EDL, EMPC=ND):	0.00

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKK0747-BLK1)				Prepared: 28-Nov-2022 Analyzed: 14-Dec-2022 08:46							
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.754*	*0.655-0.886*			*68.5*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.781*	*0.655-0.886*			*84.0*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.581*	*1.318-1.783*			*71.0*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.544*	*1.318-1.783*			*69.1*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.610*	*1.318-1.783*			*80.0*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.496*	*0.434-0.587*			*74.7*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.493*	*0.434-0.587*			*79.7*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.492*	*0.434-0.587*			*75.1*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.487*	*0.434-0.587*			*80.8*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.258*	*1.054-1.426*			*78.9*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.229*	*1.054-1.426*			*75.8*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.452*	*0.374-0.506*			*66.8*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.451*	*0.374-0.506*			*70.8*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.079*	*0.893-1.208*			*87.3*			*23-140 %*			
13C12-OCDD	*0.896*	*0.757-1.024*			*89.2*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*92.7*			*35-197 %*			
LCS (BKK0747-BS1)				Prepared: 28-Nov-2022 Analyzed: 14-Dec-2022 09:35							
2,3,7,8-TCDF	0.702	0.655-0.886		1.00	20.5	ng/kg	102	75-158 %			
2,3,7,8-TCDD	0.782	0.655-0.886		1.00	21.9	ng/kg	109	67-158 %			
1,2,3,7,8-PeCDF	1.551	1.318-1.783		1.00	106	ng/kg	106	80-134 %			
2,3,4,7,8-PeCDF	1.520	1.318-1.783		1.00	101	ng/kg	101	68-160 %			
1,2,3,7,8-PeCDD	1.587	1.318-1.783		1.00	107	ng/kg	107	70-142 %			
1,2,3,4,7,8-HxCDF	1.226	1.054-1.426		1.00	108	ng/kg	108	72-134 %			
1,2,3,6,7,8-HxCDF	1.237	1.054-1.426		1.00	108	ng/kg	108	84-130 %			
2,3,4,6,7,8-HxCDF	1.153	1.054-1.426		1.00	108	ng/kg	108	70-156 %			
1,2,3,7,8,9-HxCDF	1.251	1.054-1.426		1.00	111	ng/kg	111	78-130 %			
1,2,3,4,7,8-HxCDD	1.215	1.054-1.426		1.00	114	ng/kg	114	70-164 %			
1,2,3,6,7,8-HxCDD	1.200	1.054-1.426		1.00	115	ng/kg	115	76-134 %			
1,2,3,7,8,9-HxCDD	1.224	1.054-1.426		1.00	114	ng/kg	114	64-162 %			B
1,2,3,4,6,7,8-HpCDF	0.996	0.893-1.208		1.00	112	ng/kg	112	82-122 %			B
1,2,3,4,7,8,9-HpCDF	0.993	0.893-1.208		1.00	110	ng/kg	110	78-138 %			
1,2,3,4,6,7,8-HpCDD	1.046	0.893-1.208		2.50	109	ng/kg	109	70-140 %			B
OCDF	0.881	0.757-1.024		2.50	176	ng/kg	88.1	63-170 %			B
OCDD	0.823	0.757-1.024		10.0	213	ng/kg	107	78-144 %			B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BKK0747-BS1)				Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 09:35						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.794*	*0.655-0.886*			*52.9*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.759*	*0.655-0.886*			*65.6*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.501*	*1.318-1.783*			*60.8*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.554*	*1.318-1.783*			*60.6*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.603*	*1.318-1.783*			*70.5*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.496*	*0.434-0.587*			*72.0*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.477*	*0.434-0.587*			*74.4*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.533*	*0.434-0.587*			*73.3*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.522*	*0.434-0.587*			*73.0*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.285*	*1.054-1.426*			*75.3*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.299*	*1.054-1.426*			*69.7*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.456*	*0.374-0.506*			*61.0*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.442*	*0.374-0.506*			*65.5*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.039*	*0.893-1.208*			*77.3*			*23-140 %*			
13C12-OCDD	*0.888*	*0.757-1.024*			*80.4*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*70.0*			*35-197 %*			
Matrix Spike (BKK0747-MS1)		**Source: 22K0359-20**		Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 10:25						
2,3,7,8-TCDF	0.710	0.655-0.886		0.997	20.6	ng/kg	103	0-200 %			
2,3,7,8-TCDD	0.813	0.655-0.886		0.997	21.6	ng/kg	108	0-200 %			
1,2,3,7,8-PeCDF	1.563	1.318-1.783		0.997	105	ng/kg	105	0-200 %			
2,3,4,7,8-PeCDF	1.504	1.318-1.783		0.997	104	ng/kg	104	0-200 %			
1,2,3,7,8-PeCDD	1.505	1.318-1.783		0.997	109	ng/kg	109	0-200 %			
1,2,3,4,7,8-HxCDF	1.224	1.054-1.426		0.997	110	ng/kg	111	0-200 %			
1,2,3,6,7,8-HxCDF	1.270	1.054-1.426		0.997	110	ng/kg	111	0-200 %			
2,3,4,6,7,8-HxCDF	1.212	1.054-1.426		0.997	107	ng/kg	107	0-200 %			
1,2,3,7,8,9-HxCDF	1.174	1.054-1.426		0.997	110	ng/kg	111	0-200 %			
1,2,3,4,7,8-HxCDD	1.267	1.054-1.426		0.997	113	ng/kg	114	0-200 %			
1,2,3,6,7,8-HxCDD	1.256	1.054-1.426		0.997	115	ng/kg	115	0-200 %			
1,2,3,7,8,9-HxCDD	1.227	1.054-1.426		0.997	115	ng/kg	114	0-200 %			B
1,2,3,4,6,7,8-HpCDF	0.982	0.893-1.208		0.997	112	ng/kg	110	0-200 %			B
1,2,3,4,7,8,9-HpCDF	0.981	0.893-1.208		0.997	110	ng/kg	110	0-200 %			
1,2,3,4,6,7,8-HpCDD	1.067	0.893-1.208		2.49	117	ng/kg	110	0-200 %			B
OCDF	0.894	0.757-1.024		2.49	194	ng/kg	93.4	0-200 %			B
OCDD	0.937	0.757-1.024		9.97	273	ng/kg	112	0-200 %			B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BKK0747-MS1)		**Source: 22K0359-20**		Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 10:25						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.775*	*0.655-0.886*			*69.9*			*24-169 %*			
13C12-2,3,7,8-TCDD	*0.759*	*0.655-0.886*			*84.9*			*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.558*	*1.318-1.783*			*70.4*			*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.565*	*1.318-1.783*			*70.1*			*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.590*	*1.318-1.783*			*80.3*			*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.502*	*0.434-0.587*			*76.9*			*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.477*	*0.434-0.587*			*80.5*			*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.498*	*0.434-0.587*			*78.2*			*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.514*	*0.434-0.587*			*83.3*			*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.244*	*1.054-1.426*			*80.4*			*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.235*	*1.054-1.426*			*75.8*			*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.440*	*0.374-0.506*			*69.1*			*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.448*	*0.374-0.506*			*73.7*			*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.071*	*0.893-1.208*			*86.9*			*23-140 %*			
13C12-OCDD	*0.907*	*0.757-1.024*			*92.9*			*17-157 %*			
37Cl4-2,3,7,8-TCDD					*88.2*			*35-197 %*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BKK0747-MSD1)		**Source: 22K0359-20**		Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 11:14						
2,3,7,8-TCDF	0.712	0.655-0.886		0.997	20.0	ng/kg	100	0-200 %	2.83	200	
2,3,7,8-TCDD	0.814	0.655-0.886		0.997	21.0	ng/kg	105	0-200 %	3.00	200	
1,2,3,7,8-PeCDF	1.562	1.318-1.783		0.997	104	ng/kg	105	0-200 %	0.18	200	
2,3,4,7,8-PeCDF	1.542	1.318-1.783		0.997	103	ng/kg	104	0-200 %	0.65	200	
1,2,3,7,8-PeCDD	1.524	1.318-1.783		0.997	109	ng/kg	110	0-200 %	0.66	200	
1,2,3,4,7,8-HxCDF	1.245	1.054-1.426		0.997	111	ng/kg	111	0-200 %	0.78	200	
1,2,3,6,7,8-HxCDF	1.291	1.054-1.426		0.997	115	ng/kg	116	0-200 %	4.30	200	
2,3,4,6,7,8-HxCDF	1.224	1.054-1.426		0.997	107	ng/kg	108	0-200 %	0.55	200	
1,2,3,7,8,9-HxCDF	1.235	1.054-1.426		0.997	108	ng/kg	108	0-200 %	2.39	200	
1,2,3,4,7,8-HxCDD	1.223	1.054-1.426		0.997	117	ng/kg	118	0-200 %	3.60	200	
1,2,3,6,7,8-HxCDD	1.237	1.054-1.426		0.997	113	ng/kg	113	0-200 %	2.07	200	
1,2,3,7,8,9-HxCDD	1.204	1.054-1.426		0.997	116	ng/kg	116	0-200 %	0.93	200	B
1,2,3,4,6,7,8-HpCDF	0.973	0.893-1.208		0.997	112	ng/kg	110	0-200 %	0.28	200	B
1,2,3,4,7,8,9-HpCDF	0.928	0.893-1.208		0.997	108	ng/kg	108	0-200 %	1.71	200	
1,2,3,4,6,7,8-HpCDD	0.947	0.893-1.208		2.49	112	ng/kg	105	0-200 %	4.10	200	B
OCDF	0.874	0.757-1.024		2.49	190	ng/kg	91.4	0-200 %	2.04	200	B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BKK0747-MSD1)	**Source: 22K0359-20**			Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 11:14						
OCDD	0.796	0.757-1.024		9.97	265	ng/kg	108	0-200 %	2.64	200	B

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Analysis by: Analytical Resources, LLC

Dioxins/Furans - Quality Control

Batch BKK0747 - EPA 1613B

Instrument: AUTOSPEC01 Analyst: pl

QC Sample/Analyte	Ion Ratio	Ratio Limits	EDL	Reporting Limit	Result	Units	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BKK0747-MSD1)	**Source: 22K0359-20**			Prepared: 28-Nov-2022	Analyzed: 14-Dec-2022 11:14						
Labeled compounds											
13C12-2,3,7,8-TCDF	*0.769*	*0.655-0.886*					*58.3*	*24-169 %*			
13C12-2,3,7,8-TCDD	*0.775*	*0.655-0.886*					*73.7*	*25-164 %*			
13C12-1,2,3,7,8-PeCDF	*1.558*	*1.318-1.783*					*64.2*	*24-185 %*			
13C12-2,3,4,7,8-PeCDF	*1.539*	*1.318-1.783*					*63.2*	*21-178 %*			
13C12-1,2,3,7,8-PeCDD	*1.630*	*1.318-1.783*					*72.0*	*25-181 %*			
13C12-1,2,3,4,7,8-HxCDF	*0.507*	*0.434-0.587*					*72.5*	*26-152 %*			
13C12-1,2,3,6,7,8-HxCDF	*0.504*	*0.434-0.587*					*73.1*	*26-123 %*			
13C12-2,3,4,6,7,8-HxCDF	*0.503*	*0.434-0.587*					*72.5*	*28-136 %*			
13C12-1,2,3,7,8,9-HxCDF	*0.482*	*0.434-0.587*					*80.7*	*29-147 %*			
13C12-1,2,3,4,7,8-HxCDD	*1.249*	*1.054-1.426*					*74.7*	*32-141 %*			
13C12-1,2,3,6,7,8-HxCDD	*1.227*	*1.054-1.426*					*71.3*	*28-130 %*			
13C12-1,2,3,4,6,7,8-HpCDF	*0.449*	*0.374-0.506*					*63.2*	*28-143 %*			
13C12-1,2,3,4,7,8,9-HpCDF	*0.467*	*0.374-0.506*					*67.2*	*26-138 %*			
13C12-1,2,3,4,6,7,8-HpCDD	*1.078*	*0.893-1.208*					*80.4*	*23-140 %*			
13C12-OCDD	*0.904*	*0.757-1.024*					*83.6*	*17-157 %*			
37Cl4-2,3,7,8-TCDD							*76.1*	*35-197 %*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Certified Analyses included in this Report

Analyte	Certifications
EPA 1613B in Solid	
2,3,7,8-TCDF	DoD-ELAP,NELAP,WADOE
2,3,7,8-TCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
2,3,4,7,8-PeCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8-PeCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
2,3,4,6,7,8-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,6,7,8-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,7,8,9-HxCDD	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,7,8,9-HpCDF	DoD-ELAP,NELAP,WADOE
1,2,3,4,6,7,8-HpCDD	DoD-ELAP,NELAP,WADOE
OCDF	DoD-ELAP,NELAP,WADOE
OCDD	DoD-ELAP,NELAP,WADOE
Total TCDF	DoD-ELAP,NELAP,WADOE
Total TCDD	DoD-ELAP,NELAP,WADOE
Total PeCDF	DoD-ELAP,NELAP,WADOE
Total PeCDD	DoD-ELAP,NELAP,WADOE
Total HxCDF	DoD-ELAP,NELAP,WADOE
Total HxCDD	DoD-ELAP,NELAP,WADOE
Total HpCDF	DoD-ELAP,NELAP,WADOE
Total HpCDD	DoD-ELAP,NELAP,WADOE
13C12-2,3,7,8-TCDF	DoD-ELAP
13C12-2,3,7,8-TCDD	DoD-ELAP
13C12-1,2,3,7,8-PeCDF	DoD-ELAP
13C12-2,3,4,7,8-PeCDF	DoD-ELAP
13C12-1,2,3,7,8-PeCDD	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,6,7,8-HxCDF	DoD-ELAP
13C12-2,3,4,6,7,8-HxCDF	DoD-ELAP
13C12-1,2,3,7,8,9-HxCDF	DoD-ELAP
13C12-1,2,3,4,7,8-HxCDD	DoD-ELAP

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

13C12-1,2,3,6,7,8-HxCDD	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDF	DoD-ELAP
13C12-1,2,3,4,7,8,9-HpCDF	DoD-ELAP
13C12-1,2,3,4,6,7,8-HpCDD	DoD-ELAP
13C12-OCDD	DoD-ELAP
37Cl4-2,3,7,8-TCDD	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023
WADOE	WA Dept of Ecology	C558	06/30/2023
WA-DW	Ecology - Drinking Water	C558	06/30/2023

Haley & Aldrich	Project: Custom Plywood	
3131 Elliott Avenue, Suite 600	Project Number: 0202972-000	**Reported:**
Seattle WA, 98121	Project Manager: Jessica Blanchette	16-Dec-2022 11:34

Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
X	Indicates possible CDPE interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.