



MEMORANDUM

DATE: July 14, 2020

TO: Jaclyn Daly (NOAA), Bonnie Easley-Appleyard (NOAA) and Anne Logwood (USACE)

FROM: Paul McLarnon and Leslie Curran (PCT Project Management Office)

CC: Kevin Doyle, Shelle Cover, Anna Kohl, Suzann Speckman, Sim Brubaker, and Steve Lee (PCT Project Management Office)

Subject: Monthly Field Report for June 2020, Petroleum and Cement Terminal Construction Project, Port of Alaska.

THIS REPORT CONTAINS PRELIMINARY DATA – INFORMATION MAY CHANGE AFTER A MORE DETAILED QA/QC IS COMPLETED.



SUBMITTAL COVER SHEET

Project PCT 2020 Date Submitted: 7/7/2020
Contractor Pacific Pile & Marine Contract No. C-2019003209
Subcontractor /Supplier / Manufacturer: 61 North
Submittal No.: PCT2020-261E Revision: 00

Submittal Type: ☐ Action ☒ Informational

Submittal Title: PCT 2020 - Marine Mammal Monitoring Monthly Report – June 2020

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Submittal Description (inclusive of model number, style number, serial number and intended use:

Marine Mammal Monitoring Monthly Report – June 2020

Is this a deviation from Contract Documents (Yes/No)? No

CQCSM Verification:

- ☐ Review by CQCSM not performed/required
- ☒ (a) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown (no exceptions), and the submittal is required by the Contract Documents.
- ☐ (b) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (list deviations; attach a separate sheet as necessary), and the submittal is required by the Contract Documents

CQCSM Signature: Jim Page - CQCSM 07-07-2020

Owner's Representative Review:

- ☐ No Exceptions Taken
- ☐ Exceptions Noted
- ☐ Revise and Resubmit
- ☐ Rejected
- ☐ Review Not Required

Notes (additional notes/comments may be attached):

Owner's Representative Signature: _____

Corrections or Comments made relative to submittals during this review do not relieve the Contractor from compliance with the requirements of the Drawings and Specifications. This submittal is only for review of general conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. The Contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of other trades; and performing his work in a safe and satisfactory manner.

Port of Alaska Modernization Program Petroleum and Cement Terminal - 2020 Construction

Monthly Marine Mammal Monitoring Report

1 June to 30 June 2020

Prepared for

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Acronyms and Abbreviations

61N	61 North Environmental
ESA	Endangered Species Act
HDR	HDR, Inc.
IHA	Incidental Harassment Authorization
ITS	Incidental Take Statement
MMO	marine mammal observer
MOA	Municipality of Anchorage
NEX	North Expansion
NMFS	National Marine Fisheries Service
PAMP	Port of Alaska Modernization Program
PCT	Petroleum and Cement Terminal
POA	Port of Alaska
PPM	Pacific Pile and Marine
PW	Point Woronzof
SC	Ship Creek

1 Introduction

The National Marine Fisheries Service (NMFS) issued the Port of Alaska (POA) an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act on 31 March 2020, effective 1 April 2020 for construction of the Petroleum and Cement Terminal (PCT) (NOAA 2020a) as described in the Federal Register, Volume 85, Number 66, page 19294 (NMFS 2020; 85 FR 19294). NMFS also completed a consultation under Section 7 of the Endangered Species Act (ESA) and issued a biological opinion of the effect the project may have to threatened and endangered species. NMFS issued an incidental take statement (ITS) under the ESA that mirrors and complements the IHA for ESA-listed species.

The PCT is a component of the Port of Alaska (POA) Modernization Program (PAMP). The Municipality of Anchorage (MOA) owns the POA and is the PCT project owner. Pacific Pile and Marine (PPM) is the prime contractor for PCT construction work in 2020 and 61 North Environmental (61N) is a subcontractor to PPM. The MOA contracted with CH2M Hill, Inc. (now a subsidiary of Jacobs Engineering Group) and HDR, Inc. (HDR) to provide permitting and compliance services for the PCT project.

The IHA and ITS require implementation of mitigation measures such as shutdowns and delays of pile installation or removal during construction of the PCT to reduce the impacts to protected marine mammal species. Beginning on 27 April 2020, 61N deployed eleven marine mammal observers (MMO) to four observation locations near the POA to monitor the waters of lower Knik Arm in Upper Cook Inlet. During the month of June 2020, the MMOs monitored every day. The MMOs assist PPM in implementation of the mitigation measures by alerting the construction crew when marine mammals are within or approaching harassment zones. Typically, the MMOs communicate with PPM superintendents and foreman by radio and mobile phone. The MMOs document in-water construction activities including pile installation and removal, vessel traffic, anchor handling, and other relevant activity; sightings of marine mammals, group composition, behaviors, and location; and environmental and visibility conditions. All observation stations are equipped with laptops and high-speed data connections. All data is entered into Microsoft Access forms, and saved instantaneously to a cloud-hosted SQL server.

This report contains descriptions and summaries of the preliminary data collected including monitoring effort and environmental conditions, in-water operations and pile work completed, mitigation measures implemented, marine mammal species present and behavioral observations, and potential exposures or takes of marine mammals.

2 Monitoring Effort and Environmental Conditions

The waters of lower Knik Arm in upper Cook Inlet, Alaska near the PCT are monitored from four observation stations: near Point Woronzof (PW), at Ship Creek (SC), at the PCT, and at the North Expansion (NEX) of the POA (Figure 1).



Figure 1 - Observation Stations and the In-bound (white line) and Out-bound (green line) Pre-Pile Driving Clearance Demarcation Lines

The PCT station is staffed by two MMOs including the field lead. The PCT station monitors marine mammal activity near the PCT, pile driving and removal, other in-water activity, and the harassment and shutdown zones near the PCT. The NEX, SC, and PW stations are staffed by three MMOs each, rotating between duties including: scanning with 7X50 binoculars or unaided eye, scanning with the 25X150 “big eye” tripod mounted binoculars (NEX and PW) or 20X/40X tripod mounted binoculars (SC), and a data collection/rest shift in a data shack.

Each morning, pre-clearance monitoring begins when all three of the large binoculars are set up and active scanning has begun at all four stations. The monitoring ends approximately 10 hours after the start time unless additional time is required by construction activities. MMOs are afforded a 15-minute break (or combination of smaller breaks) in the morning and again in the afternoon. They also take an unpaid half-hour lunch break. The lunch breaks typically occur between 11:30 am and 1:00 pm but may be taken earlier or later if there is an active sighting or planned in-water activity, or both.

Monitoring Effort

Observation hours are summarized on a project level, a per-station level, and a per-MMO level. The project-level observation hours are calculated as the duration between the beginning of pre-clearance and the observation end time each day. Observations generally end at a scheduled time (17:15), unless in-water activity occurs late in the day, and the 30-minute post pile driving monitoring period extends past the scheduled shift. The station-level hours are calculated based on the project hours multiplied by four stations. Actual station start times may be a few minutes earlier because pre-clearance does not begin until the last station reports the start of monitoring. The MMO observation duration is calculated by multiplying the project-level hours by seven “on watch” MMOs, subtracting break periods (30-minute lunch, and a 15-minute break each morning and afternoon). In practice, breaks are typically taken during the data collection rotation, and the actual total “on watch” hours may be greater than estimated. The weekly observation hours are presented in Table 1.

Table 1 - Observation Effort

Date	Begin Time	End Time	Project Observation Hours	Station Observation Hours ¹	MMO Observation Hours ²
6/1/2020	7:04	17:35	10.52	42.1	63.1
6/2/2020	7:02	17:15	10.22	40.9	61.0
6/3/2020	7:02	17:15	10.22	40.9	61.0
6/4/2020	7:03	17:15	10.20	40.8	60.9
6/5/2020	7:02	17:15	10.22	40.9	61.0
6/6/2020	7:00	17:34	10.57	42.3	63.5
6/7/2020	7:03	17:58	10.92	43.7	65.9
6/8/2020	6:59	17:28	10.48	41.9	62.9
6/9/2020	7:00	17:20	10.33	41.3	61.8
6/10/2020	7:02	17:48	10.77	43.1	64.9
6/11/2020	7:04	18:06	11.03	44.1	66.7
6/12/2020	7:03	19:36	12.55	50.2	77.4
6/13/2020	7:00	17:16	10.27	41.1	61.4
6/14/2020	7:06	17:35	10.48	41.9	62.9
6/15/2020	7:04	17:26	10.37	41.5	62.1
6/16/2020	7:00	18:01	11.02	44.1	66.6

Date	Begin Time	End Time	Project Observation Hours	Station Observation Hours ¹	MMO Observation Hours ²
6/17/2020	7:00	17:26	10.43	41.7	62.5
6/18/2020	7:01	17:45	10.73	42.9	64.6
6/19/2020	7:00	17:15	10.25	41.0	61.3
6/20/2020	6:59	17:15	10.27	41.1	61.4
6/21/2020	7:02	17:25	10.38	41.5	62.2
6/22/2020	7:00	17:15	10.25	41.0	61.3
6/23/2020	6:59	17:18	10.32	41.3	61.7
6/24/2020	7:04	18:08	11.07	44.3	67.0
6/25/2020	7:01	17:15	10.23	40.9	61.1
6/26/2020	7:00	18:37	11.62	46.5	70.8
6/27/2020	6:58	19:06	12.13	48.5	74.4
6/28/2020	7:03	16:45	9.70	38.8	57.4
6/29/2020	6:59	17:15	10.27	41.1	61.4
6/30/2020	7:00	17:15	10.25	41.0	61.3
Total Hrs Observation:			318.05	1272.20	1911.35
Notes: ¹ equals project hours X 4 Stations					
² equals project hours X 7 MMOs “on watch” minus breaks					

Environmental Conditions

MMOs at each station typically record the environmental conditions upon station setup and every half hour throughout the day. MMOs also make additional entries for major changes in weather and to record other relevant activity that is not related to PCT construction (i.e. dredge vessel, private vessel, etc.). All observations are conducted during daylight hours. The environmental attributes recorded include general observation conditions (a scale of 1 to 10; 1 = poor, 5 = moderate, 10 = excellent), weather condition (cloudy, sunny, raining, etc.), light conditions (light, dark, twilight), cloud cover (percent), ice cover (percent), sea state (Beaufort scale), glare (percent), and visibility (distance at which a white beluga could be sighted with optics). Between 1 June and 30 June 2020, MMOs recorded 2,536 observations of environmental conditions.

The overall observation conditions were good to excellent for most of the reporting period. The “observation condition” was 7 or greater for 98 percent of the records entered. The average visibility

was over 7,000 meters and was greater than or equal to 5,000 meters for 98 percent of the observations.

On 10 June, a fog bank rolled in that diminished visibility in the area on and off for about 2 hours, first at Point Woronzof, then at Ship Creek and PCT. Impact hammering of a 48-inch pile within a bubble curtain, with a Level B zone of 824 meters, began approximately 10 minutes before visibility at PCT reduced to approximately 400 meters, and continued for several more minutes. Vibratory hammering of a 24-inch pile within a bubble curtain, with a Level B zone of 846 meters, also began while the impact hammering was ongoing, and both continued together for about 10 minutes. Visibility of the Level B zones returned a few minutes prior to completion of both impact and vibratory hammering. The total duration of in-water activity with reduced visibility was approximately 16 minutes. No other in-water activity was conducted during periods of reduced visibility of the Level B zones.

Glare was recorded as less than 10% for 97.5 percent of observations. Wind speed, direction, and air temperature are not recorded by the MMOs as these meteorological data are available from the National Oceanic and Atmospheric Administration (NOAA) tide station 9455920 located at the POA, a few hundred meters from the PCT (NOAA 2020b). A summary of the weather conditions observed is presented in Table 2 and a summary of the Beaufort sea state observed is presented in Table 3.

Table 2. Summary of Weather Conditions

Weather Condition	Percent Occurrence ¹
Sun	14%
Partly Sunny	11%
Partly Cloudy	39%
Cloudy	28%
Fog	1%
Mist	1%
Light Rain	3%
Rain	2%
Note: ¹ percentages total to 99% due to rounding	

Table 3. Summary of Beaufort Sea State Observations

Beaufort Sea State	Percent of Observations
0	0%
1	14%
2	64%
3	21%
4	1%
>=5	0%

The tidal stages were pre-loaded into the database and are auto-populated based on the time stamp of the observation. The definitions for the tidal stages used are presented in Table 4 and a summary of tidal stages recorded is presented in Table 5.

Table 4. Tidal Stage Definitions

Tide Stage	Definition
Low Slack	Plus or minus one hour from low tide
Low Flood	Begins at the end of low slack, ends half-way between ¹ the end of low slack and the start of high slack
High Flood	Begins half-way between ¹ the end of low slack and the start of high slack, ends at the start of high slack
High Slack	Plus or minus one hour from high tide
High Ebb	Begins at the end of high slack, ends half-way between ¹ the end of high slack and the start of low slack
Low Ebb	Begins half-way between ¹ the end of high slack and the start of low slack, ends at the start of low slack

Table 5. Summary of Tide Stages Recorded

Tide Stage	Percent of Observations
Low Slack	17%
Low Flood	15%
High Flood	12%
High Slack	15%
High Ebb	20%
Low Ebb	21%

The wind speed and direction for 1 June through 30 June were downloaded on an hourly basis from the NOAA meteorological observations page for the Anchorage, Alaska tide station 9455920 (2020b). The data for 7 am through 6 pm were selected for each day. These data are summarized and presented in Figure 2.

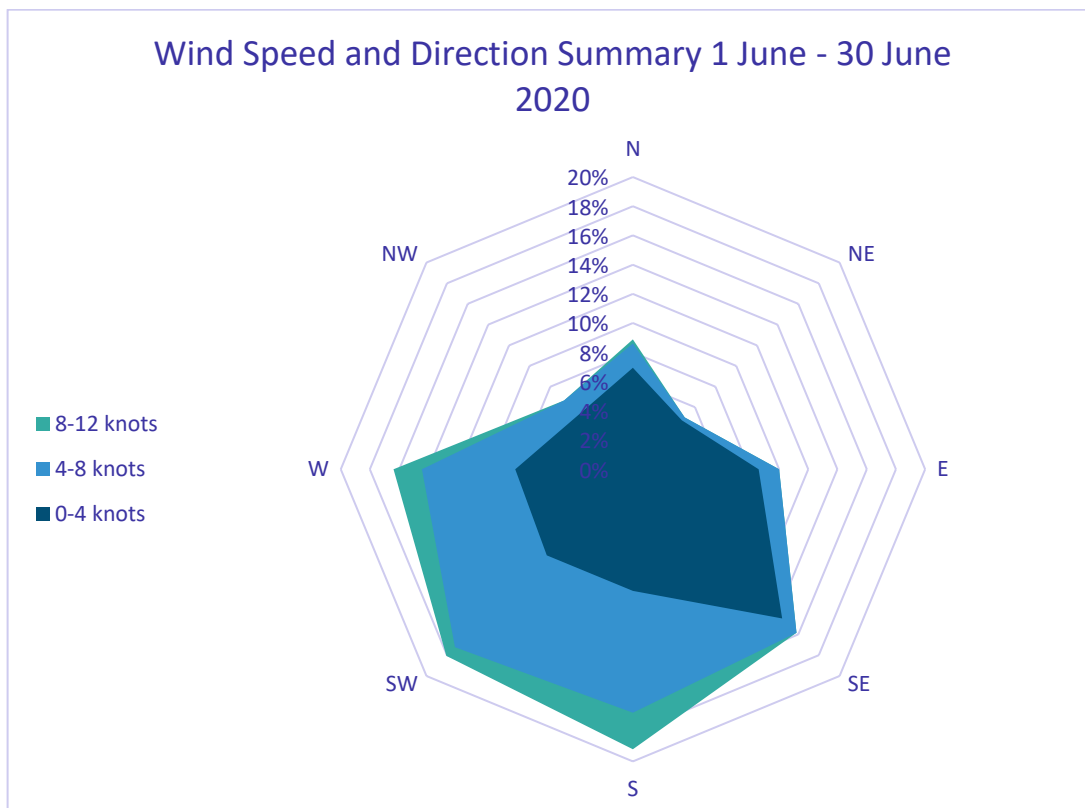


Figure 2. Wind Speed Rose, NOAA Tide Station 9455920, Anchorage Alaska, 1 June thru 30 June 2020 (7 am to 6 pm Daily)

The wind rose presented in Figure 2 shows that wind was typically out of the southeast, south, southwest, and west. It also shows that most of the wind speeds were below 8 knots, with only a small fraction greater than between 8 and 12 knots (green sliver).

3 In-Water Operations

From 1 June to 30 June 2020, there were 154 in-water activity events, totaling 2,557.4 minutes of activity. During this time there were 120 in-water pile driving events, resulting in 1958.8 minutes of in-water driving. An additional 29 instances of in-water vibratory installation of the bubble curtain occurred for a total of 188.7 minutes. Five other non-pile driving, in-water activities occurred for a total of 409.9 minutes. A summary of the in-water activity is presented in Table 6. Details of the in-water activity is provided in Appendix A.

Other nearby vessel activity, dredging, and personal watercraft operations are documented in the observation effort notes or sighting notes if interactions with marine mammals occur, but the duration of these other activities is not documented if not related to PCT construction.

Table 6 Monthly Summary of In-Water Activity

Activity	Number of Instances	Total Minutes	In-Water Activity Group Totals					
			#	Mins	#	Mins	#	Mins
Impact Hammer – Attenuated	36	824.1	120	1958.8	149	2147.5	154	2557.4
Impact Hammer – Unattenuated	4	62.5						
Vibratory Hammer – Attenuated	65	810.2						
Vibratory Hammer – Unattenuated	15	262						
Vibratory Installation of Bubble Curtain	29	188.7						
Other In-Water Activity	5	409.9						

Other Non-PCT Activity

The MMOs documented other vessel activity not related to the PCT in lower Knik Arm. Other activities recorded include: tug (31 times), barge (62 times), barge blocking view (3 times), dredge (45 times), boat (122 times), recreational boat/jet ski/zodiac/skiff/private boat (26 times), survey boat (21 times).

4 Pile Driving Shutdowns, Delays, and Other Mitigation Measures

The IHA requires a delay of pile installation or removal if:

- Belugas are present within the pre-clearance zone and on a trajectory towards a Level B zone or are sighted within a Level B zone
- Any marine mammal is sighted within the 100-meter shutdown zone
- A marine mammal for which no takes have been authorized approaches or enters any harassment zone.

If pile installation or removal is already underway, then a shutdown is required if:

- Belugas are sighted within or about to enter a Level B zone
- Any marine mammal is sighted within the 100-meter shutdown zone
- A marine mammal for which no takes have been authorized approaches or enters any harassment zone.

If visibility of the applicable harassment zone is lost, then installation or removal of the next pile must be delayed until conditions improve such that the zone can be effectively monitored. If the Level B harassment zone cannot be monitored for more than 15 minutes, the entire Level B harassment zone must be cleared again for 30 minutes prior to pile driving.

During the month of June 2020, 13 delays and 1 shutdown of pile installation or removal were required due the presence of belugas within the pre-clearance zone or because they were approaching the Level B zone. There were no delays due to visibility or other environmental conditions. The delays and shutdown are summarized in Table 7.

Table 7 - Weekly Summary of Delay and Shutdown Mitigation Measures

Delay/Shutdown Type	Start Time	End Time	Marine Mammal Group ID	Mitigation Duration (minutes)
Delay, marine mammal	6/17/20 10:20	6/17/20 12:08	208	108
Delay, marine mammal	6/17/20 16:45	6/17/20 17:22	214	37
Delay, marine mammal	6/18/20 8:19	6/18/20 8:36	220 ¹	17
Delay, marine mammal	6/18/20 8:49	6/18/20 9:26	220 ¹	37
Delay, marine mammal	6/19/20 11:30	6/19/20 12:20	233	51 ²
Delay, marine mammal	6/19/20 14:43	6/19/20 15:15	238	32
Delay, marine mammal	6/20/20 14:56	6/20/20 16:03	257	77

Delay/Shutdown Type	Start Time	End Time	Marine Mammal Group ID	Mitigation Duration (minutes)
Delay, marine mammal	6/21/20 8:35	6/21/20 9:14	266	39
Shutdown marine mammal	6/22/2020 8:40	6/22/2020 10:46	274	126
Delay, marine mammal	6/24/2020 9:34	6/24/2020 10:32	287	58
Delay, marine mammal	6/27/2020 8:08	6/27/2020 9:43	311 & 313	95
Delay, marine mammal	6/27/2020 18:36	6/27/2020 18:43	320	7
Delay, marine mammal	6/28/2020 9:10	6/28/2020 9:25	324	15
Delay, marine mammal	6/30/2020 8:58	6/30/2020 11:27	342	148
Total Monthly Mitigation Duration:				702
Notes: ¹ Group 220 caused two delays of work because it turned around and began traveling back towards PCT ² Duration rounds to 50 minutes, but edited to match daily report of 51 minutes				

The marine mammal delays were described as follows:

- Group 208** – “A group of belugas entered the Level B zone as shore side preparing to drive a 36" pile with a vibratory hammer with bub. A delay was called and work did not begin. The zone was cleared at 12:08 when the group was observed to have voluntarily left the Level B zone and were over 100 m traveling away from the zone.”
- Group 214** – “A group of belugas entered the level B zone as shore side was preparing to drive a 24" template pile with a bubble curtain. A delay was called and work did not begin. The workday ended at 17:22 before the area could be confirmed at clear ending the delay.”
- Group 220** – “As shore side was preparing to vibrate in a 24" temporary pile with a bubble can, a group of 9 white beluga entered the Level B from the North. A delay was called at 0819 and work did not begin. At 0836 the area was confirmed clear when observers documented the group voluntarily traveling out of the Level B zone by over 100 m and continuing away from the zone. Chris and Chan of PPM were given the all clear to proceed with work at that time. Total delay time was 17 minutes.”
- Group 220 (again)** – “As shore side was preparing to vibrate in another 24" temporary pile with a bubble can, the group turned around and headed North again, entering the Level B zone from the South. A marine mammal delay was called at 0849 and work did not begin. At 0926 the area was confirmed clear when observers documented the group had voluntarily traveling out of the Level B zone by over 500 m and was continuing away from the zone. Chris and Chan of PPM were given the all clear to proceed with work at that time. Total delay time was 37 minutes.”

- **Group 233** – “Marine side was preparing to attach the vibrating hammer to a 48" permanent pile, E4, which needed to be shaken to seat properly. Crane operator had been made aware of beluga in the area and initiated the delay over the radio when they could no longer proceed without turning the hammer on. The delay went from 1129-1220, total delay time was 51 minutes. At 1220 the area was confirmed clear when observers documented the group voluntarily traveling out of the Level B zone by over 100 m and continuing away from the zone. Bo, the barge crane operator, of PPM was given the all clear to proceed with work at that time.”
- **Group 238** – “Marine side was preparing to impact the 48" permanent pile, E4. This group of five beluga whales was present inside the zone while they were making those preparations causing a delay at 1443 which lasted until 1515. At 1515 the area was confirmed clear when observers documented the group had voluntarily traveling out of the Level B zone by over 100 m and was continuing away from the zone. Bo, the barge crane operator, of PPM was given the all clear to proceed with work at that time. Total delay time was 32 minutes.”
- **Group 257** – “Marine side was preparing to attach the green vibrating hammer to a 72" bubble can (zone of 15400m)¹. Beluga in this group were still visible far to the north and inside the 15400m zone. The delay went from 1446-1603, total delay time was 77 minutes. At 1603 the area was confirmed clear following 30 minutes of not observing beluga whale inside the zone. Bo, the barge crane operator, of PPM was given the all clear to proceed with work at that time.”
- **Group 266** – As shore side was preparing to vibrate in a 48" pile (E4) with a bubble can, two white belugas entered the Level B zone from the North. A delay was called at 0835 and work did not begin. At 0914 the area was confirmed clear when observers documented the group voluntarily traveling out of the Level B zone by over 100 m and continuing away from the zone. Chris and Chan of PPM were given the all clear to proceed with work at that time. Total delay time was 39 minutes.”
- **Group 274** – “As marine-side was actively vibing in a 72" bubble can and shore-side was preparing to impact a 48" pile with a bubble curtain, three white belugas were sighted nearshore just Northeast of Cairn Point. PCT radioed Bo (marine crane operator) for Shutdown at 0840, vibrate hammer was turned off immediately. Shore-side was advised by message that

¹ The calculated, estimated Level B zone for vibratory installation of the 72-inch bubble curtain was first provided as 15,400 meters by the POA in a response to a request for information dated 4 March 2020 (PPMAK-PCT2020-RFI-000052). This zone was amended by the POA on 22 June 2020 to 7,888 meters in a response to a separate request for information (PPMAK-PCT2020-RFI-000088).

G274's entry into the Level B zone for 48" impact with bub was imminent, water work did not begin. At 0925, G274 had traveled over 100 m beyond and was continuing away from the Level B zone for 48" impact with bubble can. PCT radioed shore-side (Chan/Chris) to confirm all-clear and reaffirmed Marine-side was still on marine mammal shutdown. At 1046, the rest of the area was confirmed clear when 30 minutes had passed since the last sighting of G274. PCT radioed (and messaged) Chris and Brian the "all clear". Total shutdown time was 126 minutes."

- **Group 287** – "Belugas from this sighting were slowly headed toward the construction site and did enter both zones for using a vibrating hammer on a 24" pile attenuated (846 meter zone) and also using an impact hammer on a 48" pile attenuated (824 meter zone). At 0934 shoreside ops were lifting a vibrating hammer, Chan was informed of the beluga headed toward the construction site and Chan/Chris indicated we should begin the delay. At 1015 marine side ops began lifting an impact hammer, Bo was informed shoreside was already on a delay and he indicated to start the delay for marine side. The beluga whales were observed headed consistently in the same direction south away from the zone at which point it was decided to give the clear to start work to both shore and marine ops at 1032."
- **Groups 311 & 313** – "4 belugas (G311) were sighted southwest of Port Mackenzie traveling northeast along the far shore during marine-side preparations for vibratory installation of a 72" bubble curtain. A delay was started when marine-side was ready to work and the group was still within the 7888 m zone. At 0841 G311 was visually confirmed leaving the level B zone. This coincided with a sighting of another 2 beluga (G313) entering the level B zone from the Southwest, the delay continued. The "all clear" was confirmed after G313 was not resighted for 30 minutes. The delay ran from 0808- 0943, for a total time of 95 minutes."
- **Group 320** – "4 beluga (G320) were sighted north of the outbound line traveling towards the level B zone for the proposed work (48" imp with bub). At 18:35, the group was within 100 m of the zone and traveling towards it. A delay was called at 18:36. At 18:40 a second group (G321) was sighted just north of the work site traveling towards the zone. The delay ended at 18:43 when the workday ended. Total delay time was 7 minutes."
- **Group 324** – "A single beluga whale was inside the northern boundary and headed slowly south down the coast, the beluga changed direction and proceeded back north, the last time seen being 0855. Bo was radioed after marine side picked up the green vibrating hammer to install a bubble casing and he indicated to start the delay at 0910. The beluga was last seen inside the zone, 7,888m, and the 30 minutes since last time seen was in effect when the delay was started. All clear was given at 0925 for work to commence."

- **Group 342** – “At 08:03, five belugas were sighted north of the project site traveling southwest along the nearshore. Observers continued to monitor the group's movement. At 08:58, a delay was called for marine-side bubble casing vibratory installation because the group was still within the 7888 m Level B zone when work was ready to begin. At 11:26 the delay ended when the group was visually verified to have left the Level B zone by over 100 m and was continuing to travel away. Total delay time was 128 minutes.

Other Mitigation Measures

In accordance with the IHA, the MMOs monitored for 30 minutes post-completion of every in-water pile installation or removal. Generally, the post-completion period is within the normally scheduled day. On days when pile driving extends beyond the normal schedule, the MMOs stay on watch for at least another 30 minutes after completion of in-water pile installation or removal.

The PPM operators have used “soft start” techniques when initiating impact pile driving for in-water installation or removal of piles.

5 Marine Mammal Observations

All marine mammal sightings are documented in the database. A parent record is entered for each marine mammal group with group-level attributes such as species, age/color class, primary and secondary behavior, distribution, formation, and pace. Once a group is identified, one or several group position “fixes” are measured and calculated.

Marine Mammal Sighting Summary

During the month of June, 179 groups of marine mammals were sighted totaling 269 individual animals. There were 33 groups of belugas comprised of 114 individuals, 4 groups of harbor porpoises comprised of 4 individuals, 136 harbor seal groups comprised of 145 individuals, 4 unidentified pinniped groups comprised of 4 individuals, and 2 Steller sea lion groups comprised of 2 individuals. The number of groups and individuals are presented by species in Appendix B. Additional sighting details including group composition, locations, sighting times, behaviors, sighting notes, and location maps are provided in Appendices C through G. The data field information for the sighting reports is presented in Appendix H.

Marine Mammal Exposures

In the month of June, there were 18 potential exposures of marine mammals to underwater noise exceeding the Level B threshold. Of these, there were 15 harbor seals, 1 harbor porpoise, and 2 classified as pinniped unidentified. The observation notes for one of the unidentified pinnipeds

indicated it “was most likely a harbor seal” and was reported as potential exposure of a harbor seal in an earlier weekly report. Table 8 contains a summary of *all* potential exposures for the duration of the project up through 30 June.

Table 8 - Potential Marine Mammal Exposures from 27 April to 30 June 2020

Date	Species	Number of Marine Mammals	Group ID	Activity
5/20/20	Harbor Seal	1	80	Unattenuated vibratory installation of a 48-inch pile
6/7/20	Harbor Seal	1	150	Unattenuated vibratory installation of a 48-inch pile
6/9/20	Harbor Seal	1	157	Vibratory installation of a 72-inch bubble curtain
6/11/20	Pinniped Unidentified ¹	1	163	Vibratory installation of a 72-inch bubble curtain
6/11/20	Harbor Seal	1	164	Vibratory installation of a 72-inch bubble curtain
6/11/20	Harbor Seal	1	165	Vibratory installation of a 72-inch bubble curtain
6/13/20	Harbor Seal	1	174	Vibratory installation of a 72-inch bubble curtain
6/14/20	Harbor Seal	1	181	Vibratory installation of a 72-inch bubble curtain
6/16/20	Harbor Seal	1	193	Unattenuated vibratory installation of a 24-inch pile
6/16/20	Harbor Seal	1	197	Unattenuated vibratory installation of a 48-inch pile
6/18/20	Harbor Seal	1	226	Vibratory installation of a 72-inch bubble curtain
6/20/20	Harbor Seal	1	237	Attenuated vibratory installation of a 48-inch pile
6/22/20	Pinniped Unidentified	1	275	Unattenuated vibratory installation of a 48-inch pile
6/27/20	Harbor Seal	1	312	Unattenuated vibratory installation of a 48-inch pile
6/27/20	Harbor Seal	1	314	Vibratory installation of a 72-inch bubble curtain
6/28/20	Harbor Seal	1	330	Vibratory installation of a 72-inch bubble curtain
6/30/20	Harbor Seal	1	343	Vibratory installation of a 72-inch bubble curtain
6/30/20	Harbor Seal	1	346	Vibratory installation of a 72-inch bubble curtain
6/30/20	Harbor Porpoise	1	347	Vibratory installation of a 72-inch bubble curtain

Note: ¹ The sighting notes indicated the animal “was most likely a harbor seal”

The monthly and cumulative potential Level A and Level B exposures for all marine mammal species are presented in Table 9.

Table 9. Monthly and Cumulative Level B and Level A Exposures

Species:	Beluga	Harbor Seal	Harbor Porpoise	Steller Sea Lion	Killer Whale	Humpback Whale	Pinniped Unidentified
# Level B Takes Authorized	55	711	43	13	12	6	N/A
Monthly Potential Level B Exposures	0	16	1	0	0	0	1
Cumulative Potential Level B Exposures	0	17	1	0	0	0	1
# Level A Takes Authorized	0	305	21	0	0	2	N/A
Monthly Potential Level A Exposures	0	0	0	0	0	0	1
Cumulative Potential Level A Exposures	0	0	0	0	0	0	1

6 References

NMFS (National Marine Fisheries Service). 2020 (March 31). *Incidental Harassment Authorization*. Issued to the Port of Alaska for the Construction of the Petroleum and Cement Terminal, by Donna S. Wieting, Director, Office of Protected Resources, National Marine Fisheries Service. Federal Register, Vol. 85, No. 66, page 19294 (85 FR 19294).

NOAA (National Oceanic and Atmospheric Administration). 2020a (April 6). *Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Construction of the Port of Alaska's Petroleum and Cement Terminal, Anchorage, Alaska*. Federal Register, Vol. 85, No. 66, page 19294 (85 FR 19294).

NOAA. 2020b (July 3). *Tides and Currents, Meteorological Obs., NOAA/NOS/CO-OPS, Winds at 9455920, Anchorage, AK*. Accessed 3 July 2020 at:
<https://tidesandcurrents.noaa.gov/met.html?id=9455920>

Appendix A – In-Water Activity Detail

Appendix A – In-Water Activity Detail

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
190	6/1/2020 9:01:38 AM	Vibratory hammer with bubble curtain	24

Comments

0936 Barge is vibing D-E3, closest permanent pile is D-3.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
217	6/1/2020 9:36:22 AM	6/1/2020 9:42:11 AM	5.8
Total Duration			5.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
192	6/1/2020 11:26:54 AM	Vibratory hammer with bubble curtain	24

Comments

1148 barge vibing D-E1 pile up; 1149 barge is vibing back down. Closest permanent pile is D-1.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
219	6/1/2020 11:43:09 AM	6/1/2020 11:56:18 AM	13.2
Total Duration			13.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
194	6/1/2020 1:18:31 PM	Vibratory hammer with bubble curtain	24

Comments

Barge preparing to vib in a template pile further, appears to be A-B1 south template 24" pile, closest permanent pile is A-1.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
221	6/1/2020 1:18:46 PM	6/1/2020 1:21:12 PM	2.4
Total Duration			2.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
196	6/1/2020 1:27:39 PM	Impact hammer, no bubble curtain	48

Comments

Shoreside impacting 48" pile J-T3 in the wet.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
223	6/1/2020 1:30:04 PM	6/1/2020 1:44:36 PM	14.5
Total Duration			14.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
198	6/1/2020 2:49:58 PM	Vibratory hammer with bubble curtain	24

Comments

Barge vibing in A-B2 south template pile, closest permanent pile is A-2.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
225	6/1/2020 2:59:43 PM	6/1/2020 3:01:56 PM	2.2
226	6/1/2020 3:03:15 PM	6/1/2020 3:03:34 PM	0.3
227	6/1/2020 3:03:39 PM	6/1/2020 3:04:00 PM	0.3
Total Duration			2.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
200	6/1/2020 3:28:52 PM	Vibratory hammer with bubble curtain	24

Comments

Barge is vibing A-B4 template pile, closest permanent pile is A-4.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
229	6/1/2020 3:35:03 PM	6/1/2020 3:36:14 PM	1.2
Total Duration			1.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
202	6/1/2020 3:56:24 PM	Vibratory hammer with bubble curtain	24

Comments

Barge is vibing A-B3, 24" template pile, closest permanent pile is A-3. 1559 bubble curtain is on.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
231	6/1/2020 3:59:56 PM	6/1/2020 4:00:45 PM	0.8
232	6/1/2020 4:01:43 PM	6/1/2020 4:02:21 PM	0.6
Total Duration			1.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
204	6/1/2020 4:25:31 PM	Vibratory hammer with bubble curtain	24

Comments

Barge preparing to vib in a 24" template pile with bubble curtain, A-B5 south, closest to the A-5 permanent pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
234	6/1/2020 4:29:21 PM	6/1/2020 4:31:05 PM	1.7
235	6/1/2020 4:34:24 PM	6/1/2020 4:35:28 PM	1.1
Total Duration			2.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
206	6/1/2020 4:58:58 PM	Vibratory hammer with bubble curtain	24

Comments

Barge vibing A-B6.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
237	6/1/2020 5:03:26 PM	6/1/2020 5:05:25 PM	2
Total Duration			2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
211	6/2/2020 10:44:56 AM	Vibratory hammer, no bubble curtain	24

Comments

1042 Chris texts they will be in water driving. (At Start Activity time) Beginning to vib a 24" template pile unattenuated in the wet, appears closest to permanent pile I-T1. 1105 Had to vibrate the hammer off.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
241	6/2/2020 10:52:51 AM	6/2/2020 11:03:02 AM	10.2
242	6/2/2020 11:03:34 AM	6/2/2020 11:04:04 AM	0.5
243	6/2/2020 11:05:14 AM	6/2/2020 11:05:18 AM	0.1
Total Duration			10.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
212	6/2/2020 10:52:21 AM	Vibratory hammer with bubble curtain	24

Comments

D-E template pile being vibed in with the bubble curtain, closest permanent pile is D-5. 1115 Barge is moving into position. 1119 Barge is moving pile into position. 1139 Bubble curtain is coming down on the barge side.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
245	6/2/2020 11:40:52 AM	6/2/2020 11:55:42 AM	14.8
Total Duration			14.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
213	6/2/2020 11:11:14 AM	Vibratory hammer, no bubble curtain	24

Comments

1110 Shore side hammer is attached to 24" pile. 1115 Shore side is lowering pile into place. 1126 Shore side vibrate hammer started and dropped pile into water.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
244	6/2/2020 11:26:47 AM	6/2/2020 11:26:52 AM	0.1
Total Duration			0.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
215	6/2/2020 12:14:53 PM	In-water activity, no pile driving	n/a

Comments

Shoreside has sent workers in a small boat that appear to be securing the end of the pile which fell over into the water for retrieval. 1219 lifting 24" pile up out of the water.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
247	6/2/2020 12:14:58 PM	6/2/2020 12:24:36 PM	9.6
Total Duration			9.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
217	6/2/2020 1:43:50 PM	Vibratory hammer with bubble curtain	24

Comments

Will be vibing in template pile D-E4, appears the closest permanent pile is D-4.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
249	6/2/2020 2:08:06 PM	6/2/2020 2:23:51 PM	15.8
Total Duration			15.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
219	6/2/2020 3:11:24 PM	Vibratory hammer with bubble curtain	24

Comments

1542 Barge is vibing D-E2 template pile. 1547 moving bubble curtain up to the waterline.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
251	6/2/2020 3:42:40 PM	6/2/2020 3:45:03 PM	2.4
252	6/2/2020 3:48:42 PM	6/2/2020 3:55:02 PM	6.3
Total Duration			8.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
221	6/2/2020 4:26:58 PM	In-water activity, no pile driving	n/a

Comments

Workers in the small work boat have been down around the bubble can working to get the line and hoses right before lifting it back off the template pile. They will be lifting the bubble can up and laying it on the deck. 1629 bubble can out of the water.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
254	6/2/2020 4:27:03 PM	6/2/2020 4:31:06 PM	4
Total Duration			4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
226	6/3/2020 11:02:53 AM	Vibratory hammer, no bubble curtain	24

Comments

Shoreside operations. Temporary piles, bent 2.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
270	6/3/2020 11:11:06 AM	6/3/2020 11:19:22 AM	8.3
273	6/3/2020 11:48:28 AM	6/3/2020 12:00:15 PM	11.8
277	6/3/2020 12:30:55 PM	6/3/2020 12:40:21 PM	9.4
279	6/3/2020 12:41:12 PM	6/3/2020 12:41:24 PM	0.2
280	6/3/2020 12:41:53 PM	6/3/2020 12:42:30 PM	0.6
282	6/3/2020 12:43:00 PM	6/3/2020 12:43:06 PM	0.1
284	6/3/2020 12:46:33 PM	6/3/2020 12:51:07 PM	4.6
Total Duration			35

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
227	6/3/2020 11:05:55 AM	In-water activity, no pile driving	

Comments

Moving buoy lines and barge. Skiff is examining piles and hooking up bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
268	6/3/2020 11:05:59 AM	6/3/2020 11:09:01 AM	3
272	6/3/2020 11:37:45 AM	6/3/2020 11:48:21 AM	10.6
274	6/3/2020 12:00:31 PM	6/3/2020 12:07:04 PM	6.6
Total Duration			20.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
229	6/3/2020 1:14:32 PM	Vibe Install bubble curtain casing	

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
286	6/3/2020 1:14:40 PM	6/3/2020 1:23:13 PM	8.5
Total Duration			8.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
230	6/3/2020 1:20:09 PM	Vibratory hammer with bubble curtain	24

Comments

Barge operations. Temporary pile for template.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
287	6/3/2020 1:23:04 PM	6/3/2020 1:33:32 PM	10.5
Total Duration			10.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
231	6/3/2020 1:26:29 PM	Vibratory hammer, no bubble curtain	36

Comments

Shoreside operations. Temporary piles, bent 2.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
289	6/3/2020 1:37:19 PM	6/3/2020 1:54:09 PM	16.8
291	6/3/2020 2:18:47 PM	6/3/2020 2:25:50 PM	7
Total Duration			23.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
236	6/4/2020 8:14:19 AM	In-water activity, no pile driving	

Comments

0814 small boat in water examining piles; welding on piles; 1400 examining piles/welding on barge side; Remove template off access trestle. Laying beam across temp piles and attaching.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
295	6/4/2020 8:14:24 AM	6/4/2020 10:51:57 AM	157.6
297	6/4/2020 11:13:28 AM	6/4/2020 11:16:56 AM	3.5
299	6/4/2020 11:53:10 AM	6/4/2020 12:23:55 PM	30.8
301	6/4/2020 1:59:58 PM	6/4/2020 3:26:47 PM	86.8
303	6/4/2020 3:30:21 PM	6/4/2020 3:57:57 PM	27.6
305	6/4/2020 4:07:03 PM	6/4/2020 4:14:28 PM	7.4
307	6/4/2020 4:32:33 PM	6/4/2020 5:15:57 PM	43.4
Total Duration			357.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
237	6/4/2020 10:52:28 AM	Vibratory hammer, no bubble curtain	36

Comments

Finishing Temporary Bent 2. 2D36 and 2A36

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
296	6/4/2020 10:52:34 AM	6/4/2020 11:13:16 AM	20.7
298	6/4/2020 11:16:40 AM	6/4/2020 11:52:56 AM	36.3
Total Duration			57

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
238	6/4/2020 2:43:05 PM	Vibratory hammer, no bubble curtain	24

Comments

Not sure exactly on the Pile ID but it is a temporary pile in this general area.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
302	6/4/2020 3:26:35 PM	6/4/2020 3:30:27 PM	3.9
Total Duration			3.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
244	6/6/2020 1:23:36 PM	Vibratory hammer, no bubble curtain	48

Comments

Accidentally put with bubble curtain for the port status ID 313, not sure if that is indicated but FOR THE RECORD all of this is NO BUB.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
313	6/6/2020 1:41:55 PM	6/6/2020 1:45:11 PM	3.3
315	6/6/2020 1:45:32 PM	6/6/2020 1:54:04 PM	8.5
Total Duration			11.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
246	6/6/2020 4:37:30 PM	Vibratory hammer, no bubble curtain	48

Comments

Vibing in I-T1 in the wet then post pile driving monitoring.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
318	6/6/2020 4:42:19 PM	6/6/2020 4:46:57 PM	4.6
319	6/6/2020 4:47:55 PM	6/6/2020 4:53:22 PM	5.5
320	6/6/2020 4:53:44 PM	6/6/2020 4:55:01 PM	1.3
321	6/6/2020 4:55:56 PM	6/6/2020 5:03:52 PM	7.9
Total Duration			19.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
251	6/7/2020 8:36:57 AM	Vibe Install bubble curtain casing	n/a

Comments

Vibing bubble curtain

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
326	6/7/2020 8:37:02 AM	6/7/2020 8:40:15 AM	3.2
Total Duration			3.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
252	6/7/2020 8:43:06 AM	In-water activity, no pile driving	

Comments

Vibe hammer still attached to casing for B1, no vibing.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
327	6/7/2020 8:43:12 AM	6/7/2020 9:02:12 AM	19
Total Duration			19

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
254	6/7/2020 12:49:11 PM	Impact hammer, no bubble curtain	48

Comments

soft start at 1250.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
329	6/7/2020 12:50:51 PM	6/7/2020 1:12:27 PM	21.6
331	6/7/2020 1:36:00 PM	6/7/2020 1:47:12 PM	11.2
Total Duration			32.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
265	6/7/2020 2:21:36 PM	Impact hammer, no bubble curtain	48

Comments

1442 - impact hammering begins. 1438 - hammer pin broke, removed for repair. 1552 - impact hammering begins again in the dry- no activity recorded below.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
332	6/7/2020 2:24:21 PM	6/7/2020 2:38:43 PM	14.4
Total Duration			14.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
266	6/7/2020 5:20:25 PM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
334	6/7/2020 5:25:10 PM	6/7/2020 5:28:32 PM	3.4
Total Duration			3.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
270	6/8/2020 10:25:14 AM	Impact hammer with bubble curtain	48

Comments

1027 soft start. 1029 - 1040 - one strike approximately every 1-3 minutes (not recorded in activity statuses below). 1042- realized this is impact strike pace, began recording activity. 1050 - begin strikes every 2 seconds for remaining impacting.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
339	6/8/2020 10:27:32 AM	6/8/2020 10:27:37 AM	0.1
340	6/8/2020 10:42:03 AM	6/8/2020 10:58:46 AM	16.7
341	6/8/2020 11:00:53 AM	6/8/2020 11:07:37 AM	6.7
Total Duration			23.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
271	6/8/2020 5:01:02 PM	Vibratory hammer, no bubble curtain	36

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
343	6/8/2020 5:02:09 PM	6/8/2020 5:27:59 PM	25.8
Total Duration			25.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
275	6/9/2020 10:10:15 AM	Vibe Install bubble curtain casing	n/a

Comments

Removing bubble can from around pile C1 (48" pile, 72" bubble can). Pile removed with smaller green vibe hammer with only one clamp.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
347	6/9/2020 10:14:46 AM	6/9/2020 10:15:33 AM	0.8
349	6/9/2020 10:20:14 AM	6/9/2020 10:21:35 AM	1.4
Total Duration			2.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
276	6/9/2020 1:14:18 PM	Vibe Install bubble curtain casing	n/a

Comments

Installing bubble can for A-1 (48" pile, 72" bubble can). There was potential exposure to a Harbor Seal during this activity. Marine mammal group information #157 details the sighting. The Harbor Seal was last seen at 1314 approxiametely 6339 m from the pile driving.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
351	6/9/2020 1:17:16 PM	6/9/2020 1:17:28 PM	0.2
352	6/9/2020 1:19:21 PM	6/9/2020 1:24:00 PM	4.6
Total Duration			4.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
281	6/9/2020 3:25:19 PM	Vibe Install bubble curtain casing	n/a

Comments

72" bubble curtain installed in D-1.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
354	6/9/2020 3:25:36 PM	6/9/2020 3:25:53 PM	0.3
355	6/9/2020 3:28:23 PM	6/9/2020 3:28:30 PM	0.1
356	6/9/2020 3:28:43 PM	6/9/2020 3:29:15 PM	0.5
357	6/9/2020 3:31:13 PM	6/9/2020 3:31:47 PM	0.6
358	6/9/2020 3:33:22 PM	6/9/2020 3:38:03 PM	4.7
359	6/9/2020 3:43:18 PM	6/9/2020 3:45:26 PM	2.1
360	6/9/2020 3:45:45 PM	6/9/2020 3:46:04 PM	0.3
Total Duration			8.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
282	6/9/2020 4:00:32 PM	Vibratory hammer with bubble curtain	36

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
361	6/9/2020 4:00:48 PM	6/9/2020 4:30:21 PM	29.6
363	6/9/2020 4:32:27 PM	6/9/2020 4:32:40 PM	0.2
Total Duration			29.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
285	6/10/2020 8:31:27 AM	Vibratory hammer with bubble curtain	48

Comments

0907 Barge side hammer has been removed from pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
366	6/10/2020 8:37:33 AM	6/10/2020 8:37:36 AM	0.1
367	6/10/2020 8:49:44 AM	6/10/2020 8:50:21 AM	0.6
368	6/10/2020 8:51:28 AM	6/10/2020 8:53:07 AM	1.7
369	6/10/2020 8:54:27 AM	6/10/2020 8:57:31 AM	3.1
Total Duration			5.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
286	6/10/2020 9:00:46 AM	Vibratory hammer with bubble curtain	24

Comments

0912 Shore side hammer vibed off pile; hammer is being re-attached. 0924 Shore side hammer removed from pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
370	6/10/2020 9:07:29 AM	6/10/2020 9:11:07 AM	3.6
371	6/10/2020 9:13:59 AM	6/10/2020 9:23:09 AM	9.2
Total Duration			12.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
288	6/10/2020 9:34:21 AM	Vibratory hammer with bubble curtain	48

Comments

0934/0935 Barge side; quick vibe to get hammer on pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
373	6/10/2020 9:34:47 AM	6/10/2020 9:34:50 AM	0.1
374	6/10/2020 9:35:26 AM	6/10/2020 9:35:27 AM	0
375	6/10/2020 9:38:33 AM	6/10/2020 9:38:39 AM	0.1
376	6/10/2020 9:39:43 AM	6/10/2020 9:41:05 AM	1.4
377	6/10/2020 9:41:28 AM	6/10/2020 9:46:17 AM	4.8
378	6/10/2020 9:48:29 AM	6/10/2020 9:48:32 AM	0.1
Total Duration			6.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
290	6/10/2020 9:51:42 AM	Vibratory hammer with bubble curtain	24

Comments

Shoreside is vibing in 3C24 with a bubble curtain. 1050 Shoreside removed hammer from this pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
380	6/10/2020 10:37:10 AM	6/10/2020 10:50:16 AM	13.1
Total Duration			13.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
292	6/10/2020 11:22:34 AM	Impact hammer with bubble curtain	48

Comments

1140 Fog obscuring visibility in the current zone; impacting had started at 1131.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
382	6/10/2020 11:31:45 AM	6/10/2020 11:56:56 AM	25.2
Total Duration			25.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
293	6/10/2020 11:46:49 AM	Vibratory hammer with bubble curtain	24

Comments

No delay since the impact hammer is already operating and the zone sizes are about the same.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
383	6/10/2020 11:46:54 AM	6/10/2020 12:00:07 PM	13.2
Total Duration			13.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
295	6/10/2020 2:33:51 PM	Impact hammer with bubble curtain	48

Comments

Impacting pile A-1 with bubble curtain. 1451 Barge has workers on lift truck possibly installing test lines for PDA test on A-1.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
385	6/10/2020 2:34:34 PM	6/10/2020 2:40:58 PM	6.4
386	6/10/2020 3:12:34 PM	6/10/2020 3:28:04 PM	15.5
388	6/10/2020 3:32:39 PM	6/10/2020 3:34:41 PM	2
Total Duration			23.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
300	6/11/2020 12:59:34 PM	Vibe Install bubble curtain casing	n/a

Comments

1259 Barge preparing to vib in 72" bubble can which is in the template for the 48" pile, E1. DISREGARD PortStatusID 398 which should be moved to PortActivityID 301 since it corresponds with the start time of turning the vib while attached to the bubble can in that activity ID. (ATL post-processed: moved PS ID 398 from PA ID 300 to 301)

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
392	6/11/2020 1:05:45 PM	6/11/2020 1:06:04 PM	0.3
393	6/11/2020 1:08:41 PM	6/11/2020 1:15:44 PM	7
Total Duration			7.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
301	6/11/2020 1:18:58 PM	Vibe Install bubble curtain casing	n/a

Comments

1324 Barge side is lining up vibe hammer on 72" bubble curtain; position B1. 1416 Vibing bubble can back up. 1450 Barge is vibing bubble can back up. 1525 Bubble curtain being vibed into position B1 has hit an obstruction; informed by Brian via text. 1539 Barge is lifting bubble curtain up and out of position B1.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
394	6/11/2020 1:35:32 PM	6/11/2020 1:35:36 PM	0.1
395	6/11/2020 1:36:50 PM	6/11/2020 1:47:58 PM	11.1
397	6/11/2020 2:16:34 PM	6/11/2020 2:24:05 PM	7.5
398	6/11/2020 2:31:45 PM	6/11/2020 2:32:04 PM	0.3
399	6/11/2020 2:32:17 PM	6/11/2020 2:33:00 PM	0.7
400	6/11/2020 2:34:27 PM	6/11/2020 2:36:04 PM	1.6
401	6/11/2020 2:37:31 PM	6/11/2020 2:38:50 PM	1.3
402	6/11/2020 2:43:26 PM	6/11/2020 2:45:30 PM	2.1
403	6/11/2020 2:48:16 PM	6/11/2020 2:49:35 PM	1.3
404	6/11/2020 2:51:12 PM	6/11/2020 2:51:17 PM	0.1
405	6/11/2020 2:57:45 PM	6/11/2020 2:58:08 PM	0.4
407	6/11/2020 3:14:35 PM	6/11/2020 3:15:07 PM	0.5
408	6/11/2020 3:37:48 PM	6/11/2020 3:38:12 PM	0.4
Total Duration			27.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
303	6/11/2020 3:51:28 PM	Vibe Install bubble curtain casing	n/a

Comments

1351 Barge is positioning bubble curtain into position B-2. 1711 Barge side heard over radio saying they were finished vibing in bubble can. 1726 Barge has removed hammer from bubble can.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
410	6/11/2020 4:05:36 PM	6/11/2020 4:05:51 PM	0.3
411	6/11/2020 4:55:31 PM	6/11/2020 4:56:34 PM	1
412	6/11/2020 4:58:29 PM	6/11/2020 4:59:14 PM	0.7
413	6/11/2020 5:00:10 PM	6/11/2020 5:03:37 PM	3.4
Total Duration			5.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
304	6/11/2020 4:31:55 PM	Vibratory hammer, no bubble curtain	36

Comments

Shoreside: 36" Pin pile being vibed in the wet without a bubble curtain. 1737 Shoreside removed hammer from pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
414	6/11/2020 5:12:20 PM	6/11/2020 5:36:18 PM	24
Total Duration			24

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
308	6/12/2020 9:07:42 AM	Vibratory hammer with bubble curtain	48

Comments

0908 - Marine-side lowering pile into bubble can; 1020 - vibe hammer attached; 1035 - hammer removed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
418	6/12/2020 10:22:42 AM	6/12/2020 10:23:09 AM	0.5
419	6/12/2020 10:25:26 AM	6/12/2020 10:25:29 AM	0.1
420	6/12/2020 10:28:42 AM	6/12/2020 10:31:03 AM	2.4
421	6/12/2020 10:31:33 AM	6/12/2020 10:34:20 AM	2.8
Total Duration			5.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
309	6/12/2020 11:27:02 AM	Impact hammer with bubble curtain	48

Comments

1131 - impact hammer attached to pile; 1205 - impact hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
423	6/12/2020 11:33:27 AM	6/12/2020 11:51:48 AM	18.4
424	6/12/2020 11:52:51 AM	6/12/2020 12:03:32 PM	10.7
Total Duration			29.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
311	6/12/2020 4:05:00 PM	Vibratory hammer with bubble curtain	48

Comments

1607 - Vib hammer attached to pile; 1616 - vibe hammer removed from hammer

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
426	6/12/2020 4:10:37 PM	6/12/2020 4:10:39 PM	0
427	6/12/2020 4:10:41 PM	6/12/2020 4:10:44 PM	0.1
428	6/12/2020 4:11:25 PM	6/12/2020 4:12:25 PM	1
429	6/12/2020 4:12:57 PM	6/12/2020 4:16:07 PM	3.2
Total Duration			4.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
313	6/12/2020 4:40:47 PM	Impact hammer with bubble curtain	48

Comments

1641 - marine side impact hammer attached to pile; 1643 - soft start; SHORE side in preparing to vibrate a 24" template pile; 1705 - impact hammer detached

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
431	6/12/2020 4:43:06 PM	6/12/2020 4:45:12 PM	2.1
432	6/12/2020 4:45:56 PM	6/12/2020 4:50:33 PM	4.6
Total Duration			6.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
314	6/12/2020 5:17:56 PM	Vibratory hammer with bubble curtain	24

Comments

1716 - vibe hammer attached and template pile in position in can; 1739 - pile and can positioned in bent H; 1757 - hammer detached from the pile;

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
433	6/12/2020 5:41:10 PM	6/12/2020 5:53:14 PM	12.1
434	6/12/2020 5:53:24 PM	6/12/2020 5:54:08 PM	0.7
Total Duration			12.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
316	6/12/2020 6:20:52 PM	Vibratory hammer with bubble curtain	24

Comments

2106 - vib hammer detached from pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
436	6/12/2020 6:31:15 PM	6/12/2020 6:31:57 PM	0.7
437	6/12/2020 6:37:15 PM	6/12/2020 6:46:34 PM	9.3
438	6/12/2020 6:47:26 PM	6/12/2020 7:06:06 PM	18.7
Total Duration			28.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
320	6/13/2020 10:41:16 AM	Vibe Install bubble curtain casing	n/a

Comments

1047 - vibe hammer attached; 1106 - vibe hammer removed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
442	6/13/2020 10:50:38 AM	6/13/2020 10:51:32 AM	0.9
443	6/13/2020 10:52:04 AM	6/13/2020 10:54:09 AM	2.1
444	6/13/2020 10:55:21 AM	6/13/2020 11:03:29 AM	8.1
Total Duration			11.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
321	6/13/2020 1:32:35 PM	Vibratory hammer with bubble curtain	48

Comments

1437 - pile positioned in bubble can; 1448 - vibe hammer removed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
446	6/13/2020 2:38:54 PM	6/13/2020 2:39:42 PM	0.8
447	6/13/2020 2:39:53 PM	6/13/2020 2:45:00 PM	5.1
448	6/13/2020 2:45:58 PM	6/13/2020 2:46:33 PM	0.6
Total Duration			6.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
322	6/13/2020 2:49:21 PM	Vibratory hammer with bubble curtain	48

Comments

1451 - pile positioned in bubble can; 1500 - vibe hammer removed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
450	6/13/2020 2:53:51 PM	6/13/2020 3:00:09 PM	6.3
Total Duration			6.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
327	6/13/2020 3:27:12 PM	Impact hammer with bubble curtain	48

Comments

1539 - soft start, 1 hit; 1559 - impact hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
452	6/13/2020 3:29:21 PM	6/13/2020 3:29:50 PM	0.5
453	6/13/2020 3:30:11 PM	6/13/2020 3:31:32 PM	1.3
454	6/13/2020 3:32:09 PM	6/13/2020 3:56:42 PM	24.5
Total Duration			26.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
328	6/13/2020 3:58:51 PM	Impact hammer with bubble curtain	48

Comments

1559 - impact hammer attached to pile; 1626 - impact hammer removed from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
455	6/13/2020 4:00:19 PM	6/13/2020 4:24:00 PM	23.7
Total Duration			23.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
331	6/14/2020 11:05:14 AM	Vibe Install bubble curtain casing	n/a

Comments

1104 Using green hammer w/two jaws

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
459	6/14/2020 11:08:44 AM	6/14/2020 11:09:25 AM	0.7
460	6/14/2020 11:11:00 AM	6/14/2020 11:12:12 AM	1.2
461	6/14/2020 11:13:46 AM	6/14/2020 11:17:07 AM	3.3
462	6/14/2020 11:18:37 AM	6/14/2020 11:21:40 AM	3.1
Total Duration			8.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
333	6/14/2020 1:11:39 PM	Vibratory hammer with bubble curtain	48

Comments

Shoreside vibing in H-T2 with bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
464	6/14/2020 1:26:51 PM	6/14/2020 1:36:51 PM	10
Total Duration			10

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
335	6/14/2020 1:49:41 PM	Vibratory hammer with bubble curtain	48

Comments

Barge vibing in C-2 with bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
466	6/14/2020 1:52:11 PM	6/14/2020 1:52:21 PM	0.2
467	6/14/2020 1:53:44 PM	6/14/2020 1:53:52 PM	0.1
468	6/14/2020 1:54:46 PM	6/14/2020 1:56:53 PM	2.1
469	6/14/2020 1:58:09 PM	6/14/2020 2:06:10 PM	8
Total Duration			10.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
337	6/14/2020 2:16:34 PM	Impact hammer with bubble curtain	48

Comments

Shoreside is impacting H-T2 with the bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
471	6/14/2020 2:18:24 PM	6/14/2020 2:41:21 PM	23
Total Duration			23

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
339	6/14/2020 4:04:47 PM	Vibe Install bubble curtain casing	n/a

Comments

Barge vibing in 72" bubble casing into template position A-2 using the green vib hammer with two jaws.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
473	6/14/2020 4:05:01 PM	6/14/2020 4:05:50 PM	0.8
474	6/14/2020 4:06:59 PM	6/14/2020 4:08:09 PM	1.2
475	6/14/2020 4:09:41 PM	6/14/2020 4:10:31 PM	0.8
476	6/14/2020 4:11:17 PM	6/14/2020 4:11:48 PM	0.5
477	6/14/2020 4:12:29 PM	6/14/2020 4:13:23 PM	0.9
478	6/14/2020 4:15:55 PM	6/14/2020 4:16:18 PM	0.4
Total Duration			4.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
341	6/14/2020 4:29:15 PM	Impact hammer with bubble curtain	48

Comments

Barge impacting C-2 pile using the bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
480	6/14/2020 4:41:52 PM	6/14/2020 5:06:33 PM	24.7
Total Duration			24.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
351	6/15/2020 9:09:20 AM	Vibratory hammer, no bubble curtain	48

Comments

Vibed hammer to secure hammer on pile while on pin pile in the water without a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
496	6/15/2020 9:09:41 AM	6/15/2020 9:09:46 AM	0.1
497	6/15/2020 9:09:52 AM	6/15/2020 9:09:53 AM	0
Total Duration			0.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
352	6/15/2020 9:11:14 AM	Vibratory hammer with bubble curtain	48

Comments

Shoreside vibed in H-T1 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
498	6/15/2020 9:30:17 AM	6/15/2020 9:40:57 AM	10.7
Total Duration			10.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
354	6/15/2020 10:40:29 AM	Impact hammer with bubble curtain	48

Comments

Shoreside is impacting H-T1 using a bubble curtain. Soft start initiated.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
500	6/15/2020 10:41:15 AM	6/15/2020 11:02:43 AM	21.5
Total Duration			21.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
355	6/15/2020 10:56:21 AM	Vibe Install bubble curtain casing	n/a

Comments

Barge using green vib hammer with two jaws to install 72" bubble casing into D-2 template position.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
501	6/15/2020 11:01:41 AM	6/15/2020 11:03:41 AM	2
502	6/15/2020 11:07:53 AM	6/15/2020 11:12:49 AM	4.9
503	6/15/2020 11:14:15 AM	6/15/2020 11:19:10 AM	4.9
504	6/15/2020 11:20:08 AM	6/15/2020 11:28:45 AM	8.6
505	6/15/2020 11:30:21 AM	6/15/2020 11:32:17 AM	1.9
Total Duration			22.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
357	6/15/2020 1:41:06 PM	Vibratory hammer with bubble curtain	48

Comments

Barge is vibing A-2 in using a bubble curtain. Shook hammer to seat on pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
507	6/15/2020 1:44:44 PM	6/15/2020 1:45:06 PM	0.4
508	6/15/2020 1:45:20 PM	6/15/2020 1:45:23 PM	0.1
509	6/15/2020 1:45:44 PM	6/15/2020 1:45:49 PM	0.1
510	6/15/2020 1:49:08 PM	6/15/2020 1:50:36 PM	1.5
511	6/15/2020 1:51:13 PM	6/15/2020 1:53:06 PM	1.9
512	6/15/2020 1:53:25 PM	6/15/2020 1:54:54 PM	1.5
513	6/15/2020 1:55:12 PM	6/15/2020 2:00:27 PM	5.3
Total Duration			10.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
359	6/15/2020 2:20:30 PM	Vibratory hammer with bubble curtain	48

Comments

Barge is vibing D-2 in using a bubble curtain. Shook hammer to get it to seat on top of pile. Also shook to get hammer off of pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
515	6/15/2020 2:28:16 PM	6/15/2020 2:29:20 PM	1.1
516	6/15/2020 2:29:29 PM	6/15/2020 2:29:33 PM	0.1
517	6/15/2020 2:30:23 PM	6/15/2020 2:30:51 PM	0.5
518	6/15/2020 2:31:57 PM	6/15/2020 2:32:53 PM	0.9
519	6/15/2020 2:32:59 PM	6/15/2020 2:33:43 PM	0.7
520	6/15/2020 2:34:15 PM	6/15/2020 2:37:48 PM	3.5
521	6/15/2020 2:38:14 PM	6/15/2020 2:42:26 PM	4.2
522	6/15/2020 2:45:19 PM	6/15/2020 2:45:26 PM	0.1
Total Duration			11.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
361	6/15/2020 3:09:33 PM	Impact hammer with bubble curtain	48

Comments

1520 Soft start initiated. Barge impacting D-2 using the bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
524	6/15/2020 3:20:22 PM	6/15/2020 3:23:46 PM	3.4
525	6/15/2020 3:24:00 PM	6/15/2020 3:37:57 PM	13.9
526	6/15/2020 3:38:16 PM	6/15/2020 3:38:19 PM	0.1
527	6/15/2020 3:39:11 PM	6/15/2020 3:39:17 PM	0.1
528	6/15/2020 3:41:00 PM	6/15/2020 3:52:28 PM	11.5
Total Duration			29

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
363	6/15/2020 4:12:04 PM	Impact hammer with bubble curtain	48

Comments

Barge impacting A2 with a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
530	6/15/2020 4:27:58 PM	6/15/2020 4:57:05 PM	29.1
Total Duration			29.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
366	6/16/2020 7:17:39 AM	Vibratory hammer, no bubble curtain	24

Comments

0729 Shoreside shook vibe hammer inside of permanent pile being used as a pin pile a few times to seat hammer on 24" template pile. 0800 Shoreside lowered 24" pile into the bubble canister and lifted the can up over the pile before lifting both to move into position.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
533	6/16/2020 7:29:13 AM	6/16/2020 7:29:14 AM	0
534	6/16/2020 7:31:26 AM	6/16/2020 7:31:28 AM	0
535	6/16/2020 7:35:10 AM	6/16/2020 7:35:14 AM	0.1
Total Duration			0.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
368	6/16/2020 8:01:01 AM	Vibratory hammer with bubble curtain	24

Comments

Shoreside vibing a 24" southern template pile in using the bubble curtain close to the G row of permanent piles.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
537	6/16/2020 8:32:32 AM	6/16/2020 8:58:04 AM	25.5
Total Duration			25.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
370	6/16/2020 9:07:23 AM	Impact hammer with bubble curtain	48

Comments

Barge impacting B-2 using a bubble curtain. Before they started they talked about a "dead blow" over the radio, seemed like a soft start over a longer period of time.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
540	6/16/2020 9:20:11 AM	6/16/2020 9:20:12 AM	0
542	6/16/2020 9:21:07 AM	6/16/2020 9:21:12 AM	0.1
543	6/16/2020 9:22:27 AM	6/16/2020 9:22:35 AM	0.1
544	6/16/2020 9:24:03 AM	6/16/2020 9:24:04 AM	0
545	6/16/2020 9:25:26 AM	6/16/2020 9:42:10 AM	16.7
Total Duration			16.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
371	6/16/2020 9:18:09 AM	Vibratory hammer, no bubble curtain	24

Comments

0919 Shoreside shaking vibe hammer on to seat on 24" pile while it's inside a 36" pin pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
539	6/16/2020 9:19:24 AM	6/16/2020 9:19:29 AM	0.1
541	6/16/2020 9:20:33 AM	6/16/2020 9:20:38 AM	0.1
Total Duration			0.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
372	6/16/2020 9:42:43 AM	Vibratory hammer with bubble curtain	24

Comments

Shoreside is vibing in a northern template pile closest to permanent row G using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
546	6/16/2020 9:57:13 AM	6/16/2020 10:17:21 AM	20.1
547	6/16/2020 10:17:52 AM	6/16/2020 10:18:49 AM	1
Total Duration			21.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
374	6/16/2020 2:05:34 PM	Vibratory hammer, no bubble curtain	48

Comments

Barge is vibing in B-1 without a bubble curtain since there was a possible obstruction that had keep the bubble curtain from being deployed a few days prior.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
549	6/16/2020 2:29:36 PM	6/16/2020 2:30:11 PM	0.6
550	6/16/2020 2:31:16 PM	6/16/2020 2:34:38 PM	3.4
551	6/16/2020 2:35:26 PM	6/16/2020 2:46:40 PM	11.2
Total Duration			15.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
376	6/16/2020 4:18:12 PM	Impact hammer with bubble curtain	48

Comments

Barge is impacting B1 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
553	6/16/2020 4:19:58 PM	6/16/2020 4:34:32 PM	14.6
555	6/16/2020 4:38:17 PM	6/16/2020 4:46:25 PM	8.1
Total Duration			22.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
377	6/16/2020 4:32:36 PM	Vibratory hammer with bubble curtain	36

Comments

Shoreside is vibing in a 36" pile in the temporary dock bent 2 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
554	6/16/2020 4:35:23 PM	6/16/2020 4:35:32 PM	0.2
556	6/16/2020 4:47:40 PM	6/16/2020 5:21:02 PM	33.4
557	6/16/2020 5:22:09 PM	6/16/2020 5:28:35 PM	6.4
Total Duration			40

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
390	6/17/2020 1:04:31 PM	Vibratory hammer with bubble curtain	36

Comments

1304 - shore side preparing to attach hammer to pile; 1307 - vibe hammer is attached to pile; 1320 - pile placed in bubble curtain

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
565	6/17/2020 1:20:54 PM	6/17/2020 2:00:52 PM	40
Total Duration			40

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
392	6/17/2020 3:54:11 PM	Vibratory hammer with bubble curtain	24

Comments

1555 - placing 24" in bub can; 1614 - vib hammer detached from pile;

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
567	6/17/2020 4:01:51 PM	6/17/2020 4:13:07 PM	11.3
Total Duration			11.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
396	6/18/2020 7:29:30 AM	Vibratory hammer with bubble curtain	24

Comments

0733 - vibe hammer attached to pile, placing in bubble can; 0747 - vibe hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
571	6/18/2020 7:37:34 AM	6/18/2020 7:47:22 AM	9.8
572	6/18/2020 7:47:33 AM	6/18/2020 7:47:35 AM	0
Total Duration			9.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
399	6/18/2020 9:27:52 AM	Vibratory hammer with bubble curtain	24

Comments

Did not see start of vibe but still has a lot of pile left so did not miss much.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
578	6/18/2020 9:32:05 AM	6/18/2020 9:41:59 AM	9.9
Total Duration			9.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
401	6/18/2020 11:37:07 AM	Vibe Install bubble curtain casing	n/a

Comments

1137 - preparing to vibe in 72" bubble can, attempting to attach hammer; 1201 - still working on attaching that hammer; 1214 - vibe hammer attached to bubble can; 1234

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
580	6/18/2020 12:18:02 PM	6/18/2020 12:18:28 PM	0.4
581	6/18/2020 12:19:38 PM	6/18/2020 12:22:12 PM	2.6
582	6/18/2020 12:22:47 PM	6/18/2020 12:26:13 PM	3.4
583	6/18/2020 12:26:55 PM	6/18/2020 12:32:40 PM	5.8
Total Duration			12.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
403	6/18/2020 4:59:58 PM	Vibe Install bubble curtain casing	n/a

Comments

1700 vibe hammer attached to bubble can; 1714 - hammer detached from the pile;

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
585	6/18/2020 5:01:36 PM	6/18/2020 5:01:40 PM	0.1
586	6/18/2020 5:03:04 PM	6/18/2020 5:03:13 PM	0.2
587	6/18/2020 5:03:21 PM	6/18/2020 5:04:26 PM	1.1
588	6/18/2020 5:06:42 PM	6/18/2020 5:07:39 PM	1
589	6/18/2020 5:08:41 PM	6/18/2020 5:09:28 PM	0.8
Total Duration			3.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
410	6/19/2020 12:20:42 PM	Vibratory hammer with bubble curtain	48

Comments

Barge shook hammer to seat on top of pile. Vibing E4 using bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
595	6/19/2020 12:20:51 PM	6/19/2020 12:21:20 PM	0.5
596	6/19/2020 12:23:38 PM	6/19/2020 12:23:45 PM	0.1
597	6/19/2020 12:29:56 PM	6/19/2020 12:30:10 PM	0.2
598	6/19/2020 12:31:57 PM	6/19/2020 12:32:52 PM	0.9
599	6/19/2020 12:33:53 PM	6/19/2020 12:36:02 PM	2.1
600	6/19/2020 12:36:14 PM	6/19/2020 12:39:25 PM	3.2
601	6/19/2020 12:40:02 PM	6/19/2020 12:43:55 PM	3.9
Total Duration			10.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
415	6/19/2020 3:17:00 PM	Impact hammer with bubble curtain	48

Comments

Soft start initiated. Barge impacting E4 with bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
605	6/19/2020 3:28:33 PM	6/19/2020 4:00:10 PM	31.6
Total Duration			31.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
424	6/20/2020 2:11:12 PM	Vibratory hammer with bubble curtain	48

Comments

Shoreside is vibing in a permanent pile in row G using the bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
614	6/20/2020 2:29:52 PM	6/20/2020 2:39:29 PM	9.6
Total Duration			9.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
427	6/20/2020 3:25:57 PM	Impact hammer with bubble curtain	48

Comments

1526 Shore side is preparing to impact. 1532 soft start initiated START.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
617	6/20/2020 3:32:04 PM	6/20/2020 3:32:06 PM	0
618	6/20/2020 3:32:42 PM	6/20/2020 3:49:07 PM	16.4
619	6/20/2020 3:50:44 PM	6/20/2020 3:59:42 PM	9
Total Duration			25.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
428	6/20/2020 4:01:48 PM	Vibe Install bubble curtain casing	n/a

Comments

Barge vibing in 72" bubble casing into template position D5.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
620	6/20/2020 4:08:01 PM	6/20/2020 4:09:39 PM	1.6
621	6/20/2020 4:10:59 PM	6/20/2020 4:12:16 PM	1.3
Total Duration			2.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
430	6/20/2020 4:19:37 PM	Vibe Install bubble curtain casing	n/a

Comments

Barge is vibing in bubble casing into template position E5.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
622	6/20/2020 4:21:58 PM	6/20/2020 4:22:21 PM	0.4
623	6/20/2020 4:24:13 PM	6/20/2020 4:24:23 PM	0.2
624	6/20/2020 4:24:59 PM	6/20/2020 4:25:14 PM	0.2
Total Duration			0.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
436	6/21/2020 9:44:55 AM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
631	6/21/2020 9:56:45 AM	6/21/2020 9:56:46 AM	0
632	6/21/2020 10:00:59 AM	6/21/2020 10:01:00 AM	0
633	6/21/2020 10:03:37 AM	6/21/2020 10:03:57 AM	0.3
634	6/21/2020 10:05:06 AM	6/21/2020 10:14:44 AM	9.6
635	6/21/2020 10:17:37 AM	6/21/2020 10:17:40 AM	0.1
Total Duration			10

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
438	6/21/2020 1:06:40 PM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
637	6/21/2020 1:15:36 PM	6/21/2020 1:15:38 PM	0
638	6/21/2020 1:30:19 PM	6/21/2020 1:40:17 PM	10
Total Duration			10

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
439	6/21/2020 1:42:11 PM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
640	6/21/2020 2:01:13 PM	6/21/2020 2:01:14 PM	0
641	6/21/2020 2:02:11 PM	6/21/2020 2:02:14 PM	0.1
642	6/21/2020 2:03:56 PM	6/21/2020 2:04:35 PM	0.6
643	6/21/2020 2:05:49 PM	6/21/2020 2:15:18 PM	9.5
Total Duration			10.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
440	6/21/2020 2:17:44 PM	Impact hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
645	6/21/2020 2:22:32 PM	6/21/2020 2:22:38 PM	0.1
646	6/21/2020 2:23:19 PM	6/21/2020 2:23:23 PM	0.1
647	6/21/2020 2:24:07 PM	6/21/2020 2:24:12 PM	0.1
648	6/21/2020 2:24:53 PM	6/21/2020 2:32:28 PM	7.6
649	6/21/2020 2:32:33 PM	6/21/2020 2:32:35 PM	0
650	6/21/2020 2:33:17 PM	6/21/2020 2:38:23 PM	5.1
Total Duration			13

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
441	6/21/2020 2:40:39 PM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
651	6/21/2020 2:42:27 PM	6/21/2020 2:42:29 PM	0
652	6/21/2020 2:43:07 PM	6/21/2020 2:43:10 PM	0.1
653	6/21/2020 2:43:51 PM	6/21/2020 2:43:56 PM	0.1
654	6/21/2020 2:46:16 PM	6/21/2020 2:53:14 PM	7
655	6/21/2020 2:54:16 PM	6/21/2020 2:58:34 PM	4.3
Total Duration			11.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
443	6/21/2020 3:39:21 PM	Impact hammer with bubble curtain	48

Comments

1611 - impact hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
657	6/21/2020 3:44:44 PM	6/21/2020 3:44:46 PM	0
658	6/21/2020 3:44:48 PM	6/21/2020 3:44:58 PM	0.2
659	6/21/2020 3:45:32 PM	6/21/2020 4:09:40 PM	24.1
Total Duration			24.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
444	6/21/2020 4:31:27 PM	Impact hammer with bubble curtain	48

Comments

1632 - impact attached to A-4;

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
661	6/21/2020 4:33:59 PM	6/21/2020 4:55:23 PM	21.4
Total Duration			21.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
448	6/22/2020 8:24:50 AM	Vibe Install bubble curtain casing	n/a

Comments

0825 - vibe hammer attached to the bubble can

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
665	6/22/2020 8:36:15 AM	6/22/2020 8:36:16 AM	0
666	6/22/2020 8:38:07 AM	6/22/2020 8:38:52 AM	0.8
667	6/22/2020 8:40:00 AM	6/22/2020 8:40:02 AM	0
Total Duration			0.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
452	6/22/2020 10:47:21 AM	Vibe Install bubble curtain casing	n/a

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
670	6/22/2020 10:49:52 AM	6/22/2020 10:51:02 AM	1.2
671	6/22/2020 10:53:44 AM	6/22/2020 10:55:24 AM	1.7
Total Duration			2.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
453	6/22/2020 1:09:07 PM	Impact hammer with bubble curtain	48

Comments

1311 - Shore-side: impact hammer attached to pile; 1342 - impact detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
673	6/22/2020 1:13:12 PM	6/22/2020 1:13:13 PM	0
674	6/22/2020 1:14:07 PM	6/22/2020 1:14:09 PM	0
675	6/22/2020 1:15:02 PM	6/22/2020 1:15:05 PM	0.1
676	6/22/2020 1:15:55 PM	6/22/2020 1:24:59 PM	9.1
679	6/22/2020 1:25:49 PM	6/22/2020 1:41:44 PM	15.9
Total Duration			25.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
454	6/22/2020 1:18:15 PM	Vibratory hammer with bubble curtain	48

Comments

1339 - vibe hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
677	6/22/2020 1:20:28 PM	6/22/2020 1:20:29 PM	0
678	6/22/2020 1:24:01 PM	6/22/2020 1:28:21 PM	4.3
680	6/22/2020 1:30:29 PM	6/22/2020 1:31:29 PM	1
681	6/22/2020 1:31:49 PM	6/22/2020 1:37:17 PM	5.5
Total Duration			10.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
456	6/22/2020 2:03:49 PM	Impact hammer with bubble curtain	48

Comments

1405 - impact hammer attached to pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
683	6/22/2020 2:07:45 PM	6/22/2020 2:07:48 PM	0.1
684	6/22/2020 2:08:44 PM	6/22/2020 2:08:45 PM	0
685	6/22/2020 2:09:46 PM	6/22/2020 2:09:47 PM	0
686	6/22/2020 2:10:46 PM	6/22/2020 2:34:30 PM	23.7
Total Duration			23.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
457	6/22/2020 2:27:01 PM	Vibratory hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
687	6/22/2020 2:28:18 PM	6/22/2020 2:28:20 PM	0
689	6/22/2020 2:46:10 PM	6/22/2020 2:56:14 PM	10.1
Total Duration			10.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
458	6/22/2020 3:05:41 PM	Impact hammer with bubble curtain	48

Comments

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
691	6/22/2020 3:21:17 PM	6/22/2020 3:21:19 PM	0
692	6/22/2020 3:22:06 PM	6/22/2020 3:27:12 PM	5.1
Total Duration			5.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
460	6/22/2020 4:24:01 PM	Vibe Install bubble curtain casing	n/a

Comments

1640 - vibe hammer removed from bubble casing.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
694	6/22/2020 4:31:38 PM	6/22/2020 4:32:02 PM	0.4
695	6/22/2020 4:32:56 PM	6/22/2020 4:38:16 PM	5.3
Total Duration			5.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
463	6/23/2020 8:23:25 AM	Vibratory hammer with bubble curtain	48

Comments

0826 - hammer attached to pile. 0847 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
699	6/23/2020 8:26:29 AM	6/23/2020 8:26:33 AM	0.1
700	6/23/2020 8:27:18 AM	6/23/2020 8:27:19 AM	0
701	6/23/2020 8:32:16 AM	6/23/2020 8:33:50 AM	1.6
702	6/23/2020 8:34:39 AM	6/23/2020 8:37:11 AM	2.5
703	6/23/2020 8:37:56 AM	6/23/2020 8:41:07 AM	3.2
704	6/23/2020 8:41:57 AM	6/23/2020 8:44:44 AM	2.8
705	6/23/2020 8:47:00 AM	6/23/2020 8:47:04 AM	0.1
Total Duration			10.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
464	6/23/2020 9:38:04 AM	Impact hammer with bubble curtain	48

Comments

0938 - impact hammer attached to pile; 1019 - impact hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
707	6/23/2020 9:42:56 AM	6/23/2020 9:42:57 AM	0
708	6/23/2020 9:43:56 AM	6/23/2020 9:43:56 AM	0
709	6/23/2020 9:44:56 AM	6/23/2020 9:45:00 AM	0.1
710	6/23/2020 9:45:57 AM	6/23/2020 10:18:04 AM	32.1
Total Duration			32.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
466	6/23/2020 4:41:22 PM	Vibe Install bubble curtain casing	n/a

Comments

1642 - vibe hammer attached to bubble casing; 1645 - hammer detached from bubble casing

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
712	6/23/2020 4:43:14 PM	6/23/2020 4:44:21 PM	1.1
713	6/23/2020 4:46:05 PM	6/23/2020 4:46:44 PM	0.7
714	6/23/2020 4:46:53 PM	6/23/2020 4:46:54 PM	0
Total Duration			1.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
473	6/24/2020 10:33:23 AM	Vibratory hammer with bubble curtain	24

Comments

Shoreside vibing in 1B24 using a bubble curtain. 1053 - vibe hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
722	6/24/2020 10:37:25 AM	6/24/2020 10:48:30 AM	11.1
723	6/24/2020 10:49:33 AM	6/24/2020 10:52:18 AM	2.7
724	6/24/2020 10:52:34 AM	6/24/2020 10:52:47 AM	0.2
Total Duration			14

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
474	6/24/2020 10:34:58 AM	Impact hammer with bubble curtain	48

Comments

1035 - soft start initiated; PDA test

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
721	6/24/2020 10:35:41 AM	6/24/2020 11:03:25 AM	27.7
Total Duration			27.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
476	6/24/2020 2:17:53 PM	Vibratory hammer with bubble curtain	24

Comments

1417 - vibe hammer attached, moving 24" pile. Shoreside vibing in 1C24 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
727	6/24/2020 2:29:49 PM	6/24/2020 2:37:40 PM	7.9
Total Duration			7.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
478	6/24/2020 2:42:40 PM	Impact hammer with bubble curtain	48

Comments

Barge is doing a PDA test on pile A1 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
729	6/24/2020 2:46:33 PM	6/24/2020 2:56:14 PM	9.7
Total Duration			9.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
480	6/24/2020 3:22:54 PM	Vibratory hammer with bubble curtain	24

Comments

1335 - vibe hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
731	6/24/2020 3:25:12 PM	6/24/2020 3:25:17 PM	0.1
732	6/24/2020 3:25:38 PM	6/24/2020 3:34:58 PM	9.3
Total Duration			9.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
481	6/24/2020 4:17:46 PM	Vibratory hammer, no bubble curtain	36

Comments

Shoreside is vibing OUT a 36" pin pile without a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
734	6/24/2020 4:17:51 PM	6/24/2020 4:52:48 PM	34.9
Total Duration			34.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
482	6/24/2020 4:34:24 PM	Vibratory hammer with bubble curtain	48

Comments

Barge is preparing to vib in B4 with a bubble curtain. Shook hammer to seat on top of pile.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
735	6/24/2020 4:38:36 PM	6/24/2020 4:38:40 PM	0.1
736	6/24/2020 4:39:15 PM	6/24/2020 4:39:19 PM	0.1
737	6/24/2020 4:46:27 PM	6/24/2020 4:51:24 PM	5
738	6/24/2020 4:51:49 PM	6/24/2020 4:53:56 PM	2.1
739	6/24/2020 4:54:02 PM	6/24/2020 4:54:11 PM	0.1
740	6/24/2020 4:54:51 PM	6/24/2020 4:59:16 PM	4.4
Total Duration			11.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
484	6/24/2020 5:03:35 PM	Vibratory hammer with bubble curtain	36

Comments

Shore side is vibing in 1A36 using a bubble curtain. 1738 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
742	6/24/2020 5:06:16 PM	6/24/2020 5:37:42 PM	31.4
Total Duration			31.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
487	6/25/2020 7:31:44 AM	Impact hammer with bubble curtain	48

Comments

0733 - soft start; 0755 - hammer removed. Barge side.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
745	6/25/2020 7:33:16 AM	6/25/2020 7:54:21 AM	21.1
Total Duration			21.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
489	6/25/2020 8:08:01 AM	Impact hammer, no bubble curtain	48

Comments

PDA testing on pile I-T1 without a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
747	6/25/2020 8:08:06 AM	6/25/2020 8:08:57 AM	0.8
Total Duration			0.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
490	6/25/2020 8:50:14 AM	Impact hammer with bubble curtain	48

Comments

Shoreside impacting G-T1 for a PDA test with a bubble curtain. 0917 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
748	6/25/2020 8:50:32 AM	6/25/2020 9:15:17 AM	24.8
749	6/25/2020 9:16:39 AM	6/25/2020 9:17:06 AM	0.4
Total Duration			25.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
491	6/25/2020 11:06:47 AM	Vibe Install bubble curtain casing	n/a

Comments

1109 - barge vibe hammer attached to casing in position C-5; 1131 - vibe hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
751	6/25/2020 11:18:54 AM	6/25/2020 11:19:43 AM	0.8
752	6/25/2020 11:23:56 AM	6/25/2020 11:25:19 AM	1.4
753	6/25/2020 11:29:00 AM	6/25/2020 11:29:41 AM	0.7
Total Duration			2.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
493	6/25/2020 12:11:02 PM	Vibratory hammer with bubble curtain	36

Comments

Shoreside preparing to vib in 1D36 with a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
756	6/25/2020 12:23:00 PM	6/25/2020 12:23:11 PM	0.2
757	6/25/2020 12:23:23 PM	6/25/2020 12:45:25 PM	22
Total Duration			22.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
495	6/25/2020 2:18:34 PM	Vibratory hammer with bubble curtain	48

Comments

Barge is vibing in C5 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
759	6/25/2020 2:26:07 PM	6/25/2020 2:26:11 PM	0.1
760	6/25/2020 2:30:21 PM	6/25/2020 2:33:17 PM	2.9
761	6/25/2020 2:33:49 PM	6/25/2020 2:37:52 PM	4.1
762	6/25/2020 2:38:31 PM	6/25/2020 2:42:38 PM	4.1
Total Duration			11.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
497	6/25/2020 3:17:53 PM	Impact hammer with bubble curtain	48

Comments

Barge side; 1518 - impact hammer attached; 1523 - soft start; 1551 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
764	6/25/2020 3:23:00 PM	6/25/2020 3:48:12 PM	25.2
Total Duration			25.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
500	6/26/2020 7:29:26 AM	Vibe Install bubble curtain casing	n/a

Comments

Marine-side: 0725 - green vibe hammer (w/ 2 clamps) attached to bubble casing; 0820 - hammer detached from the pile; Pile was vibed in and vibed out; Will re-try near slacktide.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
767	6/26/2020 7:30:58 AM	6/26/2020 7:30:59 AM	0
768	6/26/2020 7:31:32 AM	6/26/2020 7:31:42 AM	0.2
769	6/26/2020 7:32:25 AM	6/26/2020 7:32:52 AM	0.5
770	6/26/2020 7:33:43 AM	6/26/2020 7:34:58 AM	1.2
771	6/26/2020 7:35:34 AM	6/26/2020 7:36:21 AM	0.8
772	6/26/2020 7:37:42 AM	6/26/2020 7:38:34 AM	0.9
773	6/26/2020 7:39:21 AM	6/26/2020 7:40:06 AM	0.8
774	6/26/2020 7:42:12 AM	6/26/2020 7:43:32 AM	1.3
775	6/26/2020 7:50:34 AM	6/26/2020 7:51:49 AM	1.2
776	6/26/2020 7:52:31 AM	6/26/2020 7:52:52 AM	0.3
Total Duration			7.2

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
502	6/26/2020 11:13:08 AM	Vibe Install bubble curtain casing	

Comments

Marine-Side: 1113 - re-try setting C-4 bubble can; 1141 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
778	6/26/2020 11:17:50 AM	6/26/2020 11:18:04 AM	0.2
779	6/26/2020 11:18:27 AM	6/26/2020 11:19:47 AM	1.3
780	6/26/2020 11:21:36 AM	6/26/2020 11:22:57 AM	1.4
781	6/26/2020 11:23:45 AM	6/26/2020 11:24:26 AM	0.7
782	6/26/2020 11:26:05 AM	6/26/2020 11:28:11 AM	2.1
783	6/26/2020 11:28:21 AM	6/26/2020 11:29:06 AM	0.7
784	6/26/2020 11:30:44 AM	6/26/2020 11:32:20 AM	1.6
785	6/26/2020 11:33:03 AM	6/26/2020 11:33:38 AM	0.6
786	6/26/2020 11:38:23 AM	6/26/2020 11:38:38 AM	0.3
Total Duration			8.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
503	6/26/2020 1:38:55 PM	Vibratory hammer with bubble curtain	48

Comments

Marine-side: 1344 - vibe hammer attached to pile; 1401 - hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
788	6/26/2020 1:45:40 PM	6/26/2020 1:45:44 PM	0.1
789	6/26/2020 1:48:56 PM	6/26/2020 1:49:33 PM	0.6
790	6/26/2020 1:49:48 PM	6/26/2020 1:59:08 PM	9.3
Total Duration			10

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
505	6/26/2020 2:25:46 PM	Impact hammer with bubble curtain	48

Comments

Marine-Side: 1428 - impact hammer attached to pile; 1430- soft start; 1502 - hammer detached

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
792	6/26/2020 2:30:31 PM	6/26/2020 2:30:32 PM	0
793	6/26/2020 2:31:34 PM	6/26/2020 2:31:36 PM	0
794	6/26/2020 2:32:39 PM	6/26/2020 2:32:41 PM	0
795	6/26/2020 2:33:44 PM	6/26/2020 2:33:45 PM	0
796	6/26/2020 2:34:47 PM	6/26/2020 2:39:01 PM	4.2
797	6/26/2020 2:44:08 PM	6/26/2020 3:01:03 PM	16.9
Total Duration			21.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
506	6/26/2020 3:11:45 PM	Vibratory hammer with bubble curtain	24

Comments

Shore-side: 1552 - hammer attached to template pile closest to F-T2, shook 3x to attach it securely; 1659 - hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
799	6/26/2020 3:51:13 PM	6/26/2020 3:51:15 PM	0
800	6/26/2020 3:51:38 PM	6/26/2020 3:51:39 PM	0
801	6/26/2020 3:52:25 PM	6/26/2020 3:52:28 PM	0
802	6/26/2020 4:17:00 PM	6/26/2020 4:18:46 PM	1.8
803	6/26/2020 4:18:48 PM	6/26/2020 4:34:23 PM	15.6
804	6/26/2020 4:36:09 PM	6/26/2020 4:57:09 PM	21
805	6/26/2020 4:59:18 PM	6/26/2020 4:59:20 PM	0
Total Duration			38.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
507	6/26/2020 5:11:15 PM	Vibratory hammer with bubble curtain	24

Comments

Shore-side: another template pile near row F; 1715 - hammer attached to pile; 1808 - hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
807	6/26/2020 5:13:03 PM	6/26/2020 5:13:06 PM	0
808	6/26/2020 5:13:07 PM	6/26/2020 5:13:10 PM	0.1
809	6/26/2020 5:13:42 PM	6/26/2020 5:13:44 PM	0
810	6/26/2020 5:14:06 PM	6/26/2020 5:14:10 PM	0.1
811	6/26/2020 5:14:46 PM	6/26/2020 5:14:53 PM	0.1
812	6/26/2020 5:38:22 PM	6/26/2020 6:07:00 PM	28.6
Total Duration			28.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
513	6/27/2020 9:46:51 AM	Vibe Install bubble curtain casing	n/a

Comments

Marine-side: 1005 - vibe hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
820	6/27/2020 9:48:02 AM	6/27/2020 9:48:07 AM	0.1
821	6/27/2020 9:50:27 AM	6/27/2020 9:51:02 AM	0.6
822	6/27/2020 9:52:25 AM	6/27/2020 9:53:56 AM	1.5
823	6/27/2020 9:54:50 AM	6/27/2020 9:56:52 AM	2
824	6/27/2020 9:58:12 AM	6/27/2020 9:59:21 AM	1.2
Total Duration			5.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
515	6/27/2020 11:16:07 AM	Vibratory hammer with bubble curtain	48

Comments

Marine-side: 1120 - vibe hammer attached; 1136 - vibe hammer removed.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
826	6/27/2020 11:16:12 AM	6/27/2020 11:16:14 AM	0
827	6/27/2020 11:16:40 AM	6/27/2020 11:16:46 AM	0.1
828	6/27/2020 11:19:33 AM	6/27/2020 11:19:35 AM	0
829	6/27/2020 11:20:25 AM	6/27/2020 11:20:28 AM	0.1
830	6/27/2020 11:21:06 AM	6/27/2020 11:21:16 AM	0.2
831	6/27/2020 11:23:33 AM	6/27/2020 11:24:33 AM	1
832	6/27/2020 11:25:13 AM	6/27/2020 11:27:20 AM	2.1
833	6/27/2020 11:27:34 AM	6/27/2020 11:34:26 AM	6.9
Total Duration			10.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
516	6/27/2020 12:44:26 PM	Impact hammer with bubble curtain	48

Comments

Marine-side: 1244 - hammer attached; 1245- soft start; 1312 - hammer off

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
835	6/27/2020 12:45:37 PM	6/27/2020 12:45:38 PM	0
836	6/27/2020 12:46:39 PM	6/27/2020 12:46:41 PM	0
837	6/27/2020 12:47:41 PM	6/27/2020 12:47:43 PM	0
838	6/27/2020 12:48:45 PM	6/27/2020 1:10:18 PM	21.6
Total Duration			21.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
518	6/27/2020 2:01:27 PM	Vibratory hammer with bubble curtain	48

Comments

Shore-side: 1401 - vibe hammer attached; 1444 - vibe hammer removed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
840	6/27/2020 2:04:25 PM	6/27/2020 2:05:04 PM	0.7
841	6/27/2020 2:05:15 PM	6/27/2020 2:14:36 PM	9.3
Total Duration			10

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
519	6/27/2020 3:49:31 PM	Impact hammer with bubble curtain	48

Comments

Shore-side: 1549 - impact hammer attached to pile. Soft start; 1619 - hammer detached

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
842	6/27/2020 3:50:23 PM	6/27/2020 3:50:24 PM	0
843	6/27/2020 3:50:26 PM	6/27/2020 3:50:28 PM	0
844	6/27/2020 3:51:17 PM	6/27/2020 3:51:19 PM	0
845	6/27/2020 3:52:08 PM	6/27/2020 3:52:19 PM	0.2
846	6/27/2020 3:53:06 PM	6/27/2020 4:16:50 PM	23.7
Total Duration			23.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
520	6/27/2020 5:52:08 PM	Vibratory hammer with bubble curtain	48

Comments

SHORE-SIDE: 1753 - hammer attached to pile; 1807 - hammer off

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
848	6/27/2020 5:52:58 PM	6/27/2020 5:53:00 PM	0
849	6/27/2020 5:55:26 PM	6/27/2020 5:58:20 PM	2.9
850	6/27/2020 5:59:26 PM	6/27/2020 6:06:21 PM	6.9
Total Duration			9.8

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
526	6/28/2020 7:28:07 AM	Impact hammer with bubble curtain	48

Comments

0733 Radioed Chan all clear to start. 0735 Soft start initiated.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
855	6/28/2020 7:35:46 AM	6/28/2020 7:59:08 AM	23.4
Total Duration			23.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
530	6/28/2020 9:25:49 AM	Vibe Install bubble curtain casing	n/a

Comments

0925 Radioed Bo, gave all clear to proceed with work. Marine side is vibing in 72" bubble casing.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
861	6/28/2020 9:26:05 AM	6/28/2020 9:26:55 AM	0.8
863	6/28/2020 9:37:23 AM	6/28/2020 9:37:37 AM	0.2
864	6/28/2020 9:45:20 AM	6/28/2020 9:46:35 AM	1.2
866	6/28/2020 9:47:13 AM	6/28/2020 9:47:16 AM	0
867	6/28/2020 9:47:19 AM	6/28/2020 9:47:22 AM	0.1
868	6/28/2020 9:49:49 AM	6/28/2020 9:50:18 AM	0.5
869	6/28/2020 9:54:59 AM	6/28/2020 9:56:00 AM	1
870	6/28/2020 9:56:36 AM	6/28/2020 9:57:14 AM	0.6
Total Duration			4.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
531	6/28/2020 9:28:46 AM	Vibratory hammer with bubble curtain	48

Comments

PID 868 Needs to be moved over to Port Activity ID 530 Shoreside is vibing in F-T1 using a bubble curtain. (ATL post-processed: moved PS ID 868 to PA ID 530)

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
862	6/28/2020 9:36:47 AM	6/28/2020 9:45:09 AM	8.4
865	6/28/2020 9:46:13 AM	6/28/2020 9:46:57 AM	0.7
Total Duration			9.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
533	6/28/2020 10:47:04 AM	Impact hammer with bubble curtain	48

Comments

Shoreside will impact F-T1 using a bubble curtain. Soft start initiated.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
872	6/28/2020 10:47:14 AM	6/28/2020 11:14:08 AM	26.9
Total Duration			26.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
535	6/28/2020 1:07:37 PM	Vibe Install bubble curtain casing	n/a

Comments

Template position for E-3

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
874	6/28/2020 1:19:37 PM	6/28/2020 1:19:44 PM	0.1
875	6/28/2020 1:22:11 PM	6/28/2020 1:23:26 PM	1.3
876	6/28/2020 1:24:49 PM	6/28/2020 1:25:48 PM	1
877	6/28/2020 1:26:52 PM	6/28/2020 1:27:11 PM	0.3
878	6/28/2020 1:27:41 PM	6/28/2020 1:28:00 PM	0.3
Total Duration			3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
536	6/28/2020 1:31:33 PM	Vibe Install bubble curtain casing	n/a

Comments

Template position for A-3

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
879	6/28/2020 1:41:53 PM	6/28/2020 1:41:57 PM	0.1
880	6/28/2020 1:42:24 PM	6/28/2020 1:42:30 PM	0.1
881	6/28/2020 1:43:45 PM	6/28/2020 1:43:49 PM	0.1
882	6/28/2020 1:45:30 PM	6/28/2020 1:46:05 PM	0.6
883	6/28/2020 1:46:35 PM	6/28/2020 1:46:48 PM	0.2
884	6/28/2020 1:48:04 PM	6/28/2020 1:48:30 PM	0.4
885	6/28/2020 1:52:16 PM	6/28/2020 1:53:09 PM	0.9
886	6/28/2020 1:58:44 PM	6/28/2020 1:59:17 PM	0.6
887	6/28/2020 2:00:13 PM	6/28/2020 2:00:33 PM	0.3
Total Duration			3.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
540	6/29/2020 8:50:10 AM	Vibratory hammer with bubble curtain	48

Comments

Marine side will be vibing in E3 with a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
891	6/29/2020 9:01:57 AM	6/29/2020 9:01:59 AM	0
892	6/29/2020 9:13:00 AM	6/29/2020 9:13:30 AM	0.5
893	6/29/2020 9:13:38 AM	6/29/2020 9:14:01 AM	0.4
894	6/29/2020 9:14:19 AM	6/29/2020 9:15:07 AM	0.8
895	6/29/2020 9:15:19 AM	6/29/2020 9:18:02 AM	2.7
896	6/29/2020 9:18:15 AM	6/29/2020 9:24:09 AM	5.9
Total Duration			10.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
542	6/29/2020 12:41:29 PM	Vibratory hammer with bubble curtain	48

Comments

Marine side will be vibing in C3 with a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
898	6/29/2020 12:43:32 PM	6/29/2020 12:43:36 PM	0.1
899	6/29/2020 12:46:02 PM	6/29/2020 12:48:30 PM	2.5
900	6/29/2020 12:48:46 PM	6/29/2020 12:57:01 PM	8.3
901	6/29/2020 1:00:59 PM	6/29/2020 1:00:59 PM	0
Total Duration			10.9

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
544	6/29/2020 1:18:30 PM	Vibratory hammer with bubble curtain	48

Comments

Marine side will be vibing in A3 with a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
903	6/29/2020 1:20:05 PM	6/29/2020 1:20:07 PM	0
904	6/29/2020 1:25:43 PM	6/29/2020 1:25:49 PM	0.1
905	6/29/2020 1:26:41 PM	6/29/2020 1:28:10 PM	1.5
906	6/29/2020 1:28:24 PM	6/29/2020 1:30:01 PM	1.6
907	6/29/2020 1:30:26 PM	6/29/2020 1:36:39 PM	6.2
Total Duration			9.4

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
546	6/29/2020 1:53:22 PM	Impact hammer with bubble curtain	48

Comments

Marine side preparing to impact A3 using a bubble curtain. Soft start initiated.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
909	6/29/2020 2:02:11 PM	6/29/2020 2:15:12 PM	13
910	6/29/2020 2:16:29 PM	6/29/2020 2:16:30 PM	0
911	6/29/2020 2:17:19 PM	6/29/2020 2:24:58 PM	7.7
Total Duration			20.7

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
548	6/29/2020 2:29:51 PM	Impact hammer with bubble curtain	48

Comments

Marine side preparing to impact C3 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
913	6/29/2020 2:45:31 PM	6/29/2020 2:59:02 PM	13.5
914	6/29/2020 3:00:11 PM	6/29/2020 3:07:00 PM	6.8
Total Duration			20.3

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
550	6/29/2020 3:27:45 PM	Impact hammer with bubble curtain	48

Comments

Marine side preparing to impact E3 using a bubble curtain.

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
916	6/29/2020 3:31:06 PM	6/29/2020 3:51:23 PM	20.3
917	6/29/2020 3:52:52 PM	6/29/2020 4:02:41 PM	9.8
Total Duration			30.1

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
555	6/30/2020 11:36:19 AM	Vibe Install bubble curtain casing	n/a

Comments

MARINE-SIDE:

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
923	6/30/2020 11:38:13 AM	6/30/2020 11:39:23 AM	1.2
924	6/30/2020 11:40:33 AM	6/30/2020 11:41:29 AM	0.9
925	6/30/2020 11:44:02 AM	6/30/2020 11:46:15 AM	2.2
926	6/30/2020 11:47:18 AM	6/30/2020 11:48:00 AM	0.7
Total Duration			5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
557	6/30/2020 11:58:45 AM	Vibe Install bubble curtain casing	n/a

Comments

MARINE-SIDE: two 72" bubble cans installed

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
928	6/30/2020 11:59:54 AM	6/30/2020 11:59:55 AM	0
929	6/30/2020 12:05:09 PM	6/30/2020 12:05:16 PM	0.1
930	6/30/2020 12:05:58 PM	6/30/2020 12:06:53 PM	0.9
931	6/30/2020 12:08:16 PM	6/30/2020 12:09:33 PM	1.3
932	6/30/2020 12:09:57 PM	6/30/2020 12:12:17 PM	2.3
Total Duration			4.6

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
558	6/30/2020 3:13:47 PM	Vibratory hammer with bubble curtain	48

Comments

MARINE-SIDE: hammer detached at 1538

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
934	6/30/2020 3:21:40 PM	6/30/2020 3:21:41 PM	0
935	6/30/2020 3:22:57 PM	6/30/2020 3:25:18 PM	2.4
936	6/30/2020 3:25:34 PM	6/30/2020 3:33:40 PM	8.1
Total Duration			10.5

In-Water Construction Activity

Port Activity ID	Record Date and Time	In-water Activity	Pile Diameter
559	6/30/2020 3:38:32 PM	Vibratory hammer with bubble curtain	48

Comments

MARINE-SIDE: 1605 hammer detached from pile

Activity Time and Duration

Port Status ID	Activity Start Time	Activity Stop Time	Activity Minutes
937	6/30/2020 3:50:57 PM	6/30/2020 3:51:01 PM	0.1
938	6/30/2020 3:52:53 PM	6/30/2020 3:53:30 PM	0.6
939	6/30/2020 3:53:49 PM	6/30/2020 3:54:48 PM	1
940	6/30/2020 3:55:06 PM	6/30/2020 4:00:05 PM	5
941	6/30/2020 4:00:23 PM	6/30/2020 4:04:10 PM	3.8
Total Duration			10.5

Appendix B – Marine Mammal Sighting Summary

Marine Mammal Group Summary Report

Month of June 2020

Species	Group ID	Initial Sighting Time	Total Individuals
Beluga	167	6/12/2020 10:24:34 AM	3
	208	6/17/2020 10:07:51 AM	6
	211	6/17/2020 11:41:39 AM	1
	214	6/17/2020 2:43:03 PM	6
	219	6/18/2020 7:54:27 AM	3
	220	6/18/2020 8:00:33 AM	9
	225	6/18/2020 2:48:33 PM	3
	230	6/19/2020 8:18:05 AM	2
	232	6/19/2020 9:49:56 AM	1
	233	6/19/2020 10:20:18 AM	7
	235	6/19/2020 11:48:59 AM	0
	236	6/19/2020 12:32:38 PM	2
	238	6/19/2020 12:43:31 PM	5
	239	6/19/2020 1:45:30 PM	1
	244	6/20/2020 7:12:07 AM	3
	246	6/20/2020 8:14:22 AM	1
	249	6/20/2020 9:36:34 AM	6
	252	6/20/2020 11:00:38 AM	5
	254	6/20/2020 12:04:14 PM	4
	256	6/20/2020 1:02:00 PM	5
	257	6/20/2020 1:30:25 PM	6
	266	6/21/2020 8:06:55 AM	2
	274	6/22/2020 8:40:03 AM	3
	287	6/24/2020 8:58:21 AM	4
	307	6/26/2020 5:17:07 PM	3
	311	6/27/2020 8:00:05 AM	5
	313	6/27/2020 8:41:06 AM	2
	320	6/27/2020 6:02:10 PM	4
	321	6/27/2020 6:40:00 PM	4
	324	6/28/2020 8:23:53 AM	1
	336	6/29/2020 11:41:02 AM	1
	341	6/30/2020 7:03:59 AM	1
	342	6/30/2020 8:02:53 AM	5
Total Groups for Species:		Total Individuals for Species:	114
Harbor Porpoise	175	6/13/2020 3:28:45 PM	1

Species	Group ID	Initial Sighting Time	Total Individuals
Harbor Porpoise	260	6/20/2020 3:15:11 PM	1
	267	6/21/2020 9:21:47 AM	1
	347	6/30/2020 12:05:48 PM	1
Total Groups for Species:	4	Total Individuals for Species:	4

Harbor Seal			
	133	6/1/2020 7:13:36 AM	1
	134	6/1/2020 8:07:38 AM	1
	135	6/1/2020 1:26:52 PM	1
	136	6/1/2020 3:38:00 PM	1
	140	6/3/2020 1:42:53 PM	1
	142	6/4/2020 8:20:02 AM	1
	143	6/4/2020 3:12:40 PM	1
	145	6/5/2020 2:56:09 PM	1
	147	6/6/2020 8:13:54 AM	1
	149	6/7/2020 9:20:45 AM	1
	150	6/7/2020 10:07:36 AM	1
	151	6/7/2020 1:40:16 PM	1
	153	6/8/2020 7:54:50 AM	1
	154	6/8/2020 11:55:29 AM	1
	155	6/8/2020 4:41:27 PM	1
	157	6/9/2020 1:04:18 PM	1
	159	6/10/2020 8:16:25 AM	1
	162	6/11/2020 7:20:51 AM	1
	164	6/11/2020 2:36:23 PM	1
	165	6/11/2020 3:17:37 PM	1
	168	6/12/2020 1:48:00 PM	1
	169	6/12/2020 4:26:57 PM	1
	171	6/13/2020 8:10:33 AM	1
	172	6/13/2020 9:47:53 AM	1
	173	6/13/2020 10:15:07 AM	1
	174	6/13/2020 10:37:25 AM	1
	176	6/13/2020 3:44:02 PM	1
	177	6/13/2020 3:46:48 PM	1
	178	6/13/2020 4:53:44 PM	1
	180	6/14/2020 7:16:16 AM	1
	181	6/14/2020 11:13:55 AM	1
	182	6/14/2020 1:10:51 PM	1
	183	6/14/2020 2:40:16 PM	1
	184	6/14/2020 4:59:01 PM	1
	189	6/15/2020 7:41:54 AM	1

Species	Group ID	Initial Sighting Time	Total Individuals
Harbor Seal	190	6/15/2020 1:16:16 PM	1
	191	6/15/2020 4:24:33 PM	1
	193	6/16/2020 7:28:03 AM	1
	194	6/16/2020 8:57:37 AM	1
	195	6/16/2020 10:13:49 AM	1
	196	6/16/2020 11:44:52 AM	1
	197	6/16/2020 12:56:07 PM	1
	198	6/16/2020 1:16:49 PM	1
	199	6/16/2020 1:27:24 PM	1
	200	6/16/2020 4:54:51 PM	1
	206	6/17/2020 9:15:14 AM	1
	207	6/17/2020 9:24:03 AM	1
	209	6/17/2020 11:15:04 AM	1
	210	6/17/2020 11:22:50 AM	1
	212	6/17/2020 11:52:33 AM	1
	213	6/17/2020 12:55:11 PM	1
	215	6/17/2020 3:56:50 PM	2
	218	6/18/2020 7:16:35 AM	1
	221	6/18/2020 8:55:11 AM	1
	222	6/18/2020 9:51:20 AM	1
	223	6/18/2020 9:59:24 AM	1
	224	6/18/2020 10:47:39 AM	1
	226	6/18/2020 3:36:13 PM	1
	228	6/19/2020 7:21:07 AM	2
	231	6/19/2020 8:58:48 AM	1
	234	6/19/2020 10:58:19 AM	1
	237	6/19/2020 12:42:34 PM	1
	240	6/19/2020 3:16:24 PM	2
	241	6/19/2020 3:28:42 PM	1
	243	6/20/2020 7:10:22 AM	1
	245	6/20/2020 7:13:51 AM	1
	247	6/20/2020 9:01:25 AM	1
	248	6/20/2020 9:09:25 AM	1
	250	6/20/2020 10:23:46 AM	1
	251	6/20/2020 10:37:01 AM	1
	253	6/20/2020 11:12:37 AM	1
	255	6/20/2020 12:56:19 PM	1
	258	6/20/2020 1:41:23 PM	1
	259	6/20/2020 2:20:45 PM	1
	261	6/20/2020 3:39:27 PM	1
	262	6/20/2020 4:58:42 PM	2

Species	Group ID	Initial Sighting Time	Total Individuals
Harbor Seal	264	6/21/2020 7:07:26 AM	2
	265	6/21/2020 7:43:08 AM	2
	268	6/21/2020 9:49:12 AM	1
	269	6/21/2020 4:47:22 PM	1
	270	6/21/2020 5:12:08 PM	1
	272	6/22/2020 7:17:41 AM	1
	277	6/23/2020 8:08:13 AM	1
	278	6/23/2020 8:51:10 AM	1
	279	6/23/2020 10:32:14 AM	1
	280	6/23/2020 10:46:32 AM	1
	281	6/23/2020 2:15:59 PM	1
	282	6/23/2020 2:46:37 PM	1
	283	6/23/2020 4:49:26 PM	1
	285	6/24/2020 7:42:10 AM	1
	288	6/24/2020 9:25:21 AM	1
	289	6/24/2020 9:54:16 AM	1
	290	6/24/2020 11:11:28 AM	1
	291	6/24/2020 12:43:33 PM	1
	292	6/24/2020 1:37:15 PM	1
	293	6/24/2020 4:31:51 PM	1
	295	6/25/2020 7:32:28 AM	1
	296	6/25/2020 7:50:40 AM	1
	297	6/25/2020 8:22:03 AM	1
	298	6/25/2020 10:54:41 AM	1
	299	6/25/2020 11:53:50 AM	1
	300	6/25/2020 1:18:09 PM	1
	301	6/25/2020 3:34:24 PM	1
	302	6/25/2020 4:43:58 PM	1
	304	6/26/2020 8:23:23 AM	1
	305	6/26/2020 9:27:18 AM	1
	306	6/26/2020 12:10:35 PM	2
	308	6/26/2020 5:52:10 PM	1
	310	6/27/2020 7:18:14 AM	1
	312	6/27/2020 8:13:08 AM	1
	314	6/27/2020 9:45:01 AM	1
	315	6/27/2020 11:53:41 AM	1
	316	6/27/2020 11:56:41 AM	1
	317	6/27/2020 2:01:42 PM	1
	318	6/27/2020 2:11:33 PM	1
	319	6/27/2020 5:41:46 PM	1
	323	6/28/2020 7:36:30 AM	1

Species	Group ID	Initial Sighting Time	Total Individuals
Harbor Seal	325	6/28/2020 10:12:40 AM	1
	326	6/28/2020 12:13:00 PM	1
	328	6/28/2020 1:36:58 PM	1
	330	6/28/2020 1:57:31 PM	1
	331	6/28/2020 4:00:49 PM	1
	333	6/29/2020 7:12:41 AM	1
	334	6/29/2020 8:25:18 AM	1
	337	6/29/2020 12:35:16 PM	1
	338	6/29/2020 12:40:29 PM	1
	339	6/29/2020 2:32:09 PM	1
	343	6/30/2020 8:51:13 AM	2
	344	6/30/2020 9:10:57 AM	1
	345	6/30/2020 10:24:10 AM	1
	346	6/30/2020 11:45:53 AM	1
	349	6/30/2020 12:50:51 PM	1
	350	6/30/2020 2:54:11 PM	1
	351	6/30/2020 2:55:31 PM	1
	352	6/30/2020 5:04:22 PM	1
Total Groups for Species:	135	Total Individuals for Species:	143

Pinniped Unid.			
	163	6/11/2020 1:15:03 PM	1
	229	6/19/2020 8:03:32 AM	1
	273	6/22/2020 8:33:33 AM	1
	335	6/29/2020 10:20:19 AM	1
Total Groups for Species:	4	Total Individuals for Species:	4

Steller Sea Lion			
	205	6/17/2020 7:45:07 AM	1
	286	6/24/2020 8:06:24 AM	1
Total Groups for Species:	2	Total Individuals for Species:	2
Total MM Groups For Period:	178	Toal MMs For Period:	267

Appendix C – Week of 6/1 – 6/7 Sighting Forms and Maps

MM Group Report

Group ID

133

Created Date

6/1/2020 7:13:36 AM

Last Update

6/1/2020 10:02:55 AM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

Milling

Beluga
Counts

White
0

Gray
0

Calf
0

Neonate
0

Unknown
0

Other MM
Counts

Other Adult
1

Other Calf
0

Total Other

Comments

PW: 0713 Fix 618 Harbor seal spotted swimming northwest of pw station. Last seen at 0735.

Group ID

133

Fix ID

618

Fix Time

6/1/2020 7:19:29 AM

MM Latitude

61.21956

MM Longitude

-149.99464

Distance To PCT

5631.606

Group ID	Created Date	Last Update	Species Common Name		
134	6/1/2020 8:07:38 AM	6/1/2020 5:03:38 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

***SC: 0806 Fix 619; HS popped up, looked and sank. Then repeated. Appears to be slowly moving towards SC, but is difficult to see due to the structures (mainly the rock promenade berm making up the other side of the dock) around SC. 0820 Fix 620; Took fix to indicate movement. 0846 Fix 622; Seal moved from mouth of SC to behind tug dock. Traveling slowly while looking and sinking. Last seen 0851. ***PCT: 0825 Fix 621 taken to verify same seal. Last time seen 0825.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
134	619	6/1/2020 8:07:52 AM	61.228628	-149.903341	791.57873
134	620	6/1/2020 8:20:35 AM	61.227695	-149.904148	899.16217
134	621	6/1/2020 8:25:49 AM	61.227359	-149.904948	955.02369
134	622	6/1/2020 8:46:23 AM	61.225257	-149.910511	1326.30637

Group ID	Created Date	Last Update	Species Common Name
135	6/1/2020 1:26:52 PM	6/1/2020 2:32:43 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW; 1329 fix 623 first spotted milling, 1339 fix 624 still milling in the same area. Last seen 1430

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
135	623	6/1/2020 1:29:19 PM	61.217365	-149.985277	5235.21761
135	624	6/1/2020 1:38:33 PM	61.216142	-149.985835	5312.63243

Group ID	Created Date	Last Update	Species Common Name
136	6/1/2020 3:38:00 PM	6/1/2020 4:22:26 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Milling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1538 Fix ID 625 One harbor seal observed milling on back immediately off shore to the right of PW, last seen 1539

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
136	625	6/1/2020 3:38:45 PM	61.20049	-149.988442	6291.11242

Group ID	Created Date	Last Update	Species Common Name
140	6/3/2020 1:42:53 PM	6/3/2020 4:08:10 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Milling
			Secondary Behavior
			Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: 1345 Fix ID 637 one harbor seal spotted looking and sinking, 1402 Fix ID 638 harbor seal seen milling in same location, 1419 Fix ID 639 harbor seal milling in same location, 1419-1500 seal continues milling, diving seen. Last time seen: 1607.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
140	637	6/3/2020 1:45:30 PM	61.216695	-150.002834	6112.36381
140	638	6/3/2020 2:02:15 PM	61.216266	-149.996063	5787.28399
140	639	6/3/2020 2:19:21 PM	61.212888	-149.991401	5701.88063

Group ID	Created Date	Last Update	Species Common Name		
142	6/4/2020 8:20:02 AM	6/4/2020 10:54:10 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX: 0817 FIX # 644 looked, and sank; 0826 FIX # 645 Looking and sank. Last sight 0827.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
142	644	6/4/2020 8:20:14 AM	61.254914	-149.882647	2362.6004
142	645	6/4/2020 8:26:46 AM	61.254114	-149.882402	2280.92876

Group ID	Created Date	Last Update	Species Common Name
143	6/4/2020 3:12:40 PM	6/4/2020 5:06:33 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Sink
			Secondary Behavior
			Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: 1514 Fix 646, 1 Harbor Seal surfaced then sank. Last seen 1514.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
143	646	6/4/2020 3:14:02 PM	61.214753	-149.985635	5335.09494

Group ID	Created Date	Last Update	Species Common Name
145	6/5/2020 2:56:09 PM	6/5/2020 5:12:35 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Milling	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1457 Fix 653 Harbor seal spotted looking and sinking. 1522 Fix 654 HS seen in the same area, no change in direction or behavior.1531 HS seen diving, behavior changed to milling and diving. Last seen 1554. The seal showed up again just over an hour later but it was the same size and in the same area so we kept it in the same mm group id. Last seen 1710.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
145	653	6/5/2020 2:57:38 PM	61.211097	-149.995991	6008.95542
145	654	6/5/2020 3:22:37 PM	61.212578	-149.994435	5863.76291

Group ID	Created Date	Last Update	Species Common Name		
147	6/6/2020 8:13:54 AM	6/6/2020 8:28:24 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 0814 Fix 658 One Harbor seal seen looking and then sinking back into the water. 0822 Fix 659 Harbor seal seen in the same area, no behavioral change. Last seen @ 0827

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
147	658	6/6/2020 8:14:07 AM	61.213123	-149.996806	5955.00287
147	659	6/6/2020 8:24:18 AM	61.210924	-149.99518	5978.25416

Group ID	Created Date	Last Update	Species Common Name
149	6/7/2020 9:20:45 AM	6/7/2020 5:06:23 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

***NEX: 0920 Fix 664 seal seen looking towards our station and then sinking. 0920 Fix 665 seal is drifting south. 0926 Fix 666 resurfaced further south. 0932 Seal is closer to our station. 1028 last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
149	664	6/7/2020 9:20:55 AM	61.253732	-149.882167	2244.0241
149	665	6/7/2020 9:22:50 AM	61.253184	-149.882125	2186.66452
149	666	6/7/2020 9:30:11 AM	61.25207	-149.882531	2062.2674

Group ID	Created Date		Last Update		Species Common Name				
150	6/7/2020 10:07:36 AM		6/7/2020 10:56:08 AM		Harbor Seal				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
1	Linear	False	Sedate	Looking	Sink				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW:(Entered post sighting due to technical dificulties) 0816 Fix 667 One Harbor Seal observed looking and sinking with no direction of travel yet. 0825 Fix 668 Harbor seal observed slow diving. 0828 Hs now look and sinking again. 0836 PCT Radioed that the bubble curtain will be vibbed in. 0840 Hs surfaced closer to the inbound line. 0843 Hs now in the original area, no change in above water behavior. 0850 Fix 669 Hs look and sinking. Last seen @ 0911 (ATL post-processed: changed time stamps of fix 667, 668, and 669 to match comments; some position error [<200m] expected due to change in tide/height of eye calc in the 2.5 hrs from time of fixes to entry in system; 3 mins of vibe install of bubble curtain 0837 - 0840)

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
150	667	6/7/2020 8:16:00 AM	61.219979	-149.983544	5017.78007
150	668	6/7/2020 8:25:00 AM	61.218777	-149.986322	5202.02835
150	669	6/7/2020 8:50:00 AM	61.219333	-149.985369	5133.43148

Group ID	Created Date	Last Update	Species Common Name
151	6/7/2020 1:40:16 PM	6/7/2020 4:31:28 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink


Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1340 Fix 670 One Harbor seal observed looking and sinking in a rip current in the middle of the Inlet, no direction of travel yet. 1353 Hs seen, no change in behavior.1356 HS observed before sinking. Last seen @1356

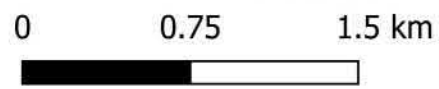
Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
151	670	6/7/2020 1:40:33 PM	61.214465	-149.984006	5269.1866

**2020 POA PCT
Marine Mammal Sightings
Overview
06/01/20 - 06/07/20**

 PSO Station

Marine Mammal Groups

-  Group 133 Harbor Seal
-  Group 134 Harbor Seal
-  Group 135 Harbor Seal
-  Group 136 Harbor Seal
-  Group 140 Harbor Seal
-  Group 142 Harbor Seal
-  Group 143 Harbor Seal
-  Group 145 Harbor Seal
-  Group 147 Harbor Seal
-  Group 149 Harbor Seal
-  Group 150 Harbor Seal
-  Group 151 Harbor Seal



61°N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



Appendix D – Week of 6/8 – 6/14 Sighting Forms and Maps

MM Group Report

Group ID <input type="text" value="153"/>	Created Date <input type="text" value="6/8/2020 7:54:50 AM"/>	Last Update <input type="text" value="6/8/2020 6:01:06 PM"/>	Species Common Name <input type="text" value="Harbor Seal"/>
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Spread <input type="text" value="1"/>	Formation <input type="text" value="Linear"/>	Combined Group <input type="text" value="False"/>	Pace <input type="text" value="Sedate"/>	Primary Behavior <input type="text" value="Looking"/>	Secondary Behavior <input type="text" value="Diving"/>
---	---	---	--	---	--

Beluga Counts	White <input type="text" value="0"/>	Gray <input type="text" value="0"/>	Calf <input type="text" value="0"/>	Neonate <input type="text" value="0"/>	Unknown <input type="text" value="0"/>	Other MM Counts	Other Adult <input type="text" value="1"/>	Other Calf <input type="text" value="0"/>	Total Other <input type="text" value=""/>
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Comments

PW: 0753 Fix 673; Harbor Seal spotted Looking then diving. 0757 Saw again in same area look/dive. 0809 Fix 674; HS Look and Sink. 0843 Fix 676; Same behaviors, Torm Thor (large oil tanker) passed through the seal's area that it was looking and sinking. 0853 Fix 677; Fix taken to show movement, same behaviors. Last seen 0928.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
153	673	6/8/2020 7:58:01 AM	61.218423	-149.979872	4892.53777
153	674	6/8/2020 8:21:05 AM	61.218082	-149.9833	5077.22422
153	676	6/8/2020 8:41:56 AM	61.208518	-149.991074	5907.43528
153	677	6/8/2020 8:53:19 AM	61.211084	-149.989318	5689.7621

Group ID	Created Date	Last Update	Species Common Name
154	6/8/2020 11:55:29 AM	6/8/2020 4:51:55 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1153 Fix 678 Slow travel to E on surface then dove. Resurfaced twice again in the same area . Did not take another fix for this reason. 1235 Small skiff passed over the top of last seen spot. 1238 Observed once again same area and same behavior. Last seen 1238...***SC: Fix 679 is a BAD FIX. We accidentally took a test shot in the wrong MM group (ATL post-processed: deleted fix 679 (no data))

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
154	678	6/8/2020 12:02:05 PM	61.214361	-149.997789	5950.19808

Group ID	Created Date	Last Update	Species Common Name
155	6/8/2020 4:41:27 PM	6/8/2020 6:00:40 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
Primary Behavior		Secondary Behavior	
Travelling		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

PW: 1641 Fix 680; HS Looking and sinking. 1654 Fix 681; Took fix to indicate travel. HS moved to the SW 1200m. It exhibited the same behavior before disappearing under the sea again. Last seen 1654.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
155	680	6/8/2020 5:53:13 PM	61.21946	-149.980373	4876.86993
155	681	6/8/2020 5:53:32 PM	61.212173	-149.994709	5895.8932

Group ID	Created Date	Last Update	Species Common Name
157	6/9/2020 1:04:18 PM	6/9/2020 2:11:27 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***PW: 13:11 FIX 688 single adult HS at surface. Looking around before diving. 13:15 FIX 689 surfaced and looked around again before diving again. Last sighted 13:14

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
157	688	6/9/2020 1:09:38 PM	61.216232	-150.004431	6209.89893
157	689	6/9/2020 1:13:47 PM	61.215133	-150.006189	6339.28091

Group ID	Created Date	Last Update	Species Common Name		
159	6/10/2020 8:16:25 AM	6/10/2020 5:06:02 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW: 0820 Fix 695, HS seen looking and sinking; Time last seen 0820. ***PCT: DISREGARD Fix ID 696, should have been in test record. DISREGARD Fix 698, ghost fix from new record creation. (ATL post-processed: deleted Fix 696 and 698)

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
159	695	6/10/2020 8:20:00 AM	61.226984	-149.975373	4394.55828

Group ID	Created Date		Last Update		Species Common Name				
162	6/11/2020 7:20:51 AM		6/11/2020 5:11:20 PM		Harbor Seal				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
1	Linear	False	Sedate	Looking	Sink				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

***SC: 0715 Fix 709 seal sighted to the north of SC. Looked around and then sank. 0800 Fix 708 seal sighted in the mouth of ship creek. Surfaced briefly before sinking again. Last seen 0800. Chronology of fixes is out of order due to technical difficulties with Access database. 1113 Fix 710 seal surfaced and swam W before sinking again. 1117 Fix 711 seal surfaced briefly before sinking again. Last seen at 1117 ***PCT: 0743 Fix 707 Seal was seen looking towards shore. 0743 Last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
162	707	6/11/2020 7:47:02 AM	61.230577	-149.901275	556.86319
162	708	6/11/2020 8:35:00 AM	61.226796	-149.904306	994.68351
162	709	6/11/2020 8:44:51 AM	61.229314	-149.903222	731.46947
162	710	6/11/2020 11:13:19 AM	61.231146	-149.93108	1980.92649
162	711	6/11/2020 11:17:09 AM	61.232917	-149.938257	2336.48896

Group ID	Created Date	Last Update	Species Common Name
163	6/11/2020 1:15:03 PM	6/11/2020 1:21:01 PM	Pinniped Unid.
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Resting	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1314 Observed an animal (most likely harbor seal) resting on surface and sinking. Initially, unsure if it was a log in the rough Bft 4 in the current or if it was an animal. Waiting for second viewing. 1315 Fix 712 popped up again and immediately disappeared. Took fix once certain it was an animal. Last time seen 1315.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
163	712	6/11/2020 1:15:11 PM	61.220692	-150.007836	6242.40761

Group ID	Created Date	Last Update	Species Common Name
164	6/11/2020 2:36:23 PM	6/11/2020 2:54:44 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1435 (initial sighting) FIX 713 Seal sighted looking around and then sank; 1437 FIX 714 looked around and sank. Seal is moving Southwest along the shore with tide; LAST SIGHT 1440

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
164	713	6/11/2020 2:36:59 PM	61.253863	-149.885287	2214.24467
164	714	6/11/2020 2:37:36 PM	61.253095	-149.885044	2134.31603

Group ID	Created Date	Last Update	Species Common Name
165	6/11/2020 3:17:37 PM	6/11/2020 5:08:53 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

***SC: 1516 Fix 715 one harbor seal observed around the mouth of Ship Creek, seen looking and sinking. 1522 Observer walked down from the station to better see the harbor seal, no change in harbor seal behavior.1531 Fix 716 representing where the seal was observed at 1722. Last seen 1522

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
165	715	6/11/2020 3:17:58 PM	61.227345	-149.90468	954.07326
165	716	6/11/2020 3:31:49 PM	61.228293	-149.903198	822.43316

Group ID	Created Date	Last Update	Species Common Name
167	6/12/2020 10:24:34 AM	6/12/2020 5:28:58 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	2	0	1	0	0		0	0	

Comments

NEX: 1025 Fix 726, saw single Beluga across inlet towards Point Mac ***PW:1025 NEX saw a beluga near Point Mac and took a fix then at 1030 PW observed the beluga and we took a fix. It was unclear if it was different than the beluga observed by NEX so we continued to take fixes and monitor until 1040 when NEX called and corroborated that beluga was same beluga they were seeing and thus NEX handed sighting off to us. 1030 FIX 727; One white beluga travelling rapidly parallel with the shoreline to the SW. 1034 FIX 728; Took fix to establish direction of travel out of the Inlet. Travelling also slowed to milling. 1058 FIX 730; Took fix to indicate milling. 1103 FIX 731; Beluga appears to have switched directions. 1108 Fix 732; Took fix to indicate milling behavior instead of direction change. 1114 Fix 733; Still milling and moved slightly in the opposite direction away from Point Mac. 1120 Fix 734; Basically still milling while slowly moving SE. 1133 Fix 735; Took fix to show slow movement to the NE. 1140 Fix 736; Beluga is still milling. 1142 Fix 737; Observed 2 whales-one white and one gray. Gray had a very low profile to the water and was side-by-side with the white at less than 1 body-length apart. The two have also began traveling to the SW from the milling area. 1154 Fix 738; Took fix to indicate travel distance to the NW. Have passed Point Mac and are heading closer to the In-Bound line. Comments continued next page....

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
167	726	6/12/2020 10:25:51 AM	61.239824	-149.972056	4179.96405
167	727	6/12/2020 10:30:16 AM	61.248835	-149.960939	3883.10344
167	728	6/12/2020 10:34:16 AM	61.241254	-149.968766	4023.97631
167	729	6/12/2020 10:38:55 AM	61.239479	-149.972581	4175.10432
167	730	6/12/2020 10:57:58 AM	61.232418	-149.981239	4604.49345
167	731	6/12/2020 11:03:26 AM	61.231379	-149.981123	4605.20834
167	732	6/12/2020 11:08:52 AM	61.231449	-149.980365	4564.21723
167	733	6/12/2020 11:15:03 AM	61.230124	-149.980874	4604.14698
167	734	6/12/2020 11:20:53 AM	61.229603	-149.980311	4580.54053
167	735	6/12/2020 11:33:08 AM	61.232268	-149.977672	4414.81482
167	736	6/12/2020 11:40:40 AM	61.231333	-149.980585	4592.4706
167	737	6/12/2020 11:43:39 AM	61.229712	-149.985008	4844.03287
167	738	6/12/2020 11:54:43 AM	61.234866	-149.994753	5338.70238
167	739	6/12/2020 12:00:15 PM	61.236795	-149.999787	5614.35473

Group ID	Created Date	Last Update	Species Common Name		
167	6/12/2020 10:24:34 AM	6/12/2020 5:28:58 PM	Beluga		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
2	0	1	0	0		0	0		

Comments continued...

Small calf still less than one body-length from white. Potentially saw a third whale, light gray in color, not certain however. 1159 Fix 739; Popped up again together as well as a second white, 5-7 body-lengths apart from other white. All are traveling same direction, still toward In-Bound Line. 1203 Fix 740; Took fix to indicate direction of travel remains the same. Appear to be hugging far shoreline. Traveling together in the same fashion as last fix. At times one white appears slightly more grayish than white. 1209 Fix 741; Still traveling to the NW closer to In-Bound line. Observed all three individuals; same behavior and spacing. 1217 Fix 742; Traveling together SW in similar fashion, approaching In-bound line; 1222 Fix 743; Group continuing to travel SW approaching In-bound; 1225 Fix 744; Group moved closer to the shore. The 2 whites appear closer together (approx. 2-3 body-lengths) as well. Calf is still seen to be within less than 1 body length of first white. 1232 Fix 745; Observed on the In-bound line. 1240 Fix 746; Group has crossed In-bound line and continues SW. 1246 Fix 747; Took fix to indicate group is well SW of the In-bound line. 1253 Fix 748; Group observed still traveling in similar fashion. 1302 Fix 749; Group was seen continuing to travel away from In-bound line while moving away from shore. 1309 Fix 750; Group sighted continuing to move SW away from In-bound line. Group has moved closer to shore again. 1310 The group is no longer be visible due to distance, heat distortion, and trees. Last time seen: 1310

167	740	6/12/2020 12:04:24 PM	61.238158	-150.004053	5862.64464
167	741	6/12/2020 12:10:38 PM	61.240127	-150.011602	6255.42541
167	742	6/12/2020 12:17:56 PM	61.242418	-150.020664	6793.79781
167	743	6/12/2020 12:22:46 PM	61.241844	-150.026006	7069.4571
167	744	6/12/2020 12:25:26 PM	61.243068	-150.029414	7266.99112
167	745	6/12/2020 12:32:52 PM	61.242801	-150.039248	7784.9524
167	746	6/12/2020 12:40:23 PM	61.24168	-150.049218	8301.63961
167	747	6/12/2020 12:46:41 PM	61.24525	-150.065476	9209.93543
167	748	6/12/2020 12:53:25 PM	61.244225	-150.06544	9194.0317
167	749	6/12/2020 1:03:02 PM	61.240576	-150.069977	9397.47673
167	750	6/12/2020 1:09:52 PM	61.245995	-150.088132	10421.84908

Group ID	Created Date	Last Update	Species Common Name
168	6/12/2020 1:48:00 PM	6/12/2020 5:10:35 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Looking		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1348 FIX 752; One harbor seal observed head in air then sunk. 1350 FIX 753; Travelled quickly south along the shore, looked and sank. Last seen @ 1401.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
168	752	6/12/2020 1:48:34 PM	61.247023	-149.963648	3942.77994
168	753	6/12/2020 1:50:56 PM	61.244787	-149.968627	4116.82824
168	754	6/12/2020 1:55:06 PM	61.24323	-149.969917	4139.06616

Group ID	Created Date	Last Update	Species Common Name
169	6/12/2020 4:26:57 PM	6/12/2020 5:07:54 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Looking		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1627 FIX 755; One harbor seal looking and sinking. 1629 Fix 756; Took fix to indicate direction of travel. HS stays on surface for a duration of a few seconds both times. 1656 Fix 757; Took fix to indicate seal is in the same area after 30 min. Observed HS look and dive. Last seen @ 1706.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
169	755	6/12/2020 4:27:18 PM	61.214028	-150.002658	6205.84985
169	756	6/12/2020 4:29:05 PM	61.212226	-150.001525	6226.32855
169	757	6/12/2020 4:57:44 PM	61.212255	-150.003103	6302.63749

Group ID	Created Date	Last Update	Species Common Name
171	6/13/2020 8:10:33 AM	6/13/2020 8:23:40 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC: 0809 Fix 760 seal spotted at the mouth of the creek, looked and sunk. 0821 seal seen in same general area, quickly diving, last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
171	760	6/13/2020 8:11:05 AM	61.228263	-149.905158	887.38075

Group ID	Created Date	Last Update	Species Common Name
172	6/13/2020 9:47:53 AM	6/13/2020 4:49:58 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

PW: 0942 Harbor seal surfaced, looked up then sank. (no fix taken because upon trying to get fix, animal was sighted again. See Fix 763) 0946 FIX ID: 763 seal surfaced then sank again. 0949 FIX ID: 764 seal surfaced again southeast of last sighting. Fix taken to indicate travel. Last seen 0949.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
172	763	6/13/2020 9:48:19 AM	61.214924	-150.003162	6195.29484
172	764	6/13/2020 9:50:21 AM	61.213229	-149.998057	6011.81035

Group ID	Created Date	Last Update	Species Common Name
173	6/13/2020 10:15:07 AM	6/13/2020 12:05:47 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PCT: 1013 - harbor seal first sighted near shore in front of PCT; 1016 - Fix 765 - looking and sinking, floating north with the flood; 1014 - last seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
173	765	6/13/2020 10:16:00 AM	61.23263	-149.897321	247.14798

Group ID	Created Date	Last Update	Species Common Name		
174	6/13/2020 10:37:25 AM	6/13/2020 4:48:44 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1035 Initially sighted; look and sink; 1039 Fix 766: took fix where HS was first seen. Delay to fix because of finding correct location of sighting. Last seen: 1039

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
174	766	6/13/2020 10:39:21 AM	61.232749	-149.970956	4083.22779

Group ID	Created Date	Last Update	Species Common Name
175	6/13/2020 3:28:45 PM	6/13/2020 4:38:51 PM	Harbor Porpoise
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1524 FIX ID: 767 Harbor Porpoise surfaced. Observed dorsal fin as it dove. 1530 FIX ID: 768 Surfaced again, south of last sighting. Last seen @1530.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
175	767	6/13/2020 3:31:50 PM	61.227643	-150.007123	6049.18042
175	768	6/13/2020 3:33:38 PM	61.223454	-150.001092	5808.14027

Group ID	Created Date	Last Update	Species Common Name
176	6/13/2020 3:44:02 PM	6/13/2020 4:37:22 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1542 FIX ID: 770 Harbor Seal surfaced, looked around and sank. 1613 FIX ID: 772 Seal surfaced again, looked around and sank. Last seen @1613

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
176	770	6/13/2020 3:49:08 PM	61.213547	-150.000853	6121.06518
176	772	6/13/2020 4:15:07 PM	61.211992	-149.998846	6111.76561

Group ID	Created Date		Last Update		Species Common Name				
177	6/13/2020 3:46:48 PM		6/13/2020 4:04:09 PM		Harbor Seal				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
1	Linear	False	Sedate	Resting	Looking				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC: 1547 Fix 769 One Harbor seal observed to be looking and floating backward with the current from Ship Creek. 1552 Fix 771 Hs(very large) appears to be continuing to float away from the zone, really dark body that is floating close to the surface. Last seen @1552

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
177	769	6/13/2020 3:47:51 PM	61.227067	-149.907286	1043.64359
177	771	6/13/2020 3:52:55 PM	61.224891	-149.911608	1377.49605

Group ID	Created Date	Last Update	Species Common Name		
178	6/13/2020 4:53:44 PM	6/13/2020 5:10:33 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1652 Fix; glistening HS head rose out of the water, looked and sank. Last time seen: 1652

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
178	773	6/13/2020 4:55:32 PM	61.211203	-150.002405	6315.30407

Group ID	Created Date	Last Update	Species Common Name
180	6/14/2020 7:16:16 AM	6/14/2020 7:28:35 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Milling
			Secondary Behavior
			Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

SC: 0701 harbor seal first sighted at mouth of Ship Creek, looking and sinking. 0720 Fix776 - seal milling around mouth of Ship Creek. Last time seen- 0728.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
180	776	6/14/2020 7:18:24 AM	61.227709	-149.904446	913.64287

Group ID	Created Date	Last Update	Species Common Name
181	6/14/2020 11:13:55 AM	6/14/2020 5:15:24 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX 1113 Fix 778. Harbor seal milling off station about 400 meters. Last seen at 1113. Forgot to Get Port Activity and now I cannot populate. Activity was vibe 72" bubble curtain, distance to pile is 2338 and we are inside the zone.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
181	778	6/14/2020 11:14:38 AM	61.254872	-149.888216	2294.83864

Group ID	Created Date	Last Update	Species Common Name
182	6/14/2020 1:10:51 PM	6/14/2020 2:17:10 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Travelling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1309 FIX 779 One harbor seal looking and sinking. 1314 FIX 780, has travelled north. 1318 Manually adjusted FIX 779 to more accurate position. Last seen @ 1320. Forgot to Get Port Activity. For both fixes - Clear No in water activity and no zones. Fix 779 was 4062 to pile. Fix 780 was 4320 from pile.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
182	779	6/14/2020 1:18:36 PM	61.269034	-149.882197	3899.84567
182	780	6/14/2020 1:14:15 PM	61.272228	-149.882488	4247.54493

Group ID	Created Date	Last Update	Species Common Name
183	6/14/2020 2:40:16 PM	6/14/2020 4:29:42 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Milling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1440 Fix 781 one harbor seal seen roughly 1400 m in front of PW. Seal sank after about a minute of looking around. After observation, determined animal to be milling. Last time seen: 1517

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
183	781	6/14/2020 2:40:40 PM	61.211825	-149.997902	6073.20737

Group ID	Created Date	Last Update	Species Common Name
184	6/14/2020 4:59:01 PM	6/14/2020 5:09:43 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Sink
			Secondary Behavior
			Unknown


Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: FIX 782 0459 Harbor Seal seen at surface before it sank. Last seen 0500.

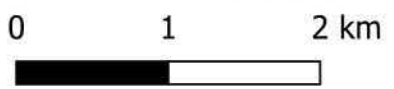
Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
184	782	6/14/2020 4:59:42 PM	61.206215	-149.982259	5639.06364

**2020 POA PCT
Marine Mammal Sightings
Overview
06/08/20 - 06/14/20**

 PSO Station

Marine Mammal Groups

-  Group 153 Harbor Seal
-  Group 154 Harbor Seal
-  Group 155 Harbor Seal
-  Group 157 Harbor Seal
-  Group 159 Harbor Seal
-  Group 162 Harbor Seal
-  Group 163 Pinniped Unid
-  Group 164 Harbor Seal
-  Group 165 Harbor Seal
-  Group 167 Beluga
-  Group 168 Harbor Seal
-  Group 169 Harbor Seal
-  Group 171 Harbor Seal
-  Group 172 Harbor Seal
-  Group 173 Harbor Seal
-  Group 174 Harbor Seal
-  Group 175 Harbor Porpoise
-  Group 176 Harbor Seal
-  Group 177 Harbor Seal
-  Group 178 Harbor Seal
-  Group 180 Harbor Seal
-  Group 181 Harbor Seal
-  Group 182 Harbor Seal
-  Group 183 Harbor Seal
-  Group 184 Harbor Seal



61°N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



**2020 POA PCT
Beluga Sightings
06/08/20 - 06/14/20
Figure 1**

 PSO Station

Beluga Track Lines

 Group 167

0 0.75 1.5 km

61°N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



Appendix E – Week of 6/15 – 6/21 Sighting Forms and Maps

MM Group Report

Group ID		Created Date		Last Update		Species Common Name					
189		6/15/2020 7:41:54 AM		6/15/2020 9:57:05 AM		Harbor Seal					
Spread		Formation		Combined Group		Pace		Primary Behavior		Secondary Behavior	
1		Linear		False		Sedate		Looking		Diving	
Beluga Counts		White	Gray	Calf	Neonate	Unknown	Other MM Counts		Other Adult	Other Calf	Total Other
0		0	0	0	0	0	1		0		

Comments

PW: Fix 794 0742 Harbor seal looked and dove. Last seen 0759.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
189	794	6/15/2020 7:42:15 AM	61.210667	-150.002436	6341.4574

Group ID	Created Date	Last Update	Species Common Name
190	6/15/2020 1:16:16 PM	6/15/2020 5:00:01 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1316 Fix 796. Harbor Seal looked around and sank. Continues to repeatedly surface and immediately sink in same location; 1353 Fix ID 797 Harbor seal surfaced slightly farther away from previous location after motor boat passed close by, sinking afterwards; No sighting between 1403 to 1520; 1520 Fix 798 Harbor seal observed looking and sinking, assumed to be the same seal due to the same behavior and relatively same location as last sighted; Last seen 1659.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
190	796	6/15/2020 1:16:30 PM	61.213045	-149.989596	5606.98061
190	797	6/15/2020 1:53:57 PM	61.213148	-149.989948	5619.19662
190	798	6/15/2020 3:21:37 PM	61.214083	-149.994809	5814.73187

Group ID	Created Date	Last Update	Species Common Name
191	6/15/2020 4:24:33 PM	6/15/2020 4:57:17 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX** 1623 Fix 800. Harbor seal seen in front of station. 1651 Fix 801. Last seen 1651.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
191	800	6/15/2020 4:24:52 PM	61.25358	-149.881447	2239.7663
191	801	6/15/2020 4:52:08 PM	61.253955	-149.881501	2291.30744

Group ID	Created Date	Last Update	Species Common Name
193	6/16/2020 7:28:03 AM	6/16/2020 7:32:12 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Looking		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 0727 FIX 806 - Harbor seal sighted looking at station and then sunk; Sighted less than a minute after first sight in same general location, looked and sunk; LAST SIGHT 0728

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
193	806	6/16/2020 7:28:11 AM	61.253961	-149.881832	2273.67138

Group ID	Created Date	Last Update	Species Common Name
194	6/16/2020 8:57:37 AM	6/16/2020 9:30:42 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX: 0857 FIX 807 - Harbor seal sighted looking and sinking near wet barge berth; 0859 FIX 808 - sighted looking around, before sinking; 0928 FIX 809- sighted traveling north; LAST SIGHT 0929

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
194	807	6/16/2020 8:57:51 AM	61.252237	-149.881914	2090.4232
194	808	6/16/2020 9:00:00 AM	61.252622	-149.883061	2112.0639
194	809	6/16/2020 9:27:42 AM	61.253315	-149.882472	2194.9354

Group ID

195

Created Date

6/16/2020 10:13:49 AM

Last Update

6/16/2020 4:34:48 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Sedate

Primary Behavior

Looking

Secondary Behavior

Sink

**Beluga
Counts****White**
0**Gray**
0**Calf**
0**Neonate**
0**Unknown**
0**Other MM
Counts****Other Adult**
1**Other Calf**
0**Total Other**
Comments

PW: 1014 Fix 810 Harbor seal looked and sank; Last seen 1014.

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

195

810

6/16/2020 10:14:51 AM

61.216188

-150.007407

6366.59011

Group ID	Created Date	Last Update	Species Common Name
196	6/16/2020 11:44:52 AM	6/16/2020 2:10:04 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Looking	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

NEX: 1145 Fix 811 Harbor Seal spotted traveling north and looking. Sunk; 1147 Fix 812 Traveling north, sunk again. 1155 Fix 813 Swimming toward shore. 1212 Fix 814 Traveling SW closer to port proper.; 1222 -NO FIX Back again in front of NEX, swimming Northeast; LAST SIGHT 1222.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
196	811	6/16/2020 11:45:17 AM	61.254312	-149.886574	2248.59756
196	812	6/16/2020 11:47:59 AM	61.255954	-149.886859	2425.21519
196	813	6/16/2020 11:56:30 AM	61.25628	-149.882204	2515.16771
196	814	6/16/2020 12:12:11 PM	61.250826	-149.883	1923.27815

Group ID	Created Date	Last Update	Species Common Name
197	6/16/2020 12:56:07 PM	6/16/2020 4:46:06 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Milling	Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC 1257 Fix 815: Seal first seen looking and sinking, shiny little head barely coming out of water. 1340: seal milling around mouth of Ship Creek. 1415 Fix 822: seal milling at mouth. (1422: last time seen.) 1435 Fix 823: seal milling at mouth. (1516: last time seen.) 1545: seen again. 1604: seal spotted nearshore in front of Ship Creek station. Last time seen 1604.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
197	815	6/16/2020 12:56:55 PM	61.226071	-149.906971	1140.2081
197	822	6/16/2020 2:15:06 PM	61.227216	-149.904373	956.98765
197	823	6/16/2020 2:35:02 PM	61.227243	-149.904328	953.16208

Group ID	Created Date	Last Update	Species Common Name
198	6/16/2020 1:16:49 PM	6/16/2020 5:05:04 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Milling
			Secondary Behavior
			Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX: 1316 Fix 816 Harbor Seal observed looking and sinking approx. 80 meters off of station; 1337 Fix 818 Harbor seal to south off sea wall looking and sinking; 1342 Fix 819 (see group 199, accidentally took this fix with wrong parent group) Looking and sunk; 1349 - no fix, seal is milling in the general area, looking and sinking; 1353 Fix 820 - seal surfaced and still milling; 1412 Fix 821 - seal surfaced, looked and sunk; 1547 fix 824 - seal sighted looking and then sunk; 1622 fix 825 - seal looking and sinking and feeding; LAST SEEN 1628;

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
198	816	6/16/2020 1:17:04 PM	61.254257	-149.8818	2305.55683
198	818	6/16/2020 1:37:57 PM	61.251823	-149.88238	2038.82619
198	820	6/16/2020 1:54:02 PM	61.252529	-149.88199	2119.81369
198	821	6/16/2020 2:13:22 PM	61.252465	-149.882035	2112.30637
198	824	6/16/2020 3:49:50 PM	61.251971	-149.88202	2060.64038
198	825	6/16/2020 4:22:56 PM	61.253806	-149.882209	2251.20821

Group ID	Created Date	Last Update	Species Common Name
199	6/16/2020 1:27:24 PM	6/16/2020 1:49:11 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: 1326 FIX 817 Harbor seal seen looking and diving. EDIT: Fix ID 819 was from Group 198; Last seen 1349

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
199	817	6/16/2020 1:28:39 PM	61.215577	-149.993653	5694.48293
199	819	6/16/2020 1:42:04 PM	61.252986	-149.88207	2166.64923

Group ID	Created Date	Last Update	Species Common Name		
200	6/16/2020 4:54:51 PM	6/16/2020 4:57:10 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1654 FIX 826 Harbor Seal looking and sinking; Last seen 1655.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
200	826	6/16/2020 4:55:01 PM	61.218898	-149.98671	5217.10783

Group ID	Created Date	Last Update	Species Common Name
205	6/17/2020 7:45:07 AM	6/17/2020 8:10:56 AM	Steller Sea Lion
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Travelling
			Secondary Behavior
			Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

NEX: 0743 FIX 833 One Stellar sea lion. 0750 FIX 834, seen moving south. 0804 FIX 835, moving south. Last seen 0804

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
205	833	6/17/2020 7:46:55 AM	61.267962	-149.911387	3828.78401
205	834	6/17/2020 7:50:48 AM	61.264063	-149.91194	3416.84478
205	835	6/17/2020 8:06:57 AM	61.255548	-149.922468	2774.82225

Group ID	Created Date	Last Update	Species Common Name
206	6/17/2020 9:15:14 AM	6/17/2020 10:51:36 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 0914 Fix 836, looking and sinking. 0919 Fix 837, looking and sinking. LAST SEEN 0919.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
206	836	6/17/2020 9:16:16 AM	61.268498	-149.913938	3920.29058
206	837	6/17/2020 9:21:20 AM	61.264112	-149.920477	3572.21313

Group ID	Created Date	Last Update	Species Common Name
207	6/17/2020 9:24:03 AM	6/17/2020 1:17:54 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 0923 Fix 838, looking and sinking, 0931 Fix 839, looking and sinking. 0959 Fix 841, looking and sinking. 1005 Fix 842 . Last seen 1016

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
207	838	6/17/2020 9:24:15 AM	61.254432	-149.882022	2320.63357
207	839	6/17/2020 9:33:01 AM	61.251203	-149.883211	1959.38724
207	841	6/17/2020 9:59:24 AM	61.252279	-149.882398	2086.54825
207	842	6/17/2020 10:05:52 AM	61.257643	-149.881303	2673.97711

Group ID	Created Date	Last Update	Species Common Name
208	6/17/2020 10:07:51 AM	6/17/2020 5:36:52 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

NEX Belugas approaching station from the north, Cairn pt. 1006 Fix 843. 1010 Fix 844. 1015 fix 845 moving south towards operations. 1018 Fix 846 in front of station. 1020 fix 847. 1022 fix 848. 1024 fix 849 approaching work zone. 1025 fix 850. 1029 fix 852 inside work zone. 1031 fix 853. 1035 fix 854 whales still moving south. ***PCT: NEX tracking beluga group, PCT takes fix to verify in the zone; 1027 FIX# 851 - 1 white sighted along nearshore traveling sedately Southwest towards site, fix taken to verify group in proposed work zone, NEX continues to work this sighting; 1044 - Bret of HDR radios group is near dredge barge off the port office headed towards the site, NEX copies radio comm and confirms the group has moved out of their range of site, lots of equipment obstructing PCT viz of zone; 1049 - Chris of PPM radios belugas off the port 450 barge; 1050 FIX 855 - PCT takes over sighting from NEX, 5 whites traveling SW along nearshore through the worksite; 1051 FIX 856 group traveling SW along shore; 1052 FIX 857 - same; 1053 FIX 858 - same; 1054 FIX 859 - group directly in front of PCT, traveling;1056 FIX 860 - group spread at least 2 body lengths, generally linear, continueing SW travel along nearshore; 1059 - PCT radios SC and hands off sighting; 1132 FIX 872 - fix to document nearest extent of group to site, SC continues as primary; PCT: 1159 - PCT takes over for NEX; ...Comments continued next page

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
208	843	6/17/2020 10:08:03 AM	61.257656	-149.881306	2675.32618
208	844	6/17/2020 10:12:41 AM	61.258491	-149.88145	2762.86506
208	845	6/17/2020 10:16:21 AM	61.256013	-149.882145	2487.42188
208	846	6/17/2020 10:19:17 AM	61.253715	-149.883159	2226.97461
208	847	6/17/2020 10:21:24 AM	61.251601	-149.884427	2013.94468
208	848	6/17/2020 10:23:04 AM	61.251147	-149.884286	1967.63461
208	849	6/17/2020 10:25:48 AM	61.250251	-149.884773	1864.78778
208	850	6/17/2020 10:26:27 AM	61.249775	-149.88462	1816.62346
208	851	6/17/2020 10:27:49 AM	61.246509	-149.886163	1445.97726
208	852	6/17/2020 10:30:22 AM	61.245049	-149.887159	1275.23536
208	853	6/17/2020 10:32:45 AM	61.244942	-149.886819	1269.96697
208	854	6/17/2020 10:36:36 AM	61.242699	-149.888439	1006.1191
208	855	6/17/2020 10:50:00 AM	61.235002	-149.894895	91.81319
208	856	6/17/2020 10:51:04 AM	61.23304	-149.897743	201.95837

Group ID	Created Date		Last Update		Species Common Name				
208	6/17/2020 10:07:51 AM		6/17/2020 5:36:52 PM		Beluga				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
4	Linear	False	Moderate	Travelling	Milling				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments continued

1204 Fix 880 - Took fix to indicate belugas have left the zone. ~700m outside of zone; 1205 Fix 881 - Belugas cont. away from the zone towards the W shore; 1211 - NEX called and has eyes on some in the middle of the inlet near Bluff Dip. Advised to take a fix under Group 208; 1217 - Officially handed off to NEX; ***SC: 1100-SC takes over sighting from PCT. 1103 Fix 862 whales traveling slowly southwest, nearshore. 1116 Fix 865 whales milling and traveling slowly southwest. 1118 Fix 867 whales milling nearshore. 1122 Fix 868 whales milling nearshore. 1131 Fix 871 whales milling at mouth of Ship Creek. 1135 Fix 873 whales milling. 1152 Fix 878 whales moved west off shore, continue milling. 1158 whales passed off to PCT. ***NEX: 1210 takes over sighting NEX: 1212 Fix 882 moving northwest. 1214 Fix 883 Moving north. 1218 Fix 884 milling. 1221 Fix 885 traveling south.***PW:1226 Received group form NEX and getting a fix. 1228 3 to 4 white belugas sedatley moving south/southwest. Last seen 1230. 1231 Passed over to SC. ***SC: 1234 Fix 887 whales traveling slowly south. 1237 Fix 888 whales traveling slowly south. 1242 group passed to PW. 1243 Fix 889 Took whales over from SC, 4 white belugas traveling south toward point Mac. 1248 Fix 890 4 white belugas seen traveling fast toward point mac, fix 890 is a little too far south of position..... comments continued next page..

208	857	6/17/2020 10:52:53 AM	61.232423	-149.89946	316.50721
208	858	6/17/2020 10:53:19 AM	61.23232	-149.899449	323.22863
208	859	6/17/2020 10:54:44 AM	61.232029	-149.900545	389.18629
208	860	6/17/2020 10:56:00 AM	61.230822	-149.902958	573.9967
208	861	6/17/2020 10:58:33 AM	61.229928	-149.904212	690.25595
208	862	6/17/2020 11:03:03 AM	61.228106	-149.906378	915.81456
208	865	6/17/2020 11:16:23 AM	61.222697	-149.913064	1606.81986
208	867	6/17/2020 11:18:31 AM	61.222608	-149.913402	1625.68547
208	868	6/17/2020 11:21:28 AM	61.223855	-149.91217	1476.1278
208	870	6/17/2020 11:25:20 AM	61.223348	-149.912669	1536.77846
208	871	6/17/2020 11:30:56 AM	61.226887	-149.908982	1109.8407
208	872	6/17/2020 11:31:31 AM	61.22739	-149.908481	1050.89049
208	873	6/17/2020 11:35:37 AM	61.227955	-149.907995	988.0471
208	874	6/17/2020 11:41:25 AM	61.231272	-149.909676	858.68279
208	878	6/17/2020 11:52:35 AM	61.231946	-149.918589	1296.24752

Group ID	Created Date		Last Update		Species Common Name				
208	6/17/2020 10:07:51 AM		6/17/2020 5:36:52 PM		Beluga				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
4	Linear	False	Moderate	Travelling	Milling				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments continued

1259 Fix 892 belugas made it in front of point mac starting to head west. 1303 Fix 893 whales rounded point mac and are heading west. 1308 Fix 894 whales traveling fast past old dock. 1312 Fix 895 whales traveling fast between bluffs. 1319 Fix 896 whales turned around and started heading north, 1324 Fix 897 spread increased, moving north quickly past point mac, handed whales over to SC at 1325.***SC: 1325 Fix 898 whales traveling northeast along farshore. 1330 FIX 899 continue to travel quickly northeast passing little village. 1336 FIX 900 whales are spread out >10 body lengths. 1338 FIX 901 still travelling quickly, towards Port Mac. 1341 FIX 902. 1343 FIX 903 saw a fluke. 1346 FIX 904 traveling northeast. 1350 FIX 905 traveling northeast. 1355 passed group off to NEX.***NEX 1356 Fix 906. Now see 6 belugas travelling. 1400 Fix 907 Travelling along far shore and beyond outbound lane to the north. 1403 Fix 908. Travelling. 1411 Fix 909. Travelling. 1440 Fix 913. Travelling. LAST SEEN 1450.

208	879	6/17/2020 11:59:30 AM	61.234889	-149.915572	1113.74115
208	880	6/17/2020 12:04:22 PM	61.241792	-149.936023	2361.11048
208	881	6/17/2020 12:05:34 PM	61.243345	-149.940278	2636.49534
208	882	6/17/2020 12:12:09 PM	61.245749	-149.94427	2941.05618
208	883	6/17/2020 12:14:26 PM	61.250592	-149.939436	3003.68303
208	884	6/17/2020 12:18:07 PM	61.247912	-149.944106	3046.13178
208	885	6/17/2020 12:20:41 PM	61.247517	-149.934853	2604.50274
208	886	6/17/2020 12:28:08 PM	61.242399	-149.961171	3664.56912
208	887	6/17/2020 12:35:04 PM	61.24171	-149.970095	4112.13743
208	888	6/17/2020 12:36:59 PM	61.237224	-149.96894	3978.99959
208	889	6/17/2020 12:43:19 PM	61.237335	-149.972366	4162.57304
208	890	6/17/2020 12:48:04 PM	61.233898	-149.984047	4772.72015
208	892	6/17/2020 12:58:07 PM	61.233642	-149.987522	4958.8203
208	893	6/17/2020 1:02:19 PM	61.236271	-149.998266	5537.65623
208	894	6/17/2020 1:08:26 PM	61.238763	-150.008247	6091.22368

Group ID

208

Created Date

6/17/2020 10:07:51 AM

Last Update

6/17/2020 5:36:52 PM

Species Common Name

Beluga

Spread

4

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

see above

208	895	6/17/2020 1:11:30 PM	61.240432	-150.014978	6466.31863
208	896	6/17/2020 1:19:18 PM	61.239941	-150.007554	6065.9238
208	897	6/17/2020 1:23:31 PM	61.237618	-149.990014	5105.73795
208	898	6/17/2020 1:28:43 PM	61.23969	-149.979534	4572.0964
208	899	6/17/2020 1:31:59 PM	61.244437	-149.970336	4196.58231
208	900	6/17/2020 1:38:24 PM	61.247744	-149.953385	3476.20031
208	901	6/17/2020 1:39:23 PM	61.248994	-149.945018	3149.53593
208	902	6/17/2020 1:42:08 PM	61.251191	-149.940474	3088.23254
208	903	6/17/2020 1:44:33 PM	61.251601	-149.931454	2754.81208
208	904	6/17/2020 1:47:58 PM	61.251762	-149.93227	2798.47148
208	905	6/17/2020 1:55:07 PM	61.253092	-149.925815	2677.1671
208	906	6/17/2020 1:58:50 PM	61.261688	-149.917728	3293.57649
208	907	6/17/2020 2:01:43 PM	61.266277	-149.911894	3653.7048
208	908	6/17/2020 2:05:54 PM	61.272349	-149.911033	4300.432
208	909	6/17/2020 2:11:52 PM	61.283594	-149.910429	5524.70686

Group ID	Created Date	Last Update	Species Common Name
208	6/17/2020 10:07:51 AM	6/17/2020 5:36:52 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

NEX Belugas approaching station from the north, Cairn pt. 1006 Fix 843. 1010 Fix 844. 1015 fix 845 moving south towards operations. 1018 Fix 846 in front of station. 1020 fix 847. 1022 fix 848. 1024 fix 849 approaching work zone. 1025 fix 850. 1029 fix 852 inside work zone. 1031 fix 853. 1035 fix 854 whales still moving south. ***PCT: NEX tracking beluga group, PCT takes fix to verify in the zone; 1027 FIX# 851 - 1 white sighted along nearshore traveling sedately Southwest towards site, fix taken to verify group in proposed work zone, NEX continues to work this sighting; 1044 - Bret of HDR radios group is near dredge barge off the port office headed towards the site, NEX copies radio comm and confirms the group has moved out of their range of site, lots of equipment obstructing PCT viz of zone; 1049 - Chris of PPM radios belugas off the port 450 barge; 1050 FIX 855 - PCT takes over sighting from NEX, 5 whites traveling SW along nearshore through the worksite; 1051 FIX 856 group traveling SW along shore; 1052 FIX 857 - same; 1053 FIX 858 - same; 1054 FIX 859 - group directly in front of PCT, traveling;1056 FIX 860 - group spread at least 2 body lengths, generally linear, continueing SW travel along nearshore; 1059 - PCT radios SC and hands off sighting; 1132 FIX 872 - fix to document nearest extent of group to site, SC continues as primary; PCT: 1159 - PCT takes over for NEX; 1204 Fix 880 - Took fix to indicate

208	913	6/17/2020 2:52:38 PM	61.332046	-149.903281	10853.95567
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Group ID	Created Date	Last Update	Species Common Name		
209	6/17/2020 11:15:04 AM	6/17/2020 3:14:23 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Travelling	Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

040

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
209	863	6/17/2020 11:15:26 AM	61.254423	-149.882304	2346.75441
209	866	6/17/2020 11:17:03 AM	61.252893	-149.882358	2183.43025

Group ID	Created Date	Last Update	Species Common Name
210	6/17/2020 11:22:50 AM	6/17/2020 11:27:33 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX 1120 fix 869. Last seen at 1120.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
210	869	6/17/2020 11:23:10 AM	61.24688	-149.932553	2463.15522

Group ID	Created Date	Last Update	Species Common Name
211	6/17/2020 11:41:39 AM	6/17/2020 1:41:29 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Travelling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0	0	

Comments

PW: 1142 Fix 875 Single white beluga spotted traveling north, 1147 Fix 876 single white beluga traveling north toward port Mack. Last seen 1147

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
211	875	6/17/2020 11:42:57 AM	61.247563	-149.947821	3201.36785
211	876	6/17/2020 11:47:19 AM	61.256287	-149.931604	3147.59833

Group ID	Created Date	Last Update	Species Common Name
212	6/17/2020 11:52:33 AM	6/17/2020 3:12:28 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1152 Fix 877 One harbor seal. Last seen 1152

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
212	877	6/17/2020 11:52:43 AM	61.268004	-149.881646	3823.99246

Group ID	Created Date	Last Update	Species Common Name
213	6/17/2020 12:55:11 PM	6/17/2020 1:05:37 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX 1255 fix 891. Last seen 1255

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
213	891	6/17/2020 12:55:30 PM	61.272249	-149.885748	4258.09871

Group ID	Created Date	Last Update	Species Common Name
214	6/17/2020 2:43:03 PM	6/17/2020 5:41:12 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
3	3	0	0	0		0	0		

Comments

PW: 1443 Fix ID 910 three white belugas seen in center of arm in line with Pt. Mack headed northeast; 1448 Fix ID 911 one gray beluga observed with three white belugas, traveling southeast from previous point into arm in line with Pt. Mack; 1451 Fix ID 912 three white belugas and one gray beluga seen continuing to travel in similar fashion- headed toward Ship Creek; 1455 Fix ID 914 three white belugas and one gray beluga seen continuing to travel in similar fashion- headed toward Ship Creek; 1522 Fix 915 belugas showed up in front of PW, wide spread; 1529 Fix 916 Belugas spotted passing PW traveling west; 1536 Fix 917 3 white belugas and 1 gray milling in front of station; 1542 Fix 918 Belugas milling in front of creek by PW; 1550 Fix 919 Belugas seen traveling NE along the coast toward ship Creek; 1558 Fix 921 and 1600 Fix 922 Beluga whales seen milling and fluking NE of station toward SC; 1615 Fix 925 Belugas spotted slowly traveling toward ship creek. 1619 Fix 926 and 1622 Fix 927 belugas seen traveling closer to ship creek; 1625 Fix 928 belugas traveling N; 1630 Fix 929 and 1631 Fix 930 belugas still traveling north; 1635 passed off to ship creek. ***SC: 1607 Fix ID 923 one gray beluga sighted at significant distance from group, new MM Group ID#216 was created for it. Gray last seen seen 1607. 1642 Fix 933 1 gray, 2 white spotted traveling NE past SC station. ... comments continued next page...

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
214	910	6/17/2020 2:43:21 PM	61.219707	-149.991213	5417.00324
214	911	6/17/2020 2:48:07 PM	61.21825	-149.981139	4962.67037
214	912	6/17/2020 2:51:19 PM	61.216847	-149.973091	4628.02699
214	914	6/17/2020 2:55:55 PM	61.212881	-149.96445	4435.7519
214	915	6/17/2020 3:24:03 PM	61.200788	-149.99026	6336.10116
214	916	6/17/2020 3:28:47 PM	61.201082	-149.993417	6454.34412
214	917	6/17/2020 3:36:13 PM	61.201362	-149.988401	6218.13541
214	918	6/17/2020 3:42:10 PM	61.200857	-149.991691	6393.56725
214	919	6/17/2020 3:48:27 PM	61.202187	-149.977299	5691.66179
214	921	6/17/2020 3:58:33 PM	61.20526	-149.958155	4696.40246
214	922	6/17/2020 4:00:51 PM	61.205583	-149.956801	4619.28314
214	923	6/17/2020 4:07:09 PM	61.221324	-149.912612	1716.91146
214	925	6/17/2020 4:15:11 PM	61.20913	-149.938569	3664.9409
214	926	6/17/2020 4:19:07 PM	61.212414	-149.930541	3111.03523

Group ID	Created Date		Last Update		Species Common Name
214	6/17/2020 2:43:03 PM		6/17/2020 5:41:12 PM		Beluga
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Milling
Beluga Counts	White	Gray	Calf	Neonate	Unknown
3	3	0	0	0	0
Other MM Counts	Other Adult	Other Calf	Total Other		
0	0	0			

Comments continued

1643 Fix 934 1 gray, 2 whites travelling NE by mouth of SC. 1646 Fix 935 1 gray, 2 whites traveling NE towards PCT. 1652 handoff to PCT. **PCT: 1645 FIX 936 white flukes and diving activity within the 24"vibbub zone near Ship Creek, possible milling;1652 FIX 939 - whites and grey traveling North East along shore; 1653 PCT takes over group from SC; 1653 FIX 940 3 whites, 1 grey traveling in front of PCT; 1653 FIX 941 group continues traveling through zone; 1654 FIX 0942 group travel; 1657 FIX 943 1 trailing grey, behind larger group for a total of 3 whites and 3 greys, updated count; 1658 FIX 944 the main group of 3 whites and 2 greys ; 1700 FIX 945 - the trailing grey; 1702 - PCT hands over sighting to NEX; ***NEX: Took over sighting 1702 Fix 946. 1705 Fix 947 traveled north to the corner. 1720 Fix 948. 1722 Fix 949 is the trailing grey beluga. Last seen @ 1722. End of shift.

214	927	6/17/2020 4:22:07 PM	61.214734	-149.924073	2697.09306
214	928	6/17/2020 4:24:57 PM	61.214838	-149.925905	2746.18271
214	929	6/17/2020 4:29:26 PM	61.217733	-149.919223	2275.11577
214	930	6/17/2020 4:31:28 PM	61.217905	-149.924409	2431.18738
214	933	6/17/2020 4:42:14 PM	61.226529	-149.90711	1103.47242
214	934	6/17/2020 4:44:04 PM	61.227076	-149.906525	1036.17088
214	935	6/17/2020 4:46:17 PM	61.228861	-149.90221	708.69353
214	936	6/17/2020 4:49:11 PM	61.228899	-149.907211	883.24833
214	937	6/17/2020 4:49:33 PM	61.23143	-149.899185	382.3142
214	938	6/17/2020 4:51:27 PM	61.231583	-149.901724	466.82934
214	939	6/17/2020 4:52:01 PM	61.23152	-149.901412	458.19864
214	940	6/17/2020 4:53:12 PM	61.232283	-149.898702	293.83898
214	941	6/17/2020 4:53:54 PM	61.232858	-149.898732	253.95838
214	942	6/17/2020 4:54:35 PM	61.233402	-149.897659	173.25099
214	943	6/17/2020 4:57:32 PM	61.23264	-149.899632	307.41863

Group ID		Created Date		Last Update		Species Common Name							
214		6/17/2020 2:43:03 PM		6/17/2020 5:41:12 PM		Beluga							
Spread		Formation		Combined Group		Pace		Primary Behavior		Secondary Behavior			
1		Linear		False		Moderate		Travelling		Milling			
Beluga Counts						Other MM Counts		Other Adult		Other Calf		Total Other	
3						0		0		0			
Comments													
see above													

214	944	6/17/2020 4:58:10 PM	61.234679	-149.89782	170.46334
214	945	6/17/2020 5:00:08 PM	61.235927	-149.898823	290.64193
214	946	6/17/2020 5:02:30 PM	61.23461	-149.897971	175.72287
214	947	6/17/2020 5:10:19 PM	61.246356	-149.886592	1425.30322
214	948	6/17/2020 5:20:08 PM	61.250792	-149.885099	1920.29847
214	949	6/17/2020 5:22:14 PM	61.25075	-149.884937	1918.17439

Group ID	Created Date	Last Update	Species Common Name
215	6/17/2020 3:56:50 PM	6/17/2020 5:18:50 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
	Primary Behavior	Secondary Behavior	
	Looking	Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

**SC: 1557 Fix 920 Harbor seal surfaced, looked and sunk, last seen 1659. 1612 Fix 924 A second seal surfaced, looked and sunk by mouth of SC. Last seen 1625, 1705.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
215	920	6/17/2020 3:58:22 PM	61.219319	-149.91841	2107.10266
215	924	6/17/2020 4:14:06 PM	61.226527	-149.905008	1039.8241

Group ID**216****Created Date**

6/17/2020 4:17:34 PM

Last Update

6/17/2020 5:34:46 PM

Species Common Name

Beluga

Spread

1

Formation

Linear

Combined Group

True

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

None

**Beluga
Counts****White**
0**Gray**
1**Calf**
0**Neonate**
0**Unknown**
0**Other MM
Counts****Other Adult**
0**Other Calf**
0**Total Other**
Comments

SC: 1607 Fix ID 923 from MM Group #214. 1 grey beluga split from MM Group #214 and new group was created. 1642 FIX ID 933 in MM Group #214, 2 whites join the one gray, subsequent fixes taken under MM Group #214. ***Note, no fixes were obtained under this group ID. MMOs initially considered tracking a single gray beluga separately as it split away, but then it rejoined the main group (Group ID 214) and the total beluga count of Group 214 includes this single gray so it will be removed from the database and totals.

Group ID	Created Date	Last Update	Species Common Name
218	6/18/2020 7:16:35 AM	6/18/2020 1:00:11 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
Primary Behavior		Secondary Behavior	
Looking		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX*** 0717 Fix ID 953 one harbor seal seen milling south of Wet Barge Berth; 0734 Fix ID 954 Harbor seal seen milling north of Wet Barge Berth; NOTE: Fix 955 accidentally put on G 218, DISREGARD, meant for Test group; time last seen: 0744

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
218	953	6/18/2020 7:17:18 AM	61.251299	-149.882698	1978.23159
218	954	6/18/2020 7:34:00 AM	61.252552	-149.881679	2127.6084

Group ID	Created Date	Last Update	Species Common Name
219	6/18/2020 7:54:27 AM	6/18/2020 5:19:01 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Travelling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
2	1	0	0	0	0	0	0		

Comments

PW: 0753 Radioed over beluga sighting to PCT. 0754 Fix 956 Two white and one grey beluga seen traveling west. Last seen @0755.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
219	956	6/18/2020 7:54:46 AM	61.200983	-149.994508	6508.49201

Group ID	Created Date	Last Update	Species Common Name
220	6/18/2020 8:00:33 AM	6/18/2020 3:46:59 PM	Beluga
Spread	Formation	Combined Group	Pace
6	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
9	0	0	0	0	0	0	0	0	

Comments

NEX: Belugas moving south towards work zone. 0759 Fix 959 was first sighting. Fix 960- 967 show travel pattern to work zone. 0816 fix 969 was our final fix. Passed off to PCT for monitoring at 0815. **PCT: PCT takes over fixes from NEX; 0818 FIX 970 confirms whale group inside 24" vibbub level B zone, delay clock starts; 0820 FIX 971 continue traveling; 0821 FIX 972 whites traveling Southwest along nearshore through worksite; 0827 FIX 975 two trailing white belugas, heading towards ship creek along shore; 0830 FIX 976 trail; 0830 FIX 977 trailing beluga traveling voluntarily out of the 24" vibbub level B zone; 0832 PCT radioed SC for take over. *SC: Took over from PCT at 0832. 0833 FIX 978 Five white belugas travelling SW along shoreline from PCT passing mouth of SC. 0834 FIX 979 Five white belugas pass SC approaching tug boats. 0835 FIX 980 beluga group still travelling SW. 0837 FIX 981 Group milling SW of SC, six whales confirmed in group. 0839 FIX 982 whales milling and moving NE back towards SC. 0840 FIX 983 group milling. 0841 FIX 984 group milling. 0843 FIX 985 lead whale in front of boat launch. 0843 FIX 986 lead beluga was observed bubbling. 0846 FIX 987 whales travel back NE towards PCT. 0847 FIX 988 whales at the mouth of Ship Creek. 0849 FIX 989 group milling while moving NE from mouth of SC to PCT. ... comments continued next page...

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
220	959	6/18/2020 8:00:48 AM	61.260738	-149.880328	3019.58384
220	960	6/18/2020 8:02:42 AM	61.258124	-149.880625	2735.24762
220	961	6/18/2020 8:04:00 AM	61.256885	-149.881084	2596.16948
220	962	6/18/2020 8:04:44 AM	61.255569	-149.882399	2436.25211
220	963	6/18/2020 8:05:27 AM	61.254716	-149.883185	2333.70032
220	964	6/18/2020 8:07:29 AM	61.252422	-149.884395	2070.76575
220	965	6/18/2020 8:08:52 AM	61.251538	-149.883918	1983.48336
220	966	6/18/2020 8:11:18 AM	61.249741	-149.88419	1788.71569
220	967	6/18/2020 8:15:02 AM	61.245562	-149.88769	1289.499
220	968	6/18/2020 8:17:10 AM	61.244195	-149.888992	1124.17054
220	969	6/18/2020 8:17:49 AM	61.241554	-149.891263	809.66574
220	970	6/18/2020 8:18:09 AM	61.241969	-149.890346	866.46297
220	971	6/18/2020 8:19:29 AM	61.239851	-149.891477	623.53067
220	972	6/18/2020 8:21:35 AM	61.236902	-149.893199	283.15655

Group ID	Created Date	Last Update	Species Common Name
220	6/18/2020 8:00:33 AM	6/18/2020 3:46:59 PM	Beluga
Spread	Formation	Combined Group	Pace
6	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
9	0	0	0	0	0	0	0	0	

Comments continued

0849 FIX 991 group milling in a NE direction towards PCT. 0850 FIX 992 seven confirmed whales continue to travel north towards PCT. 0851 handed group 220 back to PCT. **PCT: 0849 FIX 990 confirms leading beluga back in the level b zone, radio Chan for delay; 0850 PCT takes over fixes from SC; 0851 FIX 993 group in zone; 0852 FIXs 994-997 group travel along near shore; 0855 FIX 999 9 whites counted in group traveling linear formation, count updated above; 0859 FIX 1000-1002 group traveling through work site; 0903 FIX 1003 fix of trailing beluga (closest to pile) as group moves through zone near barge, barge 450-7 partially obscuring view of group; 0916 Fix 1004 Belugas resighted on north side of barge 450-7 and out of the zone but just barely. Observed traveling N.; 0917 Called NEX to make aware we have eyes.; 0917 NEX confirmed they do as well and will be getting a fix shortly.; 0921 NEX called having trouble with theodolite so we took a fix.; 0922 Fix 1005 shows belugas near wet barge.; 0924 Awaiting Fix on trailing B to confirm all are well out of zone.; Passed back to NEX. 0934 NEX radios to inform Bs are over Out-bound line.; NEX*** 0924 Fix 1006 take over tracking whales from PCT. Fixes 1007, 1009 and 1010 taken from 0927 - 0939 showing whales travelling north at a moderate pace past station and continuing north before heading NE and out of line of sight. Last seen at 0942.

220	973	6/18/2020 8:25:51 AM	61.231778	-149.902445	510.78702
220	974	6/18/2020 8:26:49 AM	61.230636	-149.902329	589.41972
220	975	6/18/2020 8:27:49 AM	61.232493	-149.898408	295.43307
220	976	6/18/2020 8:30:01 AM	61.230168	-149.900298	563.22492
220	977	6/18/2020 8:30:54 AM	61.228467	-149.903779	824.3529
220	978	6/18/2020 8:33:08 AM	61.226476	-149.906784	1097.81049
220	979	6/18/2020 8:34:07 AM	61.225512	-149.908919	1251.99628
220	980	6/18/2020 8:35:35 AM	61.224019	-149.910576	1437.9215
220	981	6/18/2020 8:37:04 AM	61.221058	-149.915635	1863.43247
220	982	6/18/2020 8:38:22 AM	61.22313	-149.911303	1540.82625
220	983	6/18/2020 8:40:00 AM	61.223055	-149.91149	1553.4079
220	984	6/18/2020 8:41:27 AM	61.222711	-149.912659	1621.02485
220	985	6/18/2020 8:43:28 AM	61.225991	-149.908254	1188.11902
220	986	6/18/2020 8:44:07 AM	61.226246	-149.907423	1138.67276
220	987	6/18/2020 8:45:48 AM	61.226602	-149.906545	1078.9669

Group ID

220

Created Date

6/18/2020 8:00:33 AM

Last Update

6/18/2020 3:46:59 PM

Species Common Name

Beluga

Spread

6

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	9	0	0	0	0		0	0	

Comments

see above

220	988	6/18/2020 8:47:03 AM	61.226901	-149.904853	1000.32034
220	989	6/18/2020 8:48:43 AM	61.227696	-149.906078	967.3087
220	990	6/18/2020 8:49:09 AM	61.228738	-149.90314	779.93508
220	991	6/18/2020 8:49:24 AM	61.228365	-149.904174	846.03413
220	992	6/18/2020 8:50:21 AM	61.229851	-149.901512	628.68611
220	993	6/18/2020 8:51:14 AM	61.229025	-149.90286	745.29632
220	994	6/18/2020 8:51:35 AM	61.229939	-149.901413	617.65262
220	995	6/18/2020 8:52:10 AM	61.230472	-149.902163	596.68736
220	996	6/18/2020 8:53:13 AM	61.231106	-149.902747	569.72848
220	997	6/18/2020 8:54:28 AM	61.2317	-149.903072	543.23338
220	999	6/18/2020 8:56:12 AM	61.232846	-149.902024	431.47759
220	1000	6/18/2020 8:59:13 AM	61.234412	-149.901554	367.54769
220	1001	6/18/2020 8:59:51 AM	61.234958	-149.900082	294.14482
220	1002	6/18/2020 9:01:44 AM	61.236028	-149.898158	255.1288
220	1003	6/18/2020 9:03:07 AM	61.235303	-149.901073	354.52215

Group ID		Created Date		Last Update		Species Common Name							
220		6/18/2020 8:00:33 AM		6/18/2020 3:46:59 PM		Beluga							
Spread		Formation		Combined Group		Pace		Primary Behavior		Secondary Behavior			
6		Linear		False		Moderate		Travelling		Milling			
Beluga Counts						Other MM Counts		Other Adult		Other Calf		Total Other	
9						0		0		0			
Comments													
see above													

220	1004	6/18/2020 9:16:20 AM	61.242798	-149.890643	951.81382
220	1005	6/18/2020 9:21:59 AM	61.25017	-149.886692	1797.65401
220	1006	6/18/2020 9:24:27 AM	61.251025	-149.885505	1905.41691
220	1007	6/18/2020 9:27:55 AM	61.255266	-149.883558	2387.66851
220	1009	6/18/2020 9:33:09 AM	61.258201	-149.881877	2760.04428
220	1010	6/18/2020 9:39:47 AM	61.265848	-149.878144	3632.69528

Group ID	Created Date	Last Update	Species Common Name
221	6/18/2020 8:55:11 AM	6/18/2020 12:42:25 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 0855 F998 One Harbor seal seen milling approx. 300 m off NEX; last time seen: 0855

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
221	998	6/18/2020 8:55:33 AM	61.255643	-149.885457	2405.41982
221	1008	6/18/2020 9:30:31 AM	61.257115	-149.882185	2605.00528

Group ID	Created Date	Last Update	Species Common Name		
222	6/18/2020 9:51:20 AM	6/18/2020 5:17:50 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Diving	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 0949 Fix 1012 Harbor seal spotted diving. Last seen 1000.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
222	1012	6/18/2020 9:54:12 AM	61.214507	-150.014052	6759.07447

Group ID	Created Date	Last Update	Species Common Name
223	6/18/2020 9:59:24 AM	6/18/2020 12:41:09 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX: 0958 Fix 1013-Harbor Seal looking and sinking. 1019 Fix 1014 looking and sinking. Last seen 1049.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
223	1013	6/18/2020 9:59:43 AM	61.260269	-149.879382	2982.67529
223	1014	6/18/2020 10:21:02 AM	61.258725	-149.880722	2798.13277

Group ID	Created Date	Last Update	Species Common Name		
224	6/18/2020 10:47:39 AM	6/18/2020 4:20:21 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***SC: 1046 Fix ID #1015 Harbor Seal looking then sinking. Last seen 1132. 1246 Fix ID #1016 Harbor seal sighted at surface, looking then sinking. Kept in same MM Group due to location of sighting. Last seen 1258, 1347. 1615 Fix ID #1031 seal sighted by mouth of SC, look and sink. Kept in same MM Group due to location of sighting.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
224	1015	6/18/2020 10:49:39 AM	61.220605	-149.920311	2061.05486
224	1016	6/18/2020 12:48:07 PM	61.226632	-149.90728	1099.90351
224	1031	6/18/2020 4:16:44 PM	61.227229	-149.904	945.10432

Group ID	Created Date	Last Update	Species Common Name
225	6/18/2020 2:48:33 PM	6/18/2020 4:10:18 PM	Beluga
Spread	Formation	Combined Group	Pace
>10	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
3	0	0	0	0	0	0	0	0	

Comments

***SC: 1448 3 whites spotted. 1449 Fix 1017 traveling NE along far shoreline. 1450 Fix 1018 traveling NE. 1453 Fix 1019 traveling NE. 1455 Fix 1020 traveling NE. 1458 passed to NEX. ***NEX: 1501 F1021 three white belugas passed off to NEX from SC- group is headed north along opposite shore in front of Silo; 1506 F 1022 group continues to head north along shore, passing Silo rock; 1511 Fix ID 1023 group is now north of Silo rock, headed north and approaching outbound line; 1515 Fix ID 1024 group headed north imminently approaching outbound line, though spread between animals has greatly increased- spread between animals now between 20-30 body lengths; 1519 F1025 group observed milling behind pilings on far side of Port Mack dock, still headed north; 1524 F1026 group continuing to head north beyond outbound line along opposite shore; 1534 F1027 group seen headed north beyond outbound line approaching Old Rusty; 1536 F1028 last fix of group- still traveling north along opposite shore passing Old Rusty;Last time seen: 1536

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
225	1017	6/18/2020 2:49:02 PM	61.245068	-149.96154	3764.08877
225	1018	6/18/2020 2:50:42 PM	61.247131	-149.961348	3832.42224
225	1019	6/18/2020 2:53:20 PM	61.249935	-149.959133	3851.11223
225	1020	6/18/2020 2:55:07 PM	61.25247	-149.951662	3644.97252
225	1021	6/18/2020 3:01:17 PM	61.254056	-149.941046	3299.51134
225	1022	6/18/2020 3:06:49 PM	61.258045	-149.930702	3252.43024
225	1023	6/18/2020 3:11:51 PM	61.259573	-149.923993	3200.73985
225	1024	6/18/2020 3:15:53 PM	61.264483	-149.912015	3462.8738
225	1025	6/18/2020 3:19:53 PM	61.270643	-149.918932	4224.83958
225	1026	6/18/2020 3:24:07 PM	61.2751	-149.921381	4736.42107
225	1027	6/18/2020 3:34:03 PM	61.281583	-149.910335	5303.17047
225	1028	6/18/2020 3:36:35 PM	61.290131	-149.914506	6276.65653

Group ID	Created Date	Last Update	Species Common Name
226	6/18/2020 3:36:13 PM	6/18/2020 5:40:40 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1536 Fix 1029 Harbor seal spotted traveling; 1540 Fix 1030 Harbor seal traveling west; 1548-1630 no sighting; 1630 harbor seal spotted again in the same location, updating the behavior to milling; 1645 Hs seen looking and sinking; 1705 Fix 1032 and 1708 Fix 1033 Harbor seal seen milling. Last seen 1735.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
226	1029	6/18/2020 3:36:33 PM	61.214328	-149.988903	5513.99092
226	1030	6/18/2020 3:39:40 PM	61.214378	-149.990109	5570.78617
226	1032	6/18/2020 5:04:31 PM	61.21785	-149.988307	5336.9911
226	1033	6/18/2020 5:07:26 PM	61.216083	-149.988796	5432.3766

Group ID	Created Date	Last Update	Species Common Name
228	6/19/2020 7:21:07 AM	6/19/2020 2:43:47 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Feeding Observed	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

**NEX: 0720 F1037 HS swimming and eating; 0732 F1039- F1050 seal milling; 1220 first seal sighted with a second seal. Last seen 1322

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
228	1037	6/19/2020 7:21:50 AM	61.259597	-149.879459	2909.78495
228	1039	6/19/2020 7:34:32 AM	61.256117	-149.884832	2463.91741
228	1045	6/19/2020 8:24:18 AM	61.25172	-149.88267	2023.02223
228	1050	6/19/2020 8:59:13 AM	61.254914	-149.881288	2383.40667

Group ID	Created Date	Last Update	Species Common Name
229	6/19/2020 8:03:32 AM	6/19/2020 8:43:04 AM	Pinniped Unid.
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
			Primary Behavior
			Travelling
			Secondary Behavior
			Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**PW: 0802 Fix 1040; Animal first sighted; Last time seen: 0802

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
229	1040	6/19/2020 8:06:04 AM	61.23265	-149.981546	4649.46399

Group ID	Created Date	Last Update	Species Common Name
230	6/19/2020 8:18:05 AM	6/19/2020 8:35:47 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	1	1	0	0	0		0	0	

Comments

**NEX: 0817 F1041-F1048 - 1 white, 1 grey initial sight in front of NEX nearshore traveling Southwest; LAST SEEN 0831

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
230	1041	6/19/2020 8:18:14 AM	61.253731	-149.881527	2254.35443
230	1042	6/19/2020 8:18:43 AM	61.252991	-149.882129	2166.19815
230	1043	6/19/2020 8:21:00 AM	61.252065	-149.882228	2066.90036
230	1044	6/19/2020 8:22:26 AM	61.252033	-149.882613	2056.98665
230	1046	6/19/2020 8:25:32 AM	61.249883	-149.883931	1808.05881
230	1047	6/19/2020 8:26:56 AM	61.249922	-149.883899	1812.71142
230	1048	6/19/2020 8:30:07 AM	61.247632	-149.886002	1535.9236

Group ID	Created Date	Last Update	Species Common Name
231	6/19/2020 8:58:48 AM	6/19/2020 1:21:49 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

SC--- 0858 fix 1049 seal spotted, looking and then sank, 0902 milling. Last seen 0904

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
231	1049	6/19/2020 9:03:15 AM	61.226935	-149.905317	1010.90327

Group ID	Created Date	Last Update	Species Common Name
232	6/19/2020 9:49:56 AM	6/19/2020 10:10:41 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Travelling
			Secondary Behavior
			Unknown

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0	0	

Comments

PW: 0950 FIX 1051 Bad Fix. FIX 1052 - 1053 One white beluga traveling west. Lost sight when the animal swam behind trees. LAST SEEN: 0950.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
232	1052	6/19/2020 9:50:23 AM	61.201123	-149.995243	6531.95685
232	1053	6/19/2020 9:50:58 AM	61.201061	-149.995584	6550.89705

Group ID	Created Date	Last Update	Species Common Name
233	6/19/2020 10:20:18 AM	6/19/2020 5:04:17 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	1	0	0	0	0	0	0	0	

Comments

NEX: 1020 F1054-1066 2 white & 1 grey traveling southwest along nearshore, initially sighted North of outbound line; 1022 Three more whites south of outbound line, total is 5 whites and 1 grey; 1048 view of lead beluga obstructed by port infrastructure, hand-off to PCT; *PCT: 1048 Fix1067-1070 proceeding south. 1103 Fix1071 seeing seven beluga. ***SC: 1110 fix 1072-1074 travelling south. 1114 fix 1075-1076 milling, some flukes spotted 1120 fix 1077 travelling south past tug dock. 1121 fix 1078-1082 milling. 1131 fix 1083 changed direction heading back north. 1136 fix 1084-1087 travelling north. 1142 fix 1088-1090 milling near mouth of ship creek. 1157 fix 1093 five spotted travelling north past construction sight, SC hands off to NEX. **NEX: 1202 Took group from PCT; Recombining whales from G235 into G233 as whales had formed a singular group again;1206 F1095-F1102 travelling; F1103 Trailing whale is outside of 48" pile level B zone by apprx. 145 meters; F1104 Traveling; F1105 Trailing whale is north of outbound line by apprx. 60 meters; F1106-F1108 Traveling North of Outbound line. Last seen 1224.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
233	1054	6/19/2020 10:20:30 AM	61.260071	-149.88592	2884.64473
233	1055	6/19/2020 10:23:14 AM	61.256905	-149.88807	2519.48014
233	1056	6/19/2020 10:26:00 AM	61.254436	-149.885476	2274.09444
233	1058	6/19/2020 10:30:18 AM	61.2528	-149.884679	2107.3865
233	1059	6/19/2020 10:32:04 AM	61.251485	-149.884559	1968.15214
233	1061	6/19/2020 10:34:01 AM	61.250743	-149.884236	1894.03533
233	1062	6/19/2020 10:36:44 AM	61.249733	-149.886653	1751.03368
233	1063	6/19/2020 10:39:03 AM	61.246022	-149.887346	1343.75288
233	1064	6/19/2020 10:43:07 AM	61.245199	-149.887503	1253.97314
233	1066	6/19/2020 10:47:00 AM	61.245386	-149.888196	1263.10195
233	1067	6/19/2020 10:48:46 AM	61.24024	-149.890463	681.17994
233	1068	6/19/2020 10:55:07 AM	61.241087	-149.890993	762.80676
233	1070	6/19/2020 11:00:42 AM	61.234043	-149.896742	119.35887
233	1071	6/19/2020 11:04:53 AM	61.233749	-149.900331	312.1578

Group ID	Created Date	Last Update	Species Common Name
233	6/19/2020 10:20:18 AM	6/19/2020 5:04:17 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	1	0	0	0		0	0		

Comments

NEX: 1020 F1054-1066 2 white & 1 grey traveling southwest along nearshore, initially sighted North of outbound line; 1022 Three more whites south of outbound line, total is 5 whites and 1 grey; 1048 view of lead beluga obstructed by port infrastructure, hand-off to PCT; *PCT: 1048 Fix1067-1070 proceeding south. 1103 Fix1071 seeing seven beluga. ***SC: 1110 fix 1072-1074 travelling south. 1114 fix 1075-1076 milling, some flukes spotted 1120 fix 1077 travelling south past tug dock. 1121 fix 1078-1082 milling. 1131 fix 1083 changed direction heading back north. 1136 fix 1084-1087 travelling north. 1142 fix 1088-1090 milling near mouth of ship creek. 1157 fix 1093 five spotted travelling north past construction sight, SC hands off to NEX. **NEX: 1202 Took group from PCT; Recombining whales from G235 into G233 as whales had formed a singular group again;1206 F1095-F1102 travelling; F1103 Trailing whale is outside of 48" pile level B zone by apprx. 145 meters; F1104 Traveling; F1105 Trailing whale is north of outbound line by apprx. 60 meters; F1106-F1108 Traveling North of Outbound line. Last seen 1224.

233	1072	6/19/2020 11:09:58 AM	61.229493	-149.907952	898.75867
233	1073	6/19/2020 11:11:17 AM	61.229367	-149.909407	969.48752
233	1074	6/19/2020 11:12:35 AM	61.228353	-149.90942	1039.78
233	1075	6/19/2020 11:14:33 AM	61.2276	-149.915274	1339.10223
233	1076	6/19/2020 11:17:45 AM	61.227597	-149.912801	1232.83795
233	1077	6/19/2020 11:19:48 AM	61.225519	-149.913026	1395.95887
233	1078	6/19/2020 11:21:26 AM	61.225053	-149.912738	1422.76257
233	1079	6/19/2020 11:22:31 AM	61.224743	-149.914935	1529.11145
233	1080	6/19/2020 11:25:59 AM	61.224427	-149.914368	1533.11595
233	1081	6/19/2020 11:26:44 AM	61.223755	-149.914873	1606.26196
233	1082	6/19/2020 11:29:51 AM	61.22135	-149.917363	1895.3919
233	1083	6/19/2020 11:31:29 AM	61.222147	-149.916902	1811.94779
233	1084	6/19/2020 11:36:18 AM	61.225827	-149.912131	1338.00535
233	1085	6/19/2020 11:37:33 AM	61.226657	-149.910019	1193.23935
233	1086	6/19/2020 11:39:10 AM	61.227858	-149.907999	1022.1309

Group ID	Created Date	Last Update	Species Common Name
233	6/19/2020 10:20:18 AM	6/19/2020 5:04:17 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	6	1	0	0	0		0	0	

Comments

NEX: 1020 F1054-1066 2 white & 1 grey traveling southwest along nearshore, initially sighted North of outbound line; 1022 Three more whites south of outbound line, total is 5 whites and 1 grey; 1048 view of lead beluga obstructed by port infrastructure, hand-off to PCT; *PCT: 1048 Fix1067-1070 proceeding south. 1103 Fix1071 seeing seven beluga. ***SC: 1110 fix 1072-1074 travelling south. 1114 fix 1075-1076 milling, some flukes spotted 1120 fix 1077 travelling south past tug dock. 1121 fix 1078-1082 milling. 1131 fix 1083 changed direction heading back north. 1136 fix 1084-1087 travelling north. 1142 fix 1088-1090 milling near mouth of ship creek. 1157 fix 1093 five spotted travelling north past construction sight, SC hands off to NEX. **NEX: 1202 Took group from PCT; Recombining whales from G235 into G233 as whales had formed a singular group again;1206 F1095-F1102 travelling; F1103 Trailing whale is outside of 48" pile level B zone by apprx. 145 meters; F1104 Traveling; F1105 Trailing whale is north of outbound line by apprx. 60 meters; F1106-F1108 Traveling North of Outbound line. Last seen 1224.

233	1087	6/19/2020 11:41:25 AM	61.227927	-149.906	944.83522
233	1088	6/19/2020 11:42:25 AM	61.227932	-149.905999	944.37438
233	1089	6/19/2020 11:45:15 AM	61.230621	-149.906001	740.28111
233	1090	6/19/2020 11:46:53 AM	61.230856	-149.906213	735.04804
233	1093	6/19/2020 11:57:00 AM	61.236569	-149.895476	238.65019
233	1095	6/19/2020 12:05:44 PM	61.248328	-149.886345	1604.62797
233	1096	6/19/2020 12:06:43 PM	61.248628	-149.88651	1634.29803
233	1097	6/19/2020 12:07:51 PM	61.249402	-149.88561	1730.19296
233	1098	6/19/2020 12:08:33 PM	61.250999	-149.883775	1928.54244
233	1099	6/19/2020 12:10:38 PM	61.251047	-149.884903	1916.30693
233	1100	6/19/2020 12:11:11 PM	61.252032	-149.88424	2031.2797
233	1101	6/19/2020 12:11:41 PM	61.252722	-149.884119	2106.82908
233	1102	6/19/2020 12:12:20 PM	61.253249	-149.883084	2178.39878
233	1103	6/19/2020 12:14:02 PM	61.255545	-149.883434	2419.34468
233	1104	6/19/2020 12:14:36 PM	61.256791	-149.883612	2551.46241

Group ID	Created Date	Last Update	Species Common Name
233	6/19/2020 10:20:18 AM	6/19/2020 5:04:17 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	6	1	0	0	0		0	0	

Comments

NEX: 1020 F1054-1066 2 white & 1 grey traveling southwest along nearshore, initially sighted North of outbound line; 1022 Three more whites south of outbound line, total is 5 whites and 1 grey; 1048 view of lead beluga obstructed by port infrastructure, hand-off to PCT; *PCT: 1048 Fix1067-1070 proceeding south. 1103 Fix1071 seeing seven beluga. ***SC: 1110 fix 1072-1074 travelling south. 1114 fix 1075-1076 milling, some flukes spotted 1120 fix 1077 travelling south past tug dock. 1121 fix 1078-1082 milling. 1131 fix 1083 changed direction heading back north. 1136 fix 1084-1087 travelling north. 1142 fix 1088-1090 milling near mouth of ship creek. 1157 fix 1093 five spotted travelling north past construction sight, SC hands off to NEX. **NEX: 1202 Took group from PCT; Recombining whales from G235 into G233 as whales had formed a singular group again;1206 F1095-F1102 travelling; F1103 Trailing whale is outside of 48" pile level B zone by apprx. 145 meters; F1104 Traveling; F1105 Trailing whale is north of outbound line by apprx. 60 meters; F1106-F1108 Traveling North of Outbound line. Last seen 1224.

233	1105	6/19/2020 12:15:48 PM	61.258315	-149.883489	2717.91298
233	1106	6/19/2020 12:16:36 PM	61.25958	-149.883476	2855.34292
233	1107	6/19/2020 12:18:19 PM	61.261596	-149.883315	3076.42015

Group ID

234

Created Date

6/19/2020 10:58:19 AM

Last Update

6/19/2020 12:51:19 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Looking

Secondary Behavior

Milling

**Beluga
Counts****White**
0**Gray**
0**Calf**
0**Neonate**
0**Unknown**
0**Other MM
Counts****Other Adult**
1**Other Calf**
0**Total Other**
Comments

SC; 1057 fix 1069 spotted milling. Last seen 1058

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

234

1069

6/19/2020 10:58:27 AM

61.230918

-149.89982

479.6347

Group ID	Created Date	Last Update	Species Common Name
235	6/19/2020 11:48:59 AM	6/19/2020 5:04:49 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	True	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		0	0	

Comments

***PCT 1149 FIX1091 2-3 white beluga traveling north; split from group 233. **NEX: Took G235 from PCT at 1155; 1156 F1092-F1094 2 white traveling north; 1202 G235 recombines with original G233 as whales have formed a singular group again; Further notes for this group will be recorded in MM Group 233.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
235	1091	6/19/2020 11:49:14 AM	61.234324	-149.900928	334.36164
235	1092	6/19/2020 11:56:11 AM	61.240923	-149.891653	736.66574
235	1094	6/19/2020 12:00:08 PM	61.24391	-149.888936	1094.5531

Group ID	Created Date	Last Update	Species Common Name
236	6/19/2020 12:32:38 PM	6/19/2020 12:47:45 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Travelling
			Secondary Behavior
			None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	1	1	0	0	0		0	0	

Comments

PW: 1232 FIX 1110-1113 One white beluga, one gray spotted heading west toward in-bound lane. Animals lost behind trees. LAST SEEN: 12:40

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
236	1110	6/19/2020 12:34:07 PM	61.213883	-149.993326	5745.41589
236	1111	6/19/2020 12:34:39 PM	61.213823	-149.995527	5856.26979
236	1112	6/19/2020 12:37:44 PM	61.212227	-150.00377	6331.58738
236	1113	6/19/2020 12:40:26 PM	61.211181	-150.008839	6631.8074

Group ID	Created Date	Last Update	Species Common Name
237	6/19/2020 12:42:34 PM	6/19/2020 1:00:16 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Looking	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC: 1243 FIX 1116 one harbor seal spotted near the mouth of SC. Travelling. 1249 FIX 1117 seal looking and sinking. Last seen 1257

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
237	1116	6/19/2020 12:46:00 PM	61.226709	-149.906863	1079.5496
237	1117	6/19/2020 12:49:14 PM	61.228547	-149.905233	865.74612

Group ID	Created Date	Last Update	Species Common Name
238	6/19/2020 12:43:31 PM	6/19/2020 5:05:41 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

NEX: 1242 initial sighting North of the outbound line traveling southwest; 1244 F1115 Traveling and then diving; F1118 Lead beluga south of outbound line; F1119-F1129 Traveling; 1316 Hand off to PCT.*PCT 1130 FIX1130 take over from NEX; group was traveling south 1321 HDR Brett radioed that beluga were spotted south of dock. 1323 FIX1131-1132 traveling south; added one white.***SC 1330 F1133-F1136 Four white belugas and 1 gray traveling south; 1335 F1137 belugas milling behind tug dock; 1340 F1138 whales changed direction heading north; 1341 F1139 whales traveling north; 1345 hand of to ***PCT 1346 FIX1141-1145 Take over from SC; group heading north.**NEX: 1357 taking fixes from PCT; 1356 F1148-F1149 group of 4 traveling north, 1358 lost sight of group behind port infrastructure; 1406 F1153-F1158 milling, new count 6 white, presuming G239 has combined; 1438 PCT takes over fixes. ***PCT: 1436 Fix 1159-1160 progressing south.***SC: 1441 fix 1162 travelling south past mouth of ship creek. 1442 fix 1163 milling. 1445 fix 1164 travelling south. 1450 fix 1165 changed direction, heading towards construction sight. Handed back off to PCT. ***PCT: 1455 Fix 1166-1167 headed back north.**NEX: 1507 takes over fixes from PCT; F1168 traveling north; F1169 confirms part of the group outside the zone; ... comments continued next page...

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
238	1115	6/19/2020 12:44:46 PM	61.268985	-149.881536	3900.6888
238	1118	6/19/2020 12:56:53 PM	61.256644	-149.88456	2524.2316
238	1119	6/19/2020 12:57:59 PM	61.25563	-149.885481	2403.74316
238	1120	6/19/2020 12:59:30 PM	61.254283	-149.885372	2258.7175
238	1121	6/19/2020 1:00:28 PM	61.25366	-149.884652	2200.30558
238	1122	6/19/2020 1:01:31 PM	61.252902	-149.884449	2121.48845
238	1123	6/19/2020 1:02:16 PM	61.252485	-149.884182	2080.55851
238	1124	6/19/2020 1:04:58 PM	61.250398	-149.884069	1860.14168
238	1125	6/19/2020 1:05:43 PM	61.250593	-149.884699	1870.90497
238	1126	6/19/2020 1:09:18 PM	61.247008	-149.887563	1445.80159
238	1127	6/19/2020 1:10:12 PM	61.24594	-149.889699	1303.64421
238	1128	6/19/2020 1:11:47 PM	61.244316	-149.890946	1113.73296
238	1129	6/19/2020 1:16:11 PM	61.239284	-149.892625	547.67529
238	1130	6/19/2020 1:16:57 PM	61.240162	-149.891535	656.0252

Group ID	Created Date	Last Update	Species Common Name
238	6/19/2020 12:43:31 PM	6/19/2020 5:05:41 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
	Primary Behavior	Secondary Behavior	
	Travelling	Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments continued

F1170-F1174 group of 6 traveling north; F1175-F1177 north of outbound line, traveling north; lost sight of group as they turned Cairn Point; LAST SEEN 1528

238	1131	6/19/2020 1:23:58 PM	61.233298	-149.897657	204.6223
238	1132	6/19/2020 1:26:44 PM	61.232344	-149.90036	383.76971
238	1133	6/19/2020 1:29:57 PM	61.230134	-149.907079	818.64985
238	1134	6/19/2020 1:31:50 PM	61.226944	-149.909328	1144.68224
238	1135	6/19/2020 1:32:40 PM	61.225996	-149.909503	1229.64198
238	1136	6/19/2020 1:34:15 PM	61.225142	-149.911086	1356.77699
238	1137	6/19/2020 1:36:37 PM	61.223932	-149.913232	1533.56741
238	1138	6/19/2020 1:40:01 PM	61.225357	-149.910666	1324.02731
238	1139	6/19/2020 1:41:24 PM	61.227007	-149.910694	1190.98443
238	1141	6/19/2020 1:46:47 PM	61.230544	-149.904103	665.43075
238	1144	6/19/2020 1:48:25 PM	61.232331	-149.902799	494.15204
238	1145	6/19/2020 1:50:56 PM	61.23443	-149.899116	237.16329
238	1148	6/19/2020 1:56:40 PM	61.240126	-149.891958	646.69461
238	1149	6/19/2020 1:58:30 PM	61.239184	-149.891516	551.99936
238	1153	6/19/2020 2:06:43 PM	61.246904	-149.886746	1446.85569

Group ID

238

Created Date

6/19/2020 12:43:31 PM

Last Update

6/19/2020 5:05:41 PM

Species Common Name

Beluga

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	5	0	0	0	0		0	0	

Comments

see above

238	1154	6/19/2020 2:13:09 PM	61.24721	-149.887902	1462.87247
238	1155	6/19/2020 2:21:01 PM	61.246274	-149.888467	1354.62872
238	1156	6/19/2020 2:22:33 PM	61.245316	-149.889019	1244.19263
238	1157	6/19/2020 2:28:29 PM	61.24187	-149.891246	844.10772
238	1158	6/19/2020 2:31:43 PM	61.236914	-149.894661	273.17399
238	1159	6/19/2020 2:37:12 PM	61.232166	-149.900933	420.12213
238	1160	6/19/2020 2:38:43 PM	61.23098	-149.90354	611.22151
238	1161	6/19/2020 2:39:56 PM	61.229645	-149.906072	810.4481
238	1162	6/19/2020 2:41:32 PM	61.228217	-149.907092	959.74155
238	1163	6/19/2020 2:42:32 PM	61.227701	-149.908381	1048.88353
238	1164	6/19/2020 2:45:16 PM	61.226614	-149.908616	1146.58606
238	1165	6/19/2020 2:50:34 PM	61.230719	-149.906931	775.58956
238	1166	6/19/2020 2:55:29 PM	61.234958	-149.900968	340.78
238	1167	6/19/2020 2:58:32 PM	61.236857	-149.897627	309.86168
238	1168	6/19/2020 3:07:08 PM	61.241605	-149.890766	821.55356

Group ID		Created Date		Last Update		Species Common Name					
238		6/19/2020 12:43:31 PM		6/19/2020 5:05:41 PM		Beluga					
Spread		Formation		Combined Group		Pace		Primary Behavior		Secondary Behavior	
1		Linear		False		Moderate		Travelling		Milling	
Beluga Counts		White	Gray	Calf	Neonate	Unknown	Other MM Counts		Other Adult	Other Calf	Total Other
5		0	0	0	0	0	0		0	0	

Comments

see above

238	1169	6/19/2020 3:09:54 PM	61.245703	-149.890157	1272.99702
238	1170	6/19/2020 3:12:23 PM	61.249926	-149.88553	1787.32522
238	1171	6/19/2020 3:13:57 PM	61.252913	-149.884889	2116.73012
238	1172	6/19/2020 3:14:58 PM	61.252885	-149.884826	2114.55219
238	1174	6/19/2020 3:18:45 PM	61.25572	-149.884057	2430.18722
238	1175	6/19/2020 3:20:54 PM	61.259417	-149.883493	2837.44454
238	1176	6/19/2020 3:22:34 PM	61.261994	-149.88289	3124.28956
238	1177	6/19/2020 3:27:51 PM	61.267058	-149.882967	3676.4739

Group ID	Created Date	Last Update	Species Common Name
239	6/19/2020 1:45:30 PM	6/19/2020 5:06:47 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	True	Sedate
			Primary Behavior
			Travelling
			Secondary Behavior
			Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0	0	

Comments

**NEX 1347 F1140-F1143 Single beluga traveling; F1146-F1150 Milling; Solo beluga moving inshore toward the old PCT dock where group 238 is currently ;1406 G238 sighted and is now 6 white, presuming G239 combined with G238, further fixes and notes will be recorded under G238.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
239	1140	6/19/2020 1:45:39 PM	61.251731	-149.889097	1942.71051
239	1142	6/19/2020 1:46:54 PM	61.251286	-149.886967	1915.11803
239	1143	6/19/2020 1:48:00 PM	61.250648	-149.885548	1864.36544
239	1146	6/19/2020 1:52:39 PM	61.249432	-149.885633	1733.04951
239	1147	6/19/2020 1:54:34 PM	61.248509	-149.886749	1618.16453
239	1150	6/19/2020 2:01:07 PM	61.246178	-149.888392	1345.2863
239	1152	6/19/2020 2:04:34 PM	61.247942	-149.885983	1569.0958

Group ID	Created Date	Last Update	Species Common Name
240	6/19/2020 3:16:24 PM	6/19/2020 5:07:12 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Milling	Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

PW: 1516 Fix 1173 Two Harbor Seals seen in close proximity to each other. Both looking and diving. Fix 1179 Seals milling in same location. Last Seen 1707.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
240	1173	6/19/2020 3:17:28 PM	61.219337	-149.993009	5521.04059
240	1179	6/19/2020 4:06:11 PM	61.210749	-149.988835	5683.96557

Group ID	Created Date	Last Update	Species Common Name
241	6/19/2020 3:28:42 PM	6/19/2020 4:10:19 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC: 1528 FIX 1178 one harbr seal spotted near the mouth of ship creek. Last seen 1625

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
241	1178	6/19/2020 3:28:53 PM	61.228741	-149.905013	841.74315

Group ID	Created Date	Last Update	Species Common Name		
243	6/20/2020 7:10:22 AM	6/20/2020 7:27:44 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: 0702 FIX 1181 Harbor Seal seen looking and sinking. LAST SEEN: 0723.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
243	1181	6/20/2020 7:10:45 AM	61.212748	-149.990352	5657.63936

Group ID	Created Date	Last Update	Species Common Name
244	6/20/2020 7:12:07 AM	6/20/2020 3:15:54 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	2	0	0	0		0	0		

Comments

**SC: 0711 FIX 1182 one grey beluga spotted right in front of SC station. 0713 FIX 1183 and FIX 1185 one white and one grey beluga travelling south along shoreline. FIX 1186 -FIX 1187 belugas milling. FIX 1188 whales travelling south along shoreline towards PW. 0730 handed group over to PW. **PW 0734 FIX 1189 Took over from SC. Saw two greys and one white. FIX 1190 Only saw one white on this fix. FIX 1191 and 1193, 1194 Animals coming toward PW. One white and two greys seen these times. 0806 Fix 1195 indicating travel to W. Last time seen: 0806

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
244	1182	6/20/2020 7:12:23 AM	61.225367	-149.908809	1261.29214
244	1183	6/20/2020 7:13:24 AM	61.223775	-149.909014	1412.8659
244	1185	6/20/2020 7:17:02 AM	61.219921	-149.914138	1921.33118
244	1186	6/20/2020 7:20:55 AM	61.219999	-149.914277	1918.1027
244	1187	6/20/2020 7:22:18 AM	61.218777	-149.915633	2071.51293
244	1188	6/20/2020 7:29:17 AM	61.212752	-149.923726	2868.84078
244	1189	6/20/2020 7:34:41 AM	61.210372	-149.925864	3153.48776
244	1190	6/20/2020 7:40:22 AM	61.205463	-149.95592	4594.83511
244	1191	6/20/2020 7:43:59 AM	61.204546	-149.955923	4666.99184
244	1193	6/20/2020 7:47:20 AM	61.203481	-149.961594	4966.08689
244	1194	6/20/2020 7:51:44 AM	61.203802	-149.97429	5453.62945
244	1195	6/20/2020 8:08:05 AM	61.206439	-150.003639	6608.2694

Group ID	Created Date	Last Update	Species Common Name
245	6/20/2020 7:13:51 AM	6/20/2020 8:46:14 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

Sighted at 0710. Fix 1184 taken at 0715. Last seen at 0749

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
245	1184	6/20/2020 7:15:50 AM	61.259495	-149.883322	2847.8524
245	1192	6/20/2020 7:44:15 AM	61.256779	-149.882046	2570.87811

Group ID	Created Date	Last Update	Species Common Name
246	6/20/2020 8:14:22 AM	6/20/2020 9:15:41 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0	0	

Comments

**NEX: Sighted at 0815. Fix 1196-1199 one white beluga (with grey splotches) traveling south. 0827 Fix 1201-1202 changed direction, moving north. LAST SIGHTED 0831 approaching Outbound line.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
246	1196	6/20/2020 8:15:52 AM	61.255419	-149.880881	2443.4675
246	1197	6/20/2020 8:16:49 AM	61.254705	-149.881212	2362.50121
246	1198	6/20/2020 8:17:55 AM	61.252664	-149.881645	2139.96565
246	1199	6/20/2020 8:18:52 AM	61.252475	-149.881803	2117.35916
246	1200	6/20/2020 8:21:26 AM	61.251059	-149.882988	1947.98948
246	1201	6/20/2020 8:27:27 AM	61.253757	-149.881587	2256.10228
246	1202	6/20/2020 8:29:41 AM	61.255837	-149.880821	2488.73926

Group ID	Created Date	Last Update	Species Common Name
247	6/20/2020 9:01:25 AM	6/20/2020 3:17:35 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: FIX 1203-1204 Harbor Seal seen looking and sinking. LAST SEEN: 0908

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
247	1203	6/20/2020 9:01:36 AM	61.21497	-150.001805	6125.54834
247	1204	6/20/2020 9:08:31 AM	61.212434	-150.010424	6657.42232

Group ID	Created Date	Last Update	Species Common Name		
248	6/20/2020 9:09:25 AM	6/20/2020 4:34:25 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC: 0910 fix 1205 first seen looking and then sinking near mouth of ship creek. Last seen 0924.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
248	1205	6/20/2020 9:10:51 AM	61.226385	-149.904586	1041.57025

Group ID	Created Date	Last Update	Species Common Name
249	6/20/2020 9:36:34 AM	6/20/2020 3:23:48 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

NEX: Sighted at 0935. Fix 1206-1212, 5-7 white belugas travelling south. Handed over to PCT 0950. *PCT: 0949 Fix1213 Take over from NEX. 0954 Brett radioed from Small Dock; group is moving quickly past. 0956 Fix1214 trailing beluga, seeing six white now. ***SC: 0959 SC takes over. Fix 1215 fix on trailing beluga. Fix 1216 travelling south past mouth of ship creek. Fix 1217 traveling south past tug dock. Fix 1218-1220 milling. Fix 1221-1229 slowly travelling south. Fix 1231 milling near bootlegger cove. Fix 1236 travelling south, handed off to PW. **PW FIX 1237 One white seen. ***SC: two white beluga heading north from group 249. 1105 Fix 1239 travelling north past tug dock. PCT takes over. ***PCT: 1111 FIX1243 take over from SC; lead beluga. 1116 FIX1245 1246 group of 3-4 traveling north.

1119 FIX1248 group appears to be milling. **NEX: 1127 FIX 1250 take over from PCT; FIX 1251-1260 group slowly traveling north. 1147 FIX 1259 crossed the outbound line LAST SEEN 1153

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
249	1206	6/20/2020 9:37:13 AM	61.259213	-149.879717	2864.96243
249	1207	6/20/2020 9:38:33 AM	61.257269	-149.881394	2632.64009
249	1208	6/20/2020 9:39:39 AM	61.253923	-149.883414	2245.49967
249	1209	6/20/2020 9:41:32 AM	61.252259	-149.884793	2047.7141
249	1210	6/20/2020 9:42:33 AM	61.250586	-149.886711	1842.35316
249	1211	6/20/2020 9:45:12 AM	61.247426	-149.887227	1495.34818
249	1212	6/20/2020 9:47:39 AM	61.243687	-149.888642	1075.4067
249	1213	6/20/2020 9:49:52 AM	61.242361	-149.888517	938.23545
249	1214	6/20/2020 9:58:43 AM	61.231175	-149.900838	491.219
249	1215	6/20/2020 10:01:28 AM	61.228029	-149.905505	919.2649
249	1216	6/20/2020 10:02:56 AM	61.226579	-149.907078	1098.00812
249	1217	6/20/2020 10:05:12 AM	61.224374	-149.90898	1356.40381
249	1218	6/20/2020 10:06:39 AM	61.223236	-149.910942	1520.09171
249	1219	6/20/2020 10:07:52 AM	61.223321	-149.910707	1505.16158

Group ID	Created Date	Last Update	Species Common Name
249	6/20/2020 9:36:34 AM	6/20/2020 3:23:48 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

NEX: Sighted at 0935. Fix 1206-1212, 5-7 white belugas travelling south. Handed over to PCT 0950. *PCT: 0949 Fix1213 Take over from NEX. 0954 Brett radioed from Small Dock; group is moving quickly past. 0956 Fix1214 trailing beluga, seeing six white now. ***SC: 0959 SC takes over. Fix 1215 fix on trailing beluga. Fix 1216 travelling south past mouth of ship creek. Fix 1217 traveling south past tug dock. Fix 1218-1220 milling. Fix 1221-1229 slowly travelling south. Fix 1231 milling near bootlegger cove. Fix 1236 travelling south, handed off to PW. **PW FIX 1237 One white seen. ***SC: two white beluga heading north from group 249. 1105 Fix 1239 travelling north past tug dock. PCT takes over. ***PCT: 1111 FIX1243 take over from SC; lead beluga. 1116 FIX1245 1246 group of 3-4 traveling north.

1119 FIX1248 group appears to be milling. **NEX: 1127 FIX 1250 take over from PCT; FIX 1251-1260 group slowly traveling north. 1147 FIX 1259 crossed the outbound line LAST SEEN 1153

249	1220	6/20/2020 10:09:26 AM	61.222288	-149.912692	1660.12849
249	1221	6/20/2020 10:12:31 AM	61.220467	-149.914478	1880.79125
249	1222	6/20/2020 10:13:42 AM	61.219613	-149.915606	1993.1978
249	1223	6/20/2020 10:15:56 AM	61.217986	-149.918402	2226.90038
249	1224	6/20/2020 10:17:38 AM	61.215165	-149.922942	2622.9934
249	1225	6/20/2020 10:20:28 AM	61.213634	-149.925885	2852.93666
249	1227	6/20/2020 10:22:17 AM	61.210884	-149.930911	3258.33844
249	1229	6/20/2020 10:23:35 AM	61.209504	-149.935724	3536.67538
249	1231	6/20/2020 10:24:56 AM	61.208894	-149.937858	3661.00648
249	1233	6/20/2020 10:30:30 AM	61.206378	-149.946549	4175.39272
249	1234	6/20/2020 10:34:17 AM	61.206064	-149.946695	4206.70056
249	1236	6/20/2020 10:39:58 AM	61.204771	-149.958761	4757.42914
249	1237	6/20/2020 10:45:48 AM	61.206042	-149.967976	5034.27724
249	1239	6/20/2020 11:05:38 AM	61.224017	-149.913885	1549.30472
249	1243	6/20/2020 11:10:48 AM	61.231981	-149.902819	514.77641

Group ID	Created Date	Last Update	Species Common Name
249	6/20/2020 9:36:34 AM	6/20/2020 3:23:48 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

NEX: Sighted at 0935. Fix 1206-1212, 5-7 white belugas travelling south. Handed over to PCT 0950. *PCT: 0949 Fix1213 Take over from NEX. 0954 Brett radioed from Small Dock; group is moving quickly past. 0956 Fix1214 trailing beluga, seeing six white now. ***SC: 0959 SC takes over. Fix 1215 fix on trailing beluga. Fix 1216 travelling south past mouth of ship creek. Fix 1217 traveling south past tug dock. Fix 1218-1220 milling. Fix 1221-1229 slowly travelling south. Fix 1231 milling near bootlegger cove. Fix 1236 travelling south, handed off to PW. **PW FIX 1237 One white seen. ***SC: two white beluga heading north from group 249. 1105 Fix 1239 travelling north past tug dock. PCT takes over. ***PCT: 1111 FIX1243 take over from SC; lead beluga. 1116 FIX1245 1246 group of 3-4 traveling north.

1119 FIX1248 group appears to be milling. **NEX: 1127 FIX 1250 take over from PCT; FIX 1251-1260 group slowly traveling north. 1147 FIX 1259 crossed the outbound line LAST SEEN 1153

249	1245	6/20/2020 11:16:05 AM	61.23446	-149.901188	347.94428
249	1246	6/20/2020 11:17:29 AM	61.23472	-149.899164	241.50489
249	1248	6/20/2020 11:19:28 AM	61.234054	-149.898912	230.59914
249	1250	6/20/2020 11:27:01 AM	61.239861	-149.893703	602.91548
249	1253	6/20/2020 11:33:31 AM	61.24292	-149.890801	963.16702
249	1255	6/20/2020 11:36:52 AM	61.247625	-149.886404	1528.82338
249	1256	6/20/2020 11:39:07 AM	61.2507	-149.885645	1868.5952
249	1257	6/20/2020 11:42:49 AM	61.254378	-149.883178	2297.58972
249	1259	6/20/2020 11:47:23 AM	61.258566	-149.882976	2751.23267
249	1260	6/20/2020 11:52:30 AM	61.268539	-149.877981	3891.09077

Group ID	Created Date	Last Update	Species Common Name
250	6/20/2020 10:23:46 AM	6/20/2020 1:57:42 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: Harbor seal first sighted 1023. Fix ID# 1232 and 1238 look and sink. LAST SEEN 1149

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
250	1232	6/20/2020 10:24:31 AM	61.253476	-149.884767	2178.97839
250	1238	6/20/2020 10:45:52 AM	61.251834	-149.882931	2030.67917

Group ID	Created Date	Last Update	Species Common Name
251	6/20/2020 10:37:01 AM	6/20/2020 3:11:41 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

PW: FIX 1235 Harbor Seal looked and sank. LAST SEEN 10:37.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
251	1235	6/20/2020 10:37:55 AM	61.213041	-149.980639	5177.32158

Group ID	Created Date	Last Update	Species Common Name
252	6/20/2020 11:00:38 AM	6/20/2020 11:55:09 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Echelon	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	5	0	0	0	0		0	0	

Comments

PW: FIX 1240-1242 Five white belugas seen traveling west. FIX 1247 Animals have crossed N to other side of the inlet. FIX1249 Two animals seen. FIX1251 Three animals seen. FIX1252-1154 All five animals seen. Trailing animal exiting in-bound line. LAST SEEN: 1134

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
252	1240	6/20/2020 11:00:52 AM	61.218794	-149.985802	5175.19281
252	1241	6/20/2020 11:07:37 AM	61.218103	-149.995984	5715.03451
252	1242	6/20/2020 11:10:19 AM	61.227606	-150.00351	5869.6913
252	1247	6/20/2020 11:17:20 AM	61.234676	-150.004591	5877.33544
252	1249	6/20/2020 11:26:26 AM	61.2413	-150.016995	6583.9579
252	1251	6/20/2020 11:29:00 AM	61.240509	-150.02379	6935.97924
252	1252	6/20/2020 11:33:21 AM	61.241582	-150.034677	7527.04258
252	1254	6/20/2020 11:34:46 AM	61.241215	-150.037623	7679.65113

Group ID	Created Date	Last Update	Species Common Name
253	6/20/2020 11:12:37 AM	6/20/2020 1:16:18 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Milling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: FIX 1244 and 1258 Harbor Seal seen sinking and looking. Milling. LAST SEEN: 1314

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
253	1244	6/20/2020 11:13:04 AM	61.21852	-150.002766	6046.2927
253	1258	6/20/2020 11:46:33 AM	61.212201	-150.007067	6500.57985

Group ID	Created Date	Last Update	Species Common Name
254	6/20/2020 12:04:14 PM	6/20/2020 1:19:13 PM	Beluga
Spread	Formation	Combined Group	Pace
4	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
4	0	0	0	0	0	0	0	0	

Comments

**NEX: Sighted 1204 FIX 1261-1262 four white belugas traveling south off shore towards Port Mackenzie. Fixes 1263-1266 show animals milling around Pt Mac. Fix 1267 shows animals moving East across arm before moving back to Pt Mac and then travelling north along shoreline. LAST SEEN 1256

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
254	1261	6/20/2020 12:04:41 PM	61.265644	-149.902454	3490.46028
254	1262	6/20/2020 12:07:53 PM	61.264852	-149.910285	3479.08208
254	1263	6/20/2020 12:12:41 PM	61.264	-149.91678	3488.98329
254	1264	6/20/2020 12:23:58 PM	61.269119	-149.913774	3984.66072
254	1265	6/20/2020 12:29:30 PM	61.262837	-149.918744	3405.91145
254	1266	6/20/2020 12:43:09 PM	61.266978	-149.910293	3708.95731
254	1267	6/20/2020 1:17:30 PM	61.261192	-149.896208	2972.06386

Group ID	Created Date	Last Update	Species Common Name
255	6/20/2020 12:56:19 PM	6/20/2020 1:21:53 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

Sighted at 1256 looking then sinking. LAST SEEN 1312

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
255	1268	6/20/2020 12:56:38 PM	61.261349	-149.89043	2997.01569

Group ID	Created Date	Last Update	Species Common Name
256	6/20/2020 1:02:00 PM	6/20/2020 2:02:15 PM	Beluga
Spread	Formation	Combined Group	Pace
6	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

1301 sighting, fix 1269 taken at 1305. Fix 1270 shows animals travelling North. LAST SEEN 1314

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
256	1269	6/20/2020 1:05:45 PM	61.274725	-149.889844	4482.19047
256	1270	6/20/2020 1:13:19 PM	61.283263	-149.889952	5429.35631

Group ID	Created Date	Last Update	Species Common Name
257	6/20/2020 1:30:25 PM	6/20/2020 4:38:06 PM	Beluga
Spread	Formation	Combined Group	Pace
3	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
6	0	0	0	0	0	0	0	0	

Comments

Six white belugas sighted at 1329 travelling south along shoreline towards Port Mac. Fix 1272 and 1274 -1281 show animals moving north slowly and also milling close to shoreline. 1456 Fix 1282-1286 changed behavior to milling. LAST SEEN 1533

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
257	1271	6/20/2020 1:31:18 PM	61.298797	-149.910924	7202.069
257	1272	6/20/2020 1:47:32 PM	61.305401	-149.90951	7923.1369
257	1274	6/20/2020 1:52:58 PM	61.307836	-149.903787	8168.51613
257	1275	6/20/2020 1:54:04 PM	61.314697	-149.906732	8939.61522
257	1276	6/20/2020 2:30:04 PM	61.333269	-149.906069	10996.95945
257	1278	6/20/2020 2:24:21 PM	61.319805	-149.891873	9485.20529
257	1279	6/20/2020 2:34:35 PM	61.340919	-149.890939	11831.89404
257	1280	6/20/2020 2:36:54 PM	61.359978	-149.887528	13953.26656
257	1281	6/20/2020 2:50:14 PM	61.366691	-149.876304	14726.67791
257	1282	6/20/2020 2:57:18 PM	61.352352	-149.884403	13112.12324
257	1283	6/20/2020 3:02:40 PM	61.345604	-149.878443	12381.18288
257	1284	6/20/2020 3:08:29 PM	61.344479	-149.878257	12257.19001
257	1286	6/20/2020 3:19:09 PM	61.346889	-149.873437	12544.95085

Group ID	Created Date	Last Update	Species Common Name		
258	6/20/2020 1:41:23 PM	6/20/2020 1:53:14 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Milling	Feeding Suspected

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC: FIX 1273 one harbor seal spotted near the mouth of ship creek. Feeding behavior suspected. Last seen 1353

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
258	1273	6/20/2020 1:41:58 PM	61.226778	-149.907579	1097.10751

Group ID	Created Date	Last Update	Species Common Name
259	6/20/2020 2:20:45 PM	6/20/2020 4:32:26 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

Sighted at 1420 Fix 1277 LAST SEEN 1420

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
259	1277	6/20/2020 2:20:56 PM	61.253605	-149.88577	2180.54698

Group ID	Created Date	Last Update	Species Common Name
260	6/20/2020 3:15:11 PM	6/20/2020 4:38:38 PM	Harbor Porpoise
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1515 Fix 1285-1287 One harbor porpoise traveling east LAST SEEN 1524

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
260	1285	6/20/2020 3:15:24 PM	61.272987	-149.881084	4342.82735
260	1287	6/20/2020 3:24:25 PM	61.274186	-149.877042	4514.34967

Group ID	Created Date	Last Update	Species Common Name		
261	6/20/2020 3:39:27 PM	6/20/2020 3:50:53 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1538 Fix HS look / sink. Last seen 1550.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
261	1288	6/20/2020 3:41:11 PM	61.21739	-149.994251	5653.36565

Group ID	Created Date	Last Update	Species Common Name
262	6/20/2020 4:58:42 PM	6/20/2020 5:09:03 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Travelling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

PW: HS look and traveling to the west. Second seal joined in looking/sinking. LAST SEEN: 1705

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
262	1289	6/20/2020 4:59:00 PM	61.221208	-149.986244	5113.71486

Group ID	Created Date	Last Update	Species Common Name
264	6/21/2020 7:07:26 AM	6/21/2020 8:40:00 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

PW: 0702 HS Look/Dive. Fix 1300 second HS observed Look/Sink. Last seen 0839

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
264	1292	6/21/2020 7:07:42 AM	61.217967	-149.987307	5282.30184
264	1300	6/21/2020 8:07:19 AM	61.214699	-149.988029	5454.54173

Group ID	Created Date	Last Update	Species Common Name
265	6/21/2020 7:43:08 AM	6/21/2020 8:06:27 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

***NEX: 0741 Fix 1296 seal seen looking and sank, last time seen. **PW Disregard Fix 1298 Wrong group (ATL post-processed: deleted fix 1298)

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
265	1296	6/21/2020 7:44:02 AM	61.254678	-149.882326	2342.15939

Group ID	Created Date	Last Update	Species Common Name
266	6/21/2020 8:06:55 AM	6/21/2020 5:16:32 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
	Primary Behavior	Secondary Behavior	
	Travelling	None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
2	0	0	0	0	0	0	0	0	

Comments

NEX: 0807 Fix 1299-1304 two belugas heading south along opposite shore. 0830 Fix 1305-1309 moved central but still south. 0853 handoff to PCT. **PCT: 0853 PCT takes over from NEX; 0854 F1310-F1311 two whites traveling Southwest within 1000 m of nearshore; 0859 hand off to SC; **SC Takes over sighting. Fix 1312 - 1315 and 1317 show Belugas moving South/SW along the shoreline. Pass off to PW at 0925. **PW: 0925 takes over sighting. FIX 1318 and 1319 beluga continuing to travel S/SW along shoreline. FIX 1321 and 1322 beluga travelling W/NW into middle of inlet. Last seen 0947.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
266	1299	6/21/2020 8:07:05 AM	61.28885	-149.910405	6102.40183
266	1301	6/21/2020 8:11:15 AM	61.278389	-149.908146	4934.61145
266	1302	6/21/2020 8:16:27 AM	61.268927	-149.904401	3865.52016
266	1303	6/21/2020 8:22:46 AM	61.263839	-149.901697	3286.54051
266	1304	6/21/2020 8:28:07 AM	61.260967	-149.902349	2974.31508
266	1305	6/21/2020 8:29:34 AM	61.257791	-149.896689	2595.24423
266	1306	6/21/2020 8:33:55 AM	61.254337	-149.895858	2210.11109
266	1307	6/21/2020 8:35:01 AM	61.253312	-149.895236	2095.5275
266	1308	6/21/2020 8:39:15 AM	61.248767	-149.892134	1596.09711
266	1309	6/21/2020 8:53:23 AM	61.236703	-149.907367	722.84243
266	1310	6/21/2020 8:54:01 AM	61.236	-149.90837	751.82284
266	1311	6/21/2020 8:58:35 AM	61.230702	-149.910201	928.87045
266	1312	6/21/2020 9:01:21 AM	61.227981	-149.910446	1108.34627
266	1313	6/21/2020 9:06:05 AM	61.220541	-149.91363	1848.75213

Group ID	Created Date	Last Update	Species Common Name
266	6/21/2020 8:06:55 AM	6/21/2020 5:16:32 PM	Beluga
Spread	Formation	Combined Group	Pace
2	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
2	0	0	0	0	0	0	0	0	

Comments

NEX: 0807 Fix 1299-1304 two belugas heading south along opposite shore. 0830 Fix 1305-1309 moved central but still south. 0853 handoff to PCT. **PCT: 0853 PCT takes over from NEX; 0854 F1310-F1311 two whites traveling Southwest within 1000 m of nearshore; 0859 hand off to SC; **SC Takes over sighting. Fix 1312 - 1315 and 1317 show Belugas moving South/SW along the shoreline. Pass off to PW at 0925. **PW: 0925 takes over sighting. FIX 1318 and 1319 beluga continuing to travel S/SW along shoreline. FIX 1321 and 1322 beluga travelling W/NW into middle of inlet. Last seen 0947.

266	1314	6/21/2020 9:12:55 AM	61.21418	-149.924488	2760.11862
266	1315	6/21/2020 9:19:42 AM	61.209424	-149.950996	4100.29433
266	1317	6/21/2020 9:23:49 AM	61.207084	-149.941716	3947.44932
266	1318	6/21/2020 9:29:30 AM	61.205543	-149.948523	4314.96568
266	1319	6/21/2020 9:31:53 AM	61.203768	-149.959278	4855.06049
266	1321	6/21/2020 9:36:48 AM	61.204417	-149.974176	5406.37775
266	1322	6/21/2020 9:46:34 AM	61.212956	-149.994155	5832.77752

Group ID	Created Date	Last Update	Species Common Name
267	6/21/2020 9:21:47 AM	6/21/2020 9:47:37 AM	Harbor Porpoise
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Milling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**PW: initial sighting 0922. FIX 1316 porpoise milling. Last seen 0947

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
267	1316	6/21/2020 9:23:05 AM	61.202842	-149.974285	5520.72907
267	1320	6/21/2020 9:34:28 AM	61.202281	-149.979544	5778.96149

Group ID	Created Date	Last Update	Species Common Name		
268	6/21/2020 9:49:12 AM	6/21/2020 11:16:49 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**PW 0949 initial sighting. FIX 1323 harbor seal looking and sinking. Last seen 1116

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
268	1323	6/21/2020 9:49:45 AM	61.215056	-150.000202	6041.99126

Group ID	Created Date	Last Update	Species Common Name
269	6/21/2020 4:47:22 PM	6/21/2020 5:23:17 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
	Primary Behavior	Secondary Behavior	
	Looking	Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX: 1648 Fix 1324 harbor seal Last seen 1723.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
269	1324	6/21/2020 4:48:22 PM	61.260141	-149.903264	2890.79148

Group ID	Created Date	Last Update	Species Common Name
270	6/21/2020 5:12:08 PM	6/21/2020 5:19:14 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1712 Fix 1325; HS Look/Sink. Last time seen 1719

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
270	1325	6/21/2020 5:12:18 PM	61.214185	-149.98917	5533.50809

2020 POA PCT Marine Mammal Sightings Overview 06/15/20 - 06/21/20



0123 km

61 | N

61 North Environmental

Map Imagery Source:
Google Earth, 2020



2020 POA PCT Non-Beluga Sightings 06/15/20 - 06/21/20 Figure 1

- ▲ PSO Station
- Marine Mammal Groups**
- Group 189 Harbor Seal
 - Group 190 Harbor Seal
 - Group 191 Harbor Seal
 - Group 193 Harbor Seal
 - Group 194 Harbor Seal
 - Group 195 Harbor Seal
 - Group 196 Harbor Seal
 - Group 197 Harbor Seal
 - Group 198 Harbor Seal
 - Group 199 Harbor Seal
 - Group 200 Harbor Seal
 - Group 205 Steller Sea Lion
 - Group 206 Harbor Seal
 - Group 207 Harbor Seal
 - Group 209 Harbor Seal
 - Group 210 Harbor Seal
 - Group 212 Harbor Seal
 - Group 213 Harbor Seal
 - Group 215 Harbor Seal
 - Group 218 Harbor Seal
 - Group 221 Harbor Seal
 - Group 222 Harbor Seal
 - Group 223 Harbor Seal
 - Group 224 Harbor Seal
 - Group 226 Harbor Seal
 - Group 228 Harbor Seal
 - Group 229 Pinniped Unid
 - Group 231 Harbor Seal
 - Group 234 Harbor Seal
 - Group 237 Harbor Seal
 - Group 240 Harbor Seal
 - Group 241 Harbor Seal
 - Group 243 Harbor Seal
 - Group 245 Harbor Seal
 - Group 247 Harbor Seal
 - Group 248 Harbor Seal
 - Group 250 Harbor Seal
 - Group 251 Harbor Seal
 - Group 253 Harbor Seal
 - Group 255 Harbor Seal
 - Group 258 Harbor Seal
 - Group 259 Harbor Seal
 - Group 260 Harbor Porpoise
 - Group 261 Harbor Seal
 - Group 262 Harbor Seal
 - Group 264 Harbor Seal
 - Group 265 Harbor Seal
 - Group 267 Harbor Porpoise
 - Group 268 Harbor Seal
 - Group 269 Harbor Seal
 - Group 270 Harbor Seal

0 0.75 1.5 km

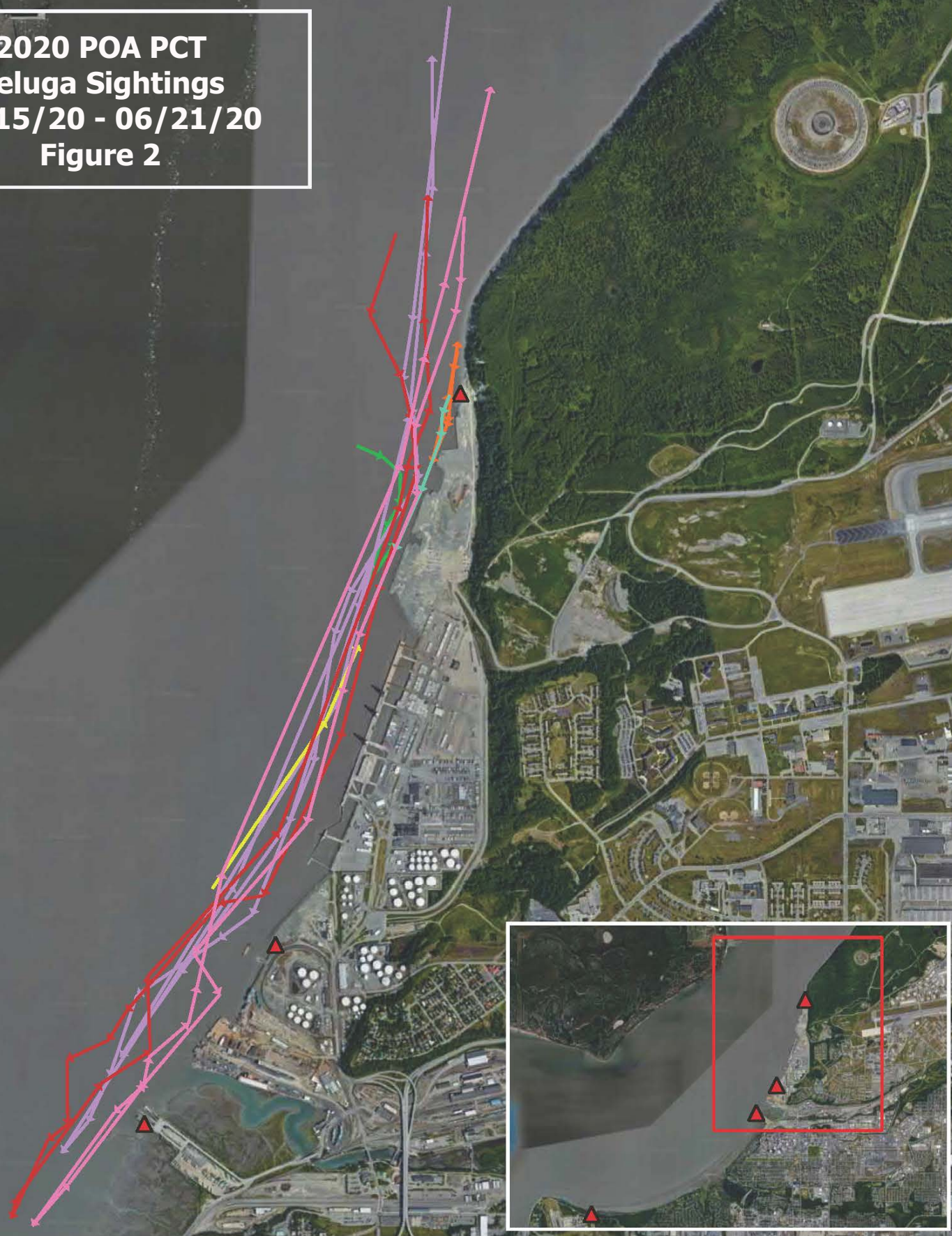
61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



**2020 POA PCT
Beluga Sightings
06/15/20 - 06/21/20
Figure 2**



▲ PSO Station
Beluga Track Lines

- Group 220
- Group 230
- Group 233
- Group 235
- Group 238
- Group 239
- Group 246




0 0.5 1 km

A horizontal scale bar with markings for 0, 0.5, and 1 km.


61°N
61 North Environmental


Map Imagery Source:
Google Earth, 2020


2020 POA PCT
Beluga Sightings
06/15/20 - 06/21/20
Figure 3

 PSO Station

Beluga Track Lines

 Group 214

 Group 244

 Group 249




61°N
61 North Environmental




Map Imagery Source:
Google Earth, 2020





2020 POA PCT
Beluga Sightings
06/15/20 - 06/21/20
Figure 4


 PSO Station

Beluga Track Lines

 Group 219

 Group 232

 Group 236

 Group 252




61 | N
61 North Environmental




Map Imagery Source:
Google Earth, 2020





2020 POA PCT
Beluga Sightings
06/15/20 - 06/21/20
Figure 5

 PSO Station

Beluga Track Lines

 Group 208

 Group 211

 Group 266



61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



Appendix F – Week of 6/22 – 6/28 Sighting Forms and Maps

MM Group Report

Group ID

272

Created Date

6/22/2020 7:17:41 AM

Last Update

6/22/2020 8:33:18 AM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Sedate

Primary Behavior

Milling

Secondary Behavior

Sink

Beluga
Counts

White
0

Gray
0

Calf
0

Neonate
0

Unknown
0

Other MM
Counts

Other Adult
1

Other Calf
0

Total Other

Comments

Fix ID 1329 one harbor seal milling on northern side of mouth of Ship Creek; Last seen 0717

Group ID

272

Fix ID

1329

Fix Time

6/22/2020 7:17:53 AM

MM Latitude

61.228078

MM Longitude

-149.905107

Distance To PCT

901.72727

Group ID	Created Date	Last Update	Species Common Name
273	6/22/2020 8:33:33 AM	6/22/2020 8:35:57 AM	Pinniped Unid.
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC: FIX 1333 an unidentified pinniped/mammal popped up right infront of PW. Last seen 0832

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
273	1333	6/22/2020 8:33:55 AM	61.201234	-149.995702	6545.22683

Group ID	Created Date	Last Update	Species Common Name
274	6/22/2020 8:40:03 AM	6/22/2020 10:24:07 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
3	0	0	0	0	0	0	0	0	

Comments

NEX: 0840 3 white belugas spotted by Cairn Point traveling south. Fix1335-1338,Fix 1340-1341 belugas traveling south.**PCT: 0912 PCT takes over fixes from NEX; 0911 F1342-F1345 3 white traveling Southwest along nearshore; 0917 radioed SC to take over; ****SC Took over from PCT at 0918. Fixes 1346 - 1350 show whales traveling South, SW along the shoreline. Passed off to PW at 0944. **PW: 0944 SC radioed us to take over. 0946 Fix 1351-1352 milling. Fix 1353-1359 Travel. 1003, 1008 Seeing all 3. Last seen 1012. ***NEX: 1015 Fix 1360 Whales appear closer to the shore than this fix indicates, last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
274	1334	6/22/2020 8:40:14 AM	61.256453	-149.880801	2554.47505
274	1335	6/22/2020 8:41:10 AM	61.255377	-149.880994	2437.19857
274	1336	6/22/2020 8:43:43 AM	61.252916	-149.881591	2167.39004
274	1337	6/22/2020 8:45:39 AM	61.252259	-149.882528	2082.26011
274	1338	6/22/2020 8:51:12 AM	61.24955	-149.8845	1763.38943
274	1340	6/22/2020 8:56:55 AM	61.247651	-149.888256	1505.9674
274	1341	6/22/2020 9:02:50 AM	61.243312	-149.888796	1033.19822
274	1342	6/22/2020 9:11:52 AM	61.233683	-149.896455	127.93953
274	1343	6/22/2020 9:15:10 AM	61.232267	-149.901098	420.58875
274	1344	6/22/2020 9:16:00 AM	61.231289	-149.902535	547.91749
274	1345	6/22/2020 9:16:48 AM	61.230172	-149.903569	672.66866
274	1346	6/22/2020 9:25:27 AM	61.22439	-149.91146	1433.98278
274	1347	6/22/2020 9:27:28 AM	61.221444	-149.915001	1808.76687
274	1348	6/22/2020 9:29:47 AM	61.219406	-149.917854	2081.5492

Group ID	Created Date	Last Update	Species Common Name
274	6/22/2020 8:40:03 AM	6/22/2020 10:24:07 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	3	0	0	0	0		0	0	

Comments

NEX: 0840 3 white belugas spotted by Cairn Point traveling south. Fix1335-1338,Fix 1340-1341 belugas traveling south.**PCT: 0912 PCT takes over fixes from NEX; 0911 F1342-F1345 3 white traveling Southwest along nearshore; 0917 radioed SC to take over; ****SC Took over from PCT at 0918. Fixes 1346 - 1350 show whales traveling South, SW along the shoreline. Passed off to PW at 0944. **PW: 0944 SC radioed us to take over. 0946 Fix 1351-1352 milling. Fix 1353-1359 Travel. 1003, 1008 Seeing all 3. Last seen 1012. ***NEX: 1015 Fix 1360 Whales appear closer to the shore than this fix indicates, last time seen.

(Note: fix 1360 was left in database but removed from figure as it was not consistent with the direction of travel of group as indicated by final comment.)

274	1349	6/22/2020 9:39:06 AM	61.213491	-149.926235	2876.78522
274	1350	6/22/2020 9:43:30 AM	61.20692	-149.953878	4403.54383
274	1351	6/22/2020 9:47:14 AM	61.20542	-149.953556	4508.95177
274	1352	6/22/2020 9:49:39 AM	61.204429	-149.95643	4695.30792
274	1353	6/22/2020 9:56:46 AM	61.202053	-149.968471	5343.20054
274	1354	6/22/2020 9:59:34 AM	61.201496	-149.974671	5632.82924
274	1355	6/22/2020 10:03:12 AM	61.201147	-149.982798	5993.7696
274	1356	6/22/2020 10:05:21 AM	61.201084	-149.989018	6263.04394
274	1357	6/22/2020 10:07:20 AM	61.200991	-149.993217	6451.41866
274	1358	6/22/2020 10:08:29 AM	61.200804	-149.995003	6541.60456
274	1359	6/22/2020 10:11:50 AM	61.204771	-150.00119	6584.00625
274	1360	6/22/2020 10:15:33 AM	61.215047	-149.983082	5197.2015

MM Group Report

Group ID

277

Created Date

6/23/2020 8:08:13 AM

Last Update

6/23/2020 8:13:55 AM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Milling

Secondary Behavior

Diving

Beluga
Counts

White
0

Gray
0

Calf
0

Neonate
0

Unknown
0

Other MM
Counts

Other Adult
1

Other Calf
0

Total Other

Comments

PW: 0805 HS Look/dive. Fix 1367 Milling. Last seen 0813

Group ID

Fix ID

Fix Time

MM Latitude

MM Longitude

Distance To PCT

277

1367

6/23/2020 8:08:56 AM

61.213465

-149.990675

5639.80563

Group ID	Created Date	Last Update	Species Common Name
278	6/23/2020 8:51:10 AM	6/23/2020 9:18:26 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Feeding Observed	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC 0850 Fix 1369 Seal observed with salmon in mouth, feeding. Last seen at 0852.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
278	1369	6/23/2020 8:51:22 AM	61.226641	-149.909967	1192.62336

Group ID	Created Date	Last Update	Species Common Name
279	6/23/2020 10:32:14 AM	6/23/2020 11:48:17 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1031 HS Looking/Diving. Milling in the tidal current; Fix 1370. Last seen 1117.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
279	1370	6/23/2020 10:37:36 AM	61.214576	-149.995177	5811.78729

Group ID	Created Date	Last Update	Species Common Name
280	6/23/2020 10:46:32 AM	6/23/2020 11:39:09 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1046 FIX1371 HS looking, surface active, saw splashing and flipper then dove. 1121 Fix 1372 HS at surface. Fix 1373 looking, right next to NEX. 1136 Last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
280	1371	6/23/2020 10:46:52 AM	61.260966	-149.880416	3042.91185
280	1372	6/23/2020 11:28:24 AM	61.259836	-149.881639	2905.14891
280	1373	6/23/2020 11:36:22 AM	61.253698	-149.881555	2250.40367

Group ID	Created Date	Last Update	Species Common Name
281	6/23/2020 2:15:59 PM	6/23/2020 2:44:14 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: 1413 HS surfaced and dove. Fix 1374. Last seen 1444

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
281	1374	6/23/2020 2:16:06 PM	61.213861	-150.022425	7206.22434

Group ID	Created Date	Last Update	Species Common Name		
282	6/23/2020 2:46:37 PM	6/23/2020 3:47:07 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**SC 1446 Fix 1375 Seal observed looking and sinking. Last seen at 1546.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
282	1375	6/23/2020 2:46:52 PM	61.227412	-149.90816	1064.05889

Group ID	Created Date	Last Update	Species Common Name
283	6/23/2020 4:49:26 PM	6/23/2020 5:01:23 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***NEX: 1648 Fix 1376 HS looked and sank, very brief sighting, last time seen.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
283	1376	6/23/2020 4:49:35 PM	61.25294	-149.884785	2121.01712

Group ID	Created Date	Last Update	Species Common Name
285	6/24/2020 7:42:10 AM	6/24/2020 5:58:30 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

** SC FIX 1382 Harbor seal seen looking and sinking. FIX 1383 BAD FIX. FIX 1384 Two animals seen in scope: one seal and one Stellar Sea Lion. This fix is the last sighting of the seal and first sighting of the Stellar Sea Lion. Stellar Sea Lion sighting is recorded in Group 286. HARBOR SEAL LAST SEEN 0752.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
285	1382	6/24/2020 7:43:08 AM	61.229331	-149.915356	1243.68061
285	1384	6/24/2020 7:51:52 AM	61.230691	-149.909471	894.73223

Group ID	Created Date	Last Update	Species Common Name		
286	6/24/2020 8:06:24 AM	6/24/2020 5:59:23 PM	Steller Sea Lion		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Feeding Observed

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

SC SPECIAL NOTE: The first fix on this sea lion was recorded on previous mm group ID (G285 FIX1384). G285 FIX 1384 first sighting of the Stellar Sea Lion was at 0752, with a fish in mouth. Fix 1385 Sea Lion seen in front of station looking. Last time seen: 0807 *PCT: 0813 Fix 1386-1387 SSL moves north along shore and around barge. ***NEX: 0841 Fix 1388-1389 moving north. Fix 1393 and Fix 1397 stellar traveled past the outbound line. Last time seen 0916.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
286	1385	6/24/2020 8:06:50 AM	61.225474	-149.907901	1223.09288
286	1386	6/24/2020 8:13:18 AM	61.23237	-149.896999	262.81952
286	1387	6/24/2020 8:14:19 AM	61.233479	-149.896295	138.6543
286	1388	6/24/2020 8:41:43 AM	61.248308	-149.885829	1610.38329
286	1389	6/24/2020 8:45:17 AM	61.250684	-149.884428	1884.76112
286	1393	6/24/2020 9:06:50 AM	61.263353	-149.878758	3321.94789
286	1397	6/24/2020 9:15:49 AM	61.265571	-149.878115	3569.10874

Group ID	Created Date	Last Update	Species Common Name
287	6/24/2020 8:58:21 AM	6/24/2020 11:07:11 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
4	0	0	0	0	0	0	0	0	

Comments

PW Fix ID 1390-1396 Two white belugas sufaced to the right of PW immediately off shore- traveling northeast along shore; updated to 4 white belugas traveling in same fashion; EDIT: Fixes 1394 and 1395 are accidental ghost fixes; Last time seen: 0914SC 0914 Fix 1398 2 beluga spotted. Fix 1402-1403 4 White milling. Fix 1406-1413 4 White traveling to the mouth of Ship Creek. Fixes 1414 and 1416 whales traveling past Ship Creek. Last seen 0958. ***PCT 1001-1003 FIX 1418, 1419 - belugas milling, fix on lead whale; 1004 FIX 1420 belugas milling, heading southwest, fix on trailing beluga. ** SC 1007 Fix 1421-1433 All 4 beluga traveling slowly toward South/Southwest. Fixes on trailing beluga. Last Seen 1037. Hand off to PW at 1049. ***PW 1049 took over from SC F1435-1436; Travelling. Only 2 belugas accounted for with these two fixes. Last seen 1055.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
287	1390	6/24/2020 8:59:17 AM	61.203915	-149.984049	5863.15363
287	1391	6/24/2020 9:03:01 AM	61.208433	-149.9706	4985.59444
287	1392	6/24/2020 9:05:47 AM	61.20982	-149.96496	4650.61461
287	1396	6/24/2020 9:14:14 AM	61.21449	-149.943237	3415.85064
287	1398	6/24/2020 9:18:05 AM	61.217734	-149.922523	2381.24007
287	1402	6/24/2020 9:41:48 AM	61.220508	-149.91353	1848.89853
287	1403	6/24/2020 9:42:59 AM	61.222634	-149.911618	1595.66937
287	1406	6/24/2020 9:45:16 AM	61.223899	-149.908596	1389.20723
287	1407	6/24/2020 9:46:55 AM	61.224702	-149.906933	1266.50484
287	1408	6/24/2020 9:48:28 AM	61.225939	-149.906691	1143.74949
287	1409	6/24/2020 9:49:04 AM	61.22629	-149.905685	1081.49818
287	1410	6/24/2020 9:50:35 AM	61.226935	-149.904028	973.78392
287	1411	6/24/2020 9:52:17 AM	61.227404	-149.904243	935.67611
287	1412	6/24/2020 9:52:46 AM	61.228092	-149.903397	846.93227

Group ID	Created Date	Last Update	Species Common Name
287	6/24/2020 8:58:21 AM	6/24/2020 11:07:11 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
4	0	0	0	0	0	0	0	0	

Comments

PW Fix ID 1390-1396 Two white belugas sufaced to the right of PW immediately off shore- traveling northeast along shore; updated to 4 white belugas traveling in same fashion; EDIT: Fixes 1394 and 1395 are accidental ghost fixes; Last time seen: 0914SC 0914 Fix 1398 2 beluga spotted. Fix 1402-1403 4 White milling. Fix 1406-1413 4 White traveling to the mouth of Ship Creek. Fixes 1414 and 1416 whales traveling past Ship Creek. Last seen 0958. ***PCT 1001-1003 FIX 1418, 1419 - belugas milling, fix on lead whale; 1004 FIX 1420 belugas milling, heading southwest, fix on trailing beluga. ** SC 1007 Fix 1421-1433 All 4 beluga traveling slowly toward South/Southwest. Fixes on trailing beluga. Last Seen 1037. Hand off to PW at 1049. ***PW 1049 took over from SC F1435-1436; Travelling. Only 2 belugas accounted for with these two fixes. Last seen 1055.

287	1414	6/24/2020 9:54:11 AM	61.229106	-149.902078	714.03756
287	1416	6/24/2020 9:57:46 AM	61.230692	-149.898541	466.38047
287	1418	6/24/2020 9:58:27 AM	61.231197	-149.898196	407.97813
287	1419	6/24/2020 10:01:33 AM	61.231996	-149.898605	344.57228
287	1420	6/24/2020 10:03:27 AM	61.229689	-149.901846	653.72865
287	1421	6/24/2020 10:07:51 AM	61.227584	-149.903795	905.87709
287	1422	6/24/2020 10:08:27 AM	61.226392	-149.905067	1054.22427
287	1424	6/24/2020 10:12:06 AM	61.226047	-149.907393	1155.52097
287	1425	6/24/2020 10:12:35 AM	61.224324	-149.908076	1334.42944
287	1426	6/24/2020 10:13:41 AM	61.223525	-149.909522	1450.96497
287	1427	6/24/2020 10:18:57 AM	61.221252	-149.911976	1734.44432
287	1428	6/24/2020 10:21:52 AM	61.218829	-149.91583	2072.38773
287	1429	6/24/2020 10:24:48 AM	61.2189	-149.91609	2073.42868
287	1430	6/24/2020 10:26:22 AM	61.219389	-149.917545	2073.27602
287	1431	6/24/2020 10:30:21 AM	61.216583	-149.92102	2434.96549

Group ID	Created Date	Last Update	Species Common Name
287	6/24/2020 8:58:21 AM	6/24/2020 11:07:11 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	4	0	0	0	0		0	0	

Comments

PW Fix ID 1390-1396 Two white belugas sufaced to the right of PW immediately off shore- traveling northeast along shore; updated to 4 white belugas traveling in same fashion; EDIT: Fixes 1394 and 1395 are accidental ghost fixes; Last time seen: 0914SC 0914 Fix 1398 2 beluga spotted. Fix 1402-1403 4 White milling. Fix 1406-1413 4 White traveling to the mouth of Ship Creek. Fixes 1414 and 1416 whales traveling past Ship Creek. Last seen 0958. ***PCT 1001-1003 FIX 1418, 1419 - belugas milling, fix on lead whale; 1004 FIX 1420 belugas milling, heading southwest, fix on trailing beluga. ** SC 1007 Fix 1421-1433 All 4 beluga traveling slowly toward South/Southwest. Fixes on trailing beluga. Last Seen 1037. Hand off to PW at 1049. ***PW 1049 took over from SC F1435-1436; Travelling. Only 2 belugas accounted for with these two fixes. Last seen 1055.

287	1432	6/24/2020 10:33:10 AM	61.21698	-149.921612	2417.84588
287	1433	6/24/2020 10:37:15 AM	61.212785	-149.932235	3135.93788
287	1435	6/24/2020 10:50:36 AM	61.201587	-149.976228	5689.87574
287	1436	6/24/2020 10:53:43 AM	61.201132	-149.986523	6152.76211

Group ID	Created Date	Last Update	Species Common Name
288	6/24/2020 9:25:21 AM	6/24/2020 10:01:33 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Looking	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 0925 Habor seal spotted. 0929 Fix 1400 Harbor seal spotted inside outbound line. 0933 Fix 1401 and Fix 1404-1417 Harbor seal moving south. Last seen 0958.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
288	1400	6/24/2020 9:29:54 AM	61.25673	-149.881357	2575.56595
288	1401	6/24/2020 9:33:31 AM	61.25329	-149.882839	2186.52257
288	1404	6/24/2020 9:44:15 AM	61.249061	-149.886684	1678.3169
288	1413	6/24/2020 9:52:44 AM	61.245848	-149.886892	1332.6565
288	1417	6/24/2020 9:58:19 AM	61.236498	-149.895416	230.3221

Group ID	Created Date	Last Update	Species Common Name
289	6/24/2020 9:54:16 AM	6/24/2020 11:54:31 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Looking		Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW: 0953 Fix ID 1415 Harbor Seal looking and sinking. Fix 1434 same behavior. Last seen 1047.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
289	1415	6/24/2020 9:55:14 AM	61.211255	-149.998275	6111.93719
289	1434	6/24/2020 10:47:34 AM	61.21235	-149.996099	5955.30191

Group ID

290

Created Date

6/24/2020 11:11:28 AM

Last Update

6/24/2020 4:23:44 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Sedate

Primary Behavior

Looking

Secondary Behavior

Sink

**Beluga
Counts****White**

0

Gray

0

Calf

0

Neonate

0

Unknown

0

**Other MM
Counts****Other Adult**

1

Other Calf

0

Total Other**Comments**

SC Fix 1437 Harbor seal spotted looking and sinking. Last seen 1251

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

290

1437

6/24/2020 11:15:48 AM

61.226642

-149.903341

984.04931

Group ID	Created Date	Last Update	Species Common Name
291	6/24/2020 12:43:33 PM	6/24/2020 12:50:49 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Other	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: Fix ID 1438 Harbor seal floating with current then dove. LAST SEEN 1249

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
291	1438	6/24/2020 12:43:56 PM	61.209086	-150.000257	6312.29893

Group ID	Created Date	Last Update	Species Common Name		
292	6/24/2020 1:37:15 PM	6/24/2020 4:18:31 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Travelling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

*** SC Fix 1439 One harbor seal traveling along shoreline toward SC from Bootleggers-Cove-area and sinking. Last seen 1337

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
292	1439	6/24/2020 1:38:02 PM	61.224027	-149.909282	1397.38385

Group ID	Created Date	Last Update	Species Common Name
293	6/24/2020 4:31:51 PM	6/24/2020 5:55:39 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

** SC 1631 Fix 1440-1443 Harbor Seal sinking and looking. Last Seen 1755

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
293	1440	6/24/2020 4:32:02 PM	61.227782	-149.907258	1001.16345
293	1441	6/24/2020 4:37:48 PM	61.227161	-149.907647	1066.7066
293	1442	6/24/2020 4:47:55 PM	61.226859	-149.906995	1070.63313
293	1443	6/24/2020 5:06:56 PM	61.230263	-149.903757	672.76765

Group ID	Created Date	Last Update	Species Common Name
295	6/25/2020 7:32:28 AM	6/25/2020 9:11:57 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW F1447 0731 Harbor Seal observed looking and diving. Last seen at 0911

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
295	1447	6/25/2020 7:32:46 AM	61.211895	-149.988743	5621.59145

Group ID	Created Date	Last Update	Species Common Name
296	6/25/2020 7:50:40 AM	6/25/2020 3:35:42 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**SC 0750 Fix 1448 Seal first spotted at mouth of Ship Creek; Fix 1449 Seal moving further into Ship Creek; Fix 1450 Seal traveling north; Last Time Seen 0803

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
296	1448	6/25/2020 7:50:49 AM	61.226978	-149.903842	964.59612
296	1449	6/25/2020 7:52:20 AM	61.22695	-149.903318	953.39007
296	1450	6/25/2020 8:01:37 AM	61.228977	-149.904807	814.77533

Group ID	Created Date	Last Update	Species Common Name		
297	6/25/2020 8:22:03 AM	6/25/2020 9:55:05 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX 0822 FIX1453 spotted looking and sinking. 0825 FIX1454 spotted traveling north with the current, past outbound line; last seen 0825.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
297	1453	6/25/2020 8:22:22 AM	61.25399	-149.884926	2232.42019
297	1454	6/25/2020 8:25:49 AM	61.25746	-149.881016	2658.56318

Group ID

298

Created Date

6/25/2020 10:54:41 AM

Last Update

6/25/2020 12:31:45 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Looking

Secondary Behavior

Sink

**Beluga
Counts****White**
0**Gray**
0**Calf**
0**Neonate**
0**Unknown**
0**Other MM
Counts****Other Adult**
1**Other Calf**
0**Total Other**
Comments

**NEX 1055 FIX1455 quick look and then sunk out of sight. Last seen 1055.

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

298

1455

6/25/2020 10:55:25 AM

61.256264

-149.888356

2446.81788

Group ID	Created Date	Last Update	Species Common Name		
299	6/25/2020 11:53:50 AM	6/25/2020 12:16:41 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Other

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***NEX 1154 FIX1456 spotted near Caryn Point looking and floating with the current. Last seen 1154.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
299	1456	6/25/2020 11:55:32 AM	61.256471	-149.880413	2562.48563

Group ID	Created Date	Last Update	Species Common Name
300	6/25/2020 1:18:09 PM	6/25/2020 1:46:46 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

** SC F1459 Harbor seal looking and sinking. F1460 Seal moved with out flow of river to front of station; F1461 Seal moved back to mouth of Ship Creek; Last seen: 1342

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
300	1459	6/25/2020 1:19:03 PM	61.226986	-149.904186	973.31081
300	1460	6/25/2020 1:25:20 PM	61.225599	-149.908387	1227.13101
300	1461	6/25/2020 1:41:03 PM	61.227229	-149.903658	935.58868

Group ID	Created Date	Last Update	Species Common Name
301	6/25/2020 3:34:24 PM	6/25/2020 3:37:46 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
	Primary Behavior	Secondary Behavior	
	Looking	Sink	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW fix 1462 seal spotted looking and sinking. Last seen 1537

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
301	1462	6/25/2020 3:34:40 PM	61.207899	-150.005944	6643.53329

Group ID	Created Date	Last Update	Species Common Name		
302	6/25/2020 4:43:58 PM	6/25/2020 5:13:04 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC 1642 Fix 1463 Seal spotted sinking and looking. Last time seen: 1712.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
302	1463	6/25/2020 4:45:16 PM	61.228824	-149.906073	873.36074

Group ID	Created Date	Last Update	Species Common Name		
304	6/26/2020 8:23:23 AM	6/26/2020 3:06:00 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**PW fix 1469 0822 harbor seal spotted looking and diving. Last seen 1414.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
304	1469	6/26/2020 8:24:27 AM	61.212467	-149.991296	5716.65411

Group ID	Created Date	Last Update	Species Common Name		
305	6/26/2020 9:27:18 AM	6/26/2020 4:02:58 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX: 0927 Fix 1470 one harbor seal. Last seen 1109

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
305	1470	6/26/2020 9:28:27 AM	61.26538	-149.906674	3495.5852

Group ID	Created Date	Last Update	Species Common Name
306	6/26/2020 12:10:35 PM	6/26/2020 6:39:43 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

** SC Fix 1471 First harbor seal looking and sinking; Fix 1473-1474 Seal traveled south toward barge; LAST SEEN: 1649. Fix 1472 Second seal seen in inlet looking and sinking. LAST SEEN: 1526

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
306	1471	6/26/2020 12:11:25 PM	61.226524	-149.902961	986.34882
306	1472	6/26/2020 2:12:48 PM	61.227475	-149.919733	1548.11753
306	1473	6/26/2020 4:08:02 PM	61.221689	-149.916992	1853.76556
306	1474	6/26/2020 4:48:56 PM	61.218468	-149.921803	2293.59657

Group ID	Created Date	Last Update	Species Common Name
307	6/26/2020 5:17:07 PM	6/26/2020 6:39:27 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
3	0	0	0	0	0	0	0	0	

Comments

**PW: 1716 FIX 1475 two beluga were seen near the old dock; FIX 1476 two beluga travelling west closer to the shore; FIX 1477-1479 beluga travelling SW out of the inlet; 1732 three beluga seen surfacing at once; FIX 1480 beluga continuing to travel SW out of the inlet; Our viewing area is obstructed by trees beyond this point; Last seen 1746

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
307	1475	6/26/2020 5:17:35 PM	61.234355	-150.013835	6371.63758
307	1476	6/26/2020 5:20:31 PM	61.237114	-150.013104	6339.14682
307	1477	6/26/2020 5:29:02 PM	61.241314	-150.03274	7420.97205
307	1478	6/26/2020 5:30:17 PM	61.243667	-150.036803	7667.32121
307	1479	6/26/2020 5:31:56 PM	61.243723	-150.037724	7716.94665
307	1480	6/26/2020 5:47:43 PM	61.247334	-150.08198	10115.28208

Group ID	Created Date	Last Update	Species Common Name		
308	6/26/2020 5:52:10 PM	6/26/2020 6:36:51 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***SC 1751 Fix 1481 One harbor seal looking and sinking. Last seen 1836

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
308	1481	6/26/2020 5:52:27 PM	61.226779	-149.907464	1093.16443

Group ID	Created Date	Last Update	Species Common Name
310	6/27/2020 7:18:14 AM	6/27/2020 7:22:08 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***SC 0717 One harbor seal, looking and sinking. Last seen 0720

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
310	1485	6/27/2020 7:18:29 AM	61.227085	-149.908333	1097.20162

Group ID	Created Date	Last Update	Species Common Name
311	6/27/2020 8:00:05 AM	6/27/2020 8:59:16 AM	Beluga
Spread	Formation	Combined Group	Pace
6	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

NEX: 0800 Fix 1487-1489 group of beluga traveling north. Fix 1490-1492 milling. Fix 1493-1497 traveling north. Fix 1500-1504 Passed 7,888 m. zone continuing north. Last seen 0852

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
311	1487	6/27/2020 8:00:34 AM	61.264336	-149.919114	3567.88272
311	1488	6/27/2020 8:02:46 AM	61.265699	-149.915593	3647.23638
311	1489	6/27/2020 8:07:50 AM	61.270756	-149.917212	4209.58259
311	1490	6/27/2020 8:09:17 AM	61.27122	-149.917707	4266.56553
311	1491	6/27/2020 8:11:41 AM	61.271596	-149.916354	4286.48506
311	1493	6/27/2020 8:16:23 AM	61.275696	-149.916166	4724.26311
311	1494	6/27/2020 8:19:50 AM	61.283322	-149.916016	5548.39981
311	1495	6/27/2020 8:23:02 AM	61.289031	-149.914082	6152.35811
311	1496	6/27/2020 8:25:57 AM	61.292604	-149.912705	6532.7992
311	1497	6/27/2020 8:27:33 AM	61.29769	-149.912784	7092.83538
311	1500	6/27/2020 8:38:30 AM	61.308399	-149.907891	8246.82173
311	1501	6/27/2020 8:41:39 AM	61.312772	-149.910661	8744.2601
311	1503	6/27/2020 8:46:44 AM	61.319709	-149.913039	9523.94103
311	1504	6/27/2020 8:49:45 AM	61.325319	-149.912848	10143.22701

Group ID	Created Date	Last Update	Species Common Name		
312	6/27/2020 8:13:08 AM	6/27/2020 12:04:57 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW F1492 0812. Harbor Seal observed travelling and sinking. Last seen at 0823. F1499 0823 Harbor Seal observed looking and sinking. Surfacing synchronous with commencement of bubble curtain vibing. Last seen 1204.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
312	1492	6/27/2020 8:14:26 AM	61.214948	-149.995486	5811.50455
312	1499	6/27/2020 8:34:37 AM	61.212085	-150.019782	7138.78599
312	1512	6/27/2020 9:51:27 AM	61.213662	-149.991404	5666.35637

Group ID	Created Date	Last Update	Species Common Name
313	6/27/2020 8:41:06 AM	6/27/2020 11:42:01 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
2	0	0	0	0	0	0	0	0	

Comments

PW F1502, 1506-1508 0842 2 white belugas first seen heading northeast into arm, approaching inbound line; group crossed inbound line, heading north just off the shore until rounding Point Mack; Handed off to SC at 0910SC 0908 Belugas first seen Fix 1509-1510 Belugas traveling north Last time seen: 0913

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
313	1502	6/27/2020 8:44:54 AM	61.23398	-150.040805	7814.04576
313	1506	6/27/2020 8:58:43 AM	61.241178	-150.022613	6880.94639
313	1507	6/27/2020 9:03:27 AM	61.236898	-149.976896	4404.54422
313	1508	6/27/2020 9:08:25 AM	61.235628	-149.972085	4141.05531
313	1509	6/27/2020 9:10:06 AM	61.237611	-149.959306	3473.30923
313	1510	6/27/2020 9:10:35 AM	61.23759	-149.956938	3347.11809

Group ID	Created Date	Last Update	Species Common Name
314	6/27/2020 9:45:01 AM	6/27/2020 10:48:28 AM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

** SC Fix 1511 Harbor seal look and sink. Last Seen 1048.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
314	1511	6/27/2020 9:45:16 AM	61.22716	-149.903433	936.10399
314	1513	6/27/2020 9:59:17 AM	61.227018	-149.90343	949.72331
314	1514	6/27/2020 10:20:56 AM	61.229426	-149.90221	688.81883

Group ID	Created Date	Last Update	Species Common Name
315	6/27/2020 11:53:41 AM	6/27/2020 12:42:31 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
Primary Behavior		Secondary Behavior	
Travelling		Other	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**PCT: 1151 Fix 1515- 1 HS traveling southeast towards ship creek area; LAST SIGHT 1155. **SC Fix 1517 Took over seal from PCT, look and sink. Last seen 1242

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
315	1515	6/27/2020 11:54:49 AM	61.230415	-149.899796	525.75158
315	1517	6/27/2020 12:12:21 PM	61.226588	-149.905026	1034.60132

Group ID	Created Date	Last Update	Species Common Name
316	6/27/2020 11:56:41 AM	6/27/2020 1:32:55 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Travelling
			Secondary Behavior
			Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	0	0	0	0	0		1	0	

Comments

NEX: Fix 1516 Harbor seal spotted traveling north by port Mac. Last seen 1157.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
316	1516	6/27/2020 11:57:50 AM	61.258936	-149.908288	2815.81208

Group ID	Created Date	Last Update	Species Common Name
317	6/27/2020 2:01:42 PM	6/27/2020 2:35:57 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

NEX: 1402 Fix 1519 Harbor seal spotted looking and sinking. Last seen 1402.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
317	1519	6/27/2020 2:02:24 PM	61.255102	-149.881843	2394.66932

Group ID	Created Date	Last Update	Species Common Name		
318	6/27/2020 2:11:33 PM	6/27/2020 2:16:33 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**PW: Fix ID#1521 Harbor seal surfaced, looked and dove. LAST SEEN 1413

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
318	1521	6/27/2020 2:12:22 PM	61.214143	-149.997719	5955.88336

Group ID	Created Date	Last Update	Species Common Name		
319	6/27/2020 5:41:46 PM	6/27/2020 5:44:21 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***SC Fix 525 One harbor seal, looking and sinking. Last seen 1752

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
319	1525	6/27/2020 5:42:02 PM	61.226943	-149.9071	1066.77566

Group ID	Created Date		Last Update		Species Common Name				
320	6/27/2020 6:02:10 PM		6/27/2020 7:21:34 PM		Beluga				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
1	Linear	False	Moderate	Travelling	Travelling				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
4	0	0	0	0	0	0	0	0	

Comments

PW: 1758 initial sighting 1 white beluga north of cairn point/south of tower radioed PCT pass off to SC 1801**SC: FIX 1526-1527 Two white belugas seen around point. ***NEX : Fix 1528 - Fix 1538 Four white belugas spotted traveling south around Cairn point, past NEX station and headed towards the construction zone.**PCT: 1835 FIX1540 Group 50 m outside Level B zone for 48" imp with bub can; 1836 delay begins; SC takes over fixes; **SC: FIX 1542, 1545, 1547, 1549 4 white belugas seen traveling toward PCT from NEX along shoreline. **PCT: 1843 - delay ends, water work cancelled; 1850 - sighting ends because work day ends.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
320	1526	6/27/2020 6:02:54 PM	61.27919	-149.863342	5245.38526
320	1527	6/27/2020 6:08:47 PM	61.272193	-149.872391	4359.29052
320	1528	6/27/2020 6:11:17 PM	61.267521	-149.877492	3787.33373
320	1529	6/27/2020 6:13:40 PM	61.267769	-149.87809	3806.50159
320	1530	6/27/2020 6:14:59 PM	61.269797	-149.87945	4010.60782
320	1531	6/27/2020 6:17:18 PM	61.269623	-149.880552	3980.085
320	1533	6/27/2020 6:22:47 PM	61.257441	-149.882965	2629.79463
320	1534	6/27/2020 6:24:13 PM	61.254959	-149.88284	2364.62948
320	1535	6/27/2020 6:25:05 PM	61.254102	-149.883835	2258.78569
320	1536	6/27/2020 6:25:53 PM	61.252987	-149.8832	2148.72644
320	1537	6/27/2020 6:28:18 PM	61.251985	-149.883034	2044.95818
320	1538	6/27/2020 6:31:15 PM	61.249132	-149.884634	1717.0157
320	1539	6/27/2020 6:32:12 PM	61.248512	-149.885166	1642.69244
320	1540	6/27/2020 6:35:07 PM	61.242022	-149.888724	899.08376

Group ID	Created Date	Last Update	Species Common Name		
320	6/27/2020 6:02:10 PM	6/27/2020 7:21:34 PM	Beluga		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Travelling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	4	0	0	0	0		0	0	

Comments

PW: 1758 initial sighting 1 white beluga north of cairn point/south of tower radioed PCT pass off to SC 1801**SC: FIX 1526-1527 Two white belugas seen around point. ***NEX : Fix 1528 - Fix 1538 Four white belugas spotted traveling south around Cairn point, past NEX station and headed towards the construction zone.**PCT: 1835 FIX1540 Group 50 m outside Level B zone for 48" imp with bub can; 1836 delay begins; SC takes over fixes; **SC: FIX 1542, 1545, 1547, 1549 4 white belugas seen traveling toward PCT from NEX along shoreline. **PCT: 1843 - delay ends, water work cancelled; 1850 - sighting ends because work day ends.

320	1541	6/27/2020 6:38:24 PM	61.242948	-149.886441	1041.45104
320	1542	6/27/2020 6:39:57 PM	61.241401	-149.888559	838.31819
320	1545	6/27/2020 6:41:36 PM	61.240423	-149.88947	719.25611
320	1547	6/27/2020 6:44:06 PM	61.234895	-149.894747	48.94726
320	1549	6/27/2020 6:50:42 PM	61.235395	-149.894231	107.12069

Group ID	Created Date	Last Update	Species Common Name
321	6/27/2020 6:40:00 PM	6/27/2020 7:20:33 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Travelling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
	4	0	0	0	0		0	0	

Comments

NEX: 1840 Fix 1543 -1548 Four white belugas spotted heading south past our station towards the work zone. **PCT: 1850 - sighting ends because work day ends.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
321	1543	6/27/2020 6:40:16 PM	61.253849	-149.881905	2260.6289
321	1544	6/27/2020 6:41:28 PM	61.252482	-149.882628	2104.17311
321	1546	6/27/2020 6:44:07 PM	61.248775	-149.885045	1672.48549
321	1548	6/27/2020 6:49:32 PM	61.247226	-149.886308	1487.97673

Group ID	Created Date	Last Update	Species Common Name		
323	6/28/2020 7:36:30 AM	6/28/2020 8:39:29 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC: Fix 1553 & 1559 Harbor seal spotted looking and sinking at mouth of ship creek. Last seen 0834.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
323	1553	6/28/2020 8:40:34 AM	61.228381	-149.903984	838.54436
323	1559	6/28/2020 8:38:38 AM	61.228684	-149.903755	804.23737

Group ID	Created Date	Last Update	Species Common Name
324	6/28/2020 8:23:53 AM	6/28/2020 8:56:16 AM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
Primary Behavior		Secondary Behavior	
Travelling		Snorkeling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	1	0	0	0		0	0		

Comments

**NEX F1554-1560. 0822 Solitary Beluga (grey/white variation) observed in front of station. Sedately travelling toward port along seawall. F1561-1563 0846 Observed returning north. Last seen 0855.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
324	1554	6/28/2020 8:24:01 AM	61.255961	-149.8871	2423.79413
324	1555	6/28/2020 8:27:16 AM	61.254147	-149.885802	2238.99374
324	1556	6/28/2020 8:28:36 AM	61.253574	-149.885192	2184.1544
324	1557	6/28/2020 8:29:39 AM	61.252723	-149.884395	2103.03011
324	1558	6/28/2020 8:34:34 AM	61.25087	-149.883669	1916.61702
324	1560	6/28/2020 8:38:24 AM	61.249084	-149.885441	1698.90796
324	1561	6/28/2020 8:47:07 AM	61.250142	-149.884209	1830.76896
324	1562	6/28/2020 8:51:50 AM	61.25023	-149.884343	1837.91438
324	1563	6/28/2020 8:55:20 AM	61.253736	-149.88497	2204.43184

Group ID	Created Date	Last Update	Species Common Name		
325	6/28/2020 10:12:40 AM	6/28/2020 3:29:19 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW: 1013 FIX 1564 looking, sinking, and diving. Last seen 1032.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
325	1564	6/28/2020 10:13:11 AM	61.214646	-149.997036	5900.97285

Group ID	Created Date	Last Update	Species Common Name
326	6/28/2020 12:13:00 PM	6/28/2020 4:18:45 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

***NEX F1565-1566 1212 Harbor Seal observed looking and sinking. Last seen 1219.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
326	1565	6/28/2020 12:13:10 PM	61.255273	-149.882583	2401.92769
326	1566	6/28/2020 12:15:51 PM	61.253925	-149.883801	2240.25377

Group ID	Created Date	Last Update	Species Common Name		
328	6/28/2020 1:36:58 PM	6/28/2020 3:32:31 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Sedate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***PW: 1337, 1449 FIX 1567-1570 - seal looking and sinking, occasional dives, within same general area . Last seen 1529.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
328	1567	6/28/2020 1:37:09 PM	61.230216	-150.000321	5668.96157
328	1570	6/28/2020 2:48:52 PM	61.216417	-149.999242	5941.22067

Group ID	Created Date	Last Update	Species Common Name
330	6/28/2020 1:57:31 PM	6/28/2020 4:18:48 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Sink	Looking

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC--1358 Fix 1568 Harbor seal spotted looking and sinking. Last seen 1613

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
330	1568	6/28/2020 1:58:13 PM	61.22338	-149.909344	1459.34246

Group ID	Created Date	Last Update	Species Common Name
331	6/28/2020 4:00:49 PM	6/28/2020 4:14:19 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

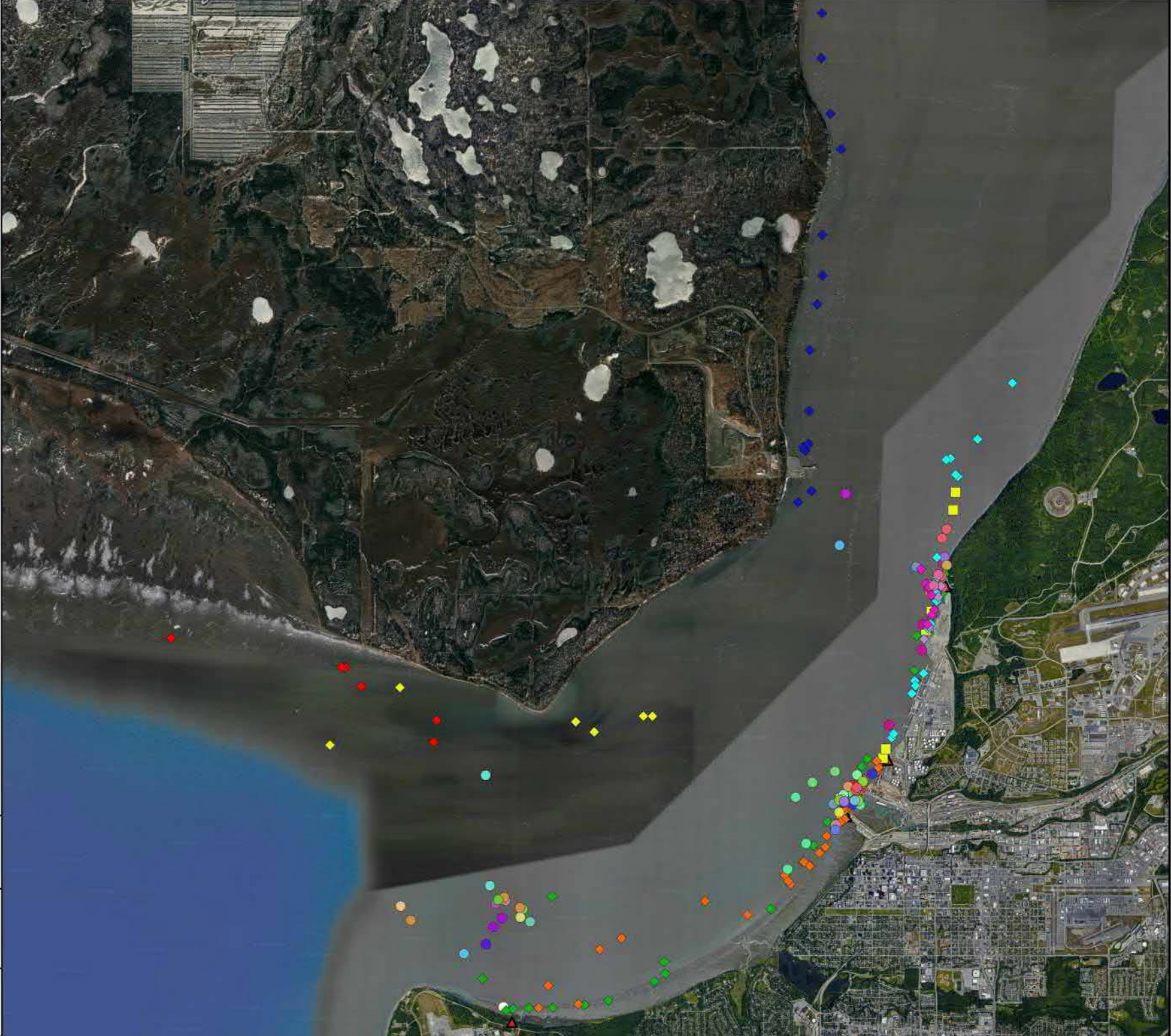
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**SC: Fix ID 1571 Harbor seal looking and sinking. Last seen 1614

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
331	1571	6/28/2020 4:01:11 PM	61.227064	-149.904326	969.8907

2020 POA PCT Marine Mammal Sightings Overview 06/22/20 - 06/28/20



- ▲ PSO Station

Group 272 Harbor Seal

Group 273 Pinniped Unid

Group 274 Beluga

Group 277 Harbor Seal

Group 278 Harbor Seal

Group 279 Harbor Seal

Group 280 Harbor Seal

Group 281 Harbor Seal

Group 282 Harbor Seal

Group 283 Harbor Seal

Group 285 Harbor Seal

Group 286 Steller Sea Lion

Group 287 Beluga

Group 288 Harbor Seal

Group 289 Harbor Seal

Group 290 Harbor Seal

Group 291 Harbor Seal

Group 292 Harbor Seal

Group 293 Harbor Seal

Group 295 Harbor Seal

Group 296 Harbor Seal

Group 297 Harbor Seal

Group 298 Harbor Seal

Group 299 Harbor Seal

Group 300 Harbor Seal

Group 301 Harbor Seal

Group 302 Harbor Seal

Group 304 Harbor Seal

Group 305 Harbor Seal

Group 306 Harbor Seal

Group 307 Beluga

Group 308 Harbor Seal

Group 310 Harbor Seal

Group 311 Beluga

Group 312 Harbor Seal

Group 313 Beluga

Group 314 Harbor Seal

Group 315 Harbor Seal

Group 316 Harbor Seal

Group 317 Harbor Seal

Group 318 Harbor Seal

Group 319 Harbor Seal

Group 320 Beluga

Group 321 Beluga

Group 323 Harbor Seal

Group 324 Beluga

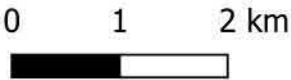
Group 325 Harbor Seal

Group 326 Harbor Seal

Group 328 Harbor Seal

Group 330 Harbor Seal

Group 331 Harbor Seal



61°N
61 North Environmental



Map Imagery Source:
Google Earth, 2020

2020 POA PCT
Non-Beluga Sightings
06/22/20 - 06/28/20
Figure 1

- ▲ PSO Station
- Marine Mammal Groups**
- Group 272 Harbor Seal
 - Group 273 Pinniped Unid
 - Group 277 Harbor Seal
 - Group 278 Harbor Seal
 - Group 279 Harbor Seal
 - Group 280 Harbor Seal
 - Group 281 Harbor Seal
 - Group 282 Harbor Seal
 - Group 283 Harbor Seal
 - Group 285 Harbor Seal
 - Group 286 Steller Sea Lion
 - Group 288 Harbor Seal
 - Group 289 Harbor Seal
 - Group 290 Harbor Seal
 - Group 291 Harbor Seal
 - Group 292 Harbor Seal
 - Group 293 Harbor Seal
 - Group 295 Harbor Seal
 - Group 296 Harbor Seal
 - Group 297 Harbor Seal
 - Group 298 Harbor Seal
 - Group 299 Harbor Seal
 - Group 300 Harbor Seal
 - Group 301 Harbor Seal
 - Group 302 Harbor Seal
 - Group 304 Harbor Seal
 - Group 305 Harbor Seal
 - Group 306 Harbor Seal
 - Group 308 Harbor Seal
 - Group 310 Harbor Seal
 - Group 312 Harbor Seal
 - Group 314 Harbor Seal
 - Group 315 Harbor Seal
 - Group 316 Harbor Seal
 - Group 317 Harbor Seal
 - Group 318 Harbor Seal
 - Group 319 Harbor Seal
 - Group 323 Harbor Seal
 - Group 325 Harbor Seal
 - Group 326 Harbor Seal
 - Group 328 Harbor Seal
 - Group 330 Harbor Seal
 - Group 331 Harbor Seal

0 0.75 1.5 km



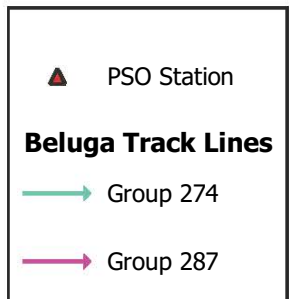
61 | N
 61 North Environmental



Map Imagery Source:
 Google Earth, 2020



2020 POA PCT
Beluga Sightings
06/22/20 - 06/28/20
Figure 2



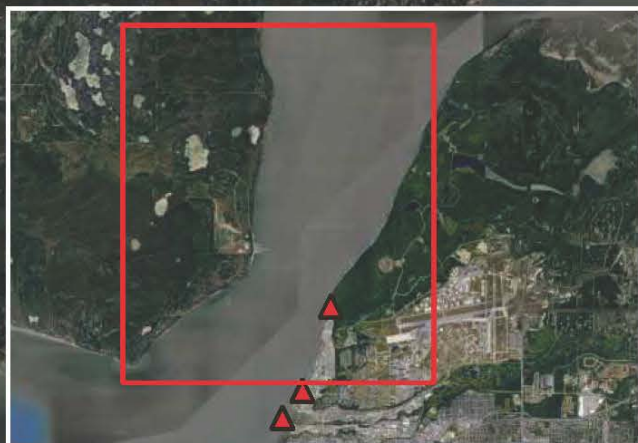
61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



**2020 POA PCT
Beluga Sightings
06/22/20 - 06/28/20
Figure 3**



▲ PSO Station

Beluga Track Lines

→ Group 320

→ Group 311



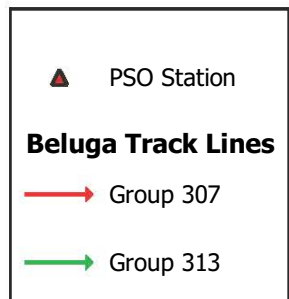
0 0.75 1.5 km



61°N
61 North Environmental

Map Imagery Source:
Google Earth, 2020

**2020 POA PCT
Beluga Sightings
06/22/20 - 06/28/20
Figure 4**



0 0.5 1 km



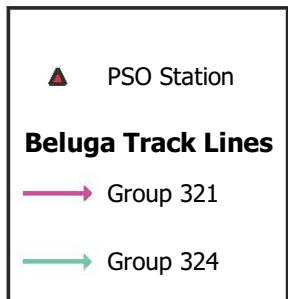
61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



2020 POA PCT
Beluga Sightings
06/22/20 - 06/28/20
Figure 5



0 100 200 m



61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



Appendix G – 6/29 – 6/30 Sighting Forms and Maps

MM Group Report

Group ID

333

Created Date

6/29/2020 7:12:41 AM

Last Update

6/29/2020 4:42:06 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Moderate

Primary Behavior

Travelling

Secondary Behavior

Milling

Beluga
Counts

White
0

Gray
0

Calf
0

Neonate
0

Unknown
0

Other MM
Counts

Other Adult
1

Other Calf
0

Total Other

Comments

**PW: 0713 FIX 1575 looking and diving; last seen 0825.

Group ID

Fix ID

Fix Time

MM Latitude

MM Longitude

Distance To PCT

333

1575

6/29/2020 7:13:06 AM

61.212662

-150.005501

6403.59957

Group ID	Created Date	Last Update	Species Common Name		
334	6/29/2020 8:25:18 AM	6/29/2020 8:32:11 AM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Travelling	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

***SC--Fix 1577 Harbor seal spotted traveling, looking and sinking. Last seen 0829

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
334	1577	6/29/2020 8:25:35 AM	61.221372	-149.91388	1779.91914

Group ID	Created Date	Last Update	Species Common Name
335	6/29/2020 10:20:19 AM	6/29/2020 10:24:13 AM	Pinniped Unid.
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Milling
			Secondary Behavior
			Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

NEX**** Unidentified Pinniped milling on the far shore just South of Port Warnzof. Last seen @ 1024

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
335	1578	6/29/2020 10:22:56 AM	61.263541	-149.922026	3547.07488

Group ID	Created Date	Last Update	Species Common Name
336	6/29/2020 11:41:02 AM	6/29/2020 4:41:47 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0	0	

Comments

**PW: 1141 Fix ID 1579 one white beluga traveling north along beach towards SC; last seen 1141.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
336	1579	6/29/2020 11:41:19 AM	61.202742	-149.970618	5378.11453

Group ID	Created Date	Last Update	Species Common Name
337	6/29/2020 12:35:16 PM	6/29/2020 12:37:46 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX F1580 1233. Harbor Seal looking and diving. Last seen at 1233.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
337	1580	6/29/2020 12:35:26 PM	61.248004	-149.909106	1691.518

Group ID	Created Date	Last Update	Species Common Name
338	6/29/2020 12:40:29 PM	6/29/2020 4:41:31 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Milling
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**PW: 1242 Fix ID 1581 Harbor seal milling and sinking. 1311 Fix ID 1582 looking and sinking. 1345 milling and diving. 1534 Fix 1584 seal sighted again, looking and sinking. Last seen 1545.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
338	1581	6/29/2020 12:42:17 PM	61.223228	-149.942752	2857.71691
338	1582	6/29/2020 1:11:23 PM	61.21397	-149.992452	5703.82021
338	1584	6/29/2020 3:33:49 PM	61.222545	-149.989555	5243.99792

Group ID	Created Date	Last Update	Species Common Name		
339	6/29/2020 2:32:09 PM	6/29/2020 3:26:39 PM	Harbor Seal		
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior
1	Linear	False	Moderate	Looking	Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

**NEX: FIX 1583 harbor seal looking and sinking. Last seen 1526

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
339	1583	6/29/2020 2:32:43 PM	61.267285	-149.898465	3653.59841

Group ID	Created Date	Last Update	Species Common Name
341	6/30/2020 7:03:59 AM	6/30/2020 3:12:55 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	None

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
1	0	0	0	0	0	0	0		

Comments

**NEX: F1586 0700 one white beluga observed SE of Port Mackenzie; Last seen 0700.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
341	1586	6/30/2020 7:07:12 AM	61.266072	-149.913506	3654.4401

Group ID	Created Date		Last Update		Species Common Name				
342	6/30/2020 8:02:53 AM		6/30/2020 5:08:04 PM		Beluga				
Spread	Formation	Combined Group	Pace	Primary Behavior	Secondary Behavior				
1	Linear	False	Moderate	Travelling	Milling				
Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

****NEX:** 0804 Fix 1588-1591, 1594-95, 1597 Four belugas in two sets of two (spaced 200 meters apart) observed crossing outbound line traveling north to south and travelling along seawall into POA proper; F1595 Both sets of two have become one group just south of the corner; A fifth beluga passed NEX at 0820; Other behavior observed included bubbling that coincided with fish jumping out of the water. Feeding suspected; Last seen 0827; ****SC:** 0831 Took over from NEX; Fix 1598 Belugas seen traveling towards PCT dock; Fix 1599-1600 Belugas seen surfacing near construction barge; Last seen 0844.

****PCT:** PCT takes over fixes from SC; 0845 F1601-F1602 5 whites traveling SW along near shore; 0852 PCT radios SC for take over; ****SC:** 0853 Fix 1604 Belugas in mouth of SC; 0904 FIX 1605 4 belugas milling in mouth of Ship Creek, mostly bubbling, occasionally surfacing; 0914 Fix 1606 whales moved out of the mouth, traveling northwest towards PCT; ****PCT:** 0915 take over from SC; F1608-F1610 group travel NE along nearshore; 0919 PCT passes fixes to NEX; ****NEX:** PCT passed off group at 0919; Fix 1611 Headed north towards NEX station; Fix 1612-1616 Moving NW across the arm; Fix 1617-1626 Moving N along far shore; F1627 at 1123 Group is 100m plus beyond 7888M bubble can zone; Last seen 1134.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
342	1588	6/30/2020 8:03:09 AM	61.257393	-149.88265	2628.6835
342	1589	6/30/2020 8:04:04 AM	61.255939	-149.882354	2476.5081
342	1590	6/30/2020 8:07:15 AM	61.253803	-149.882421	2247.55896
342	1591	6/30/2020 8:10:27 AM	61.251985	-149.882774	2049.23301
342	1594	6/30/2020 8:12:02 AM	61.245703	-149.887237	1311.64677
342	1595	6/30/2020 8:16:37 AM	61.24533	-149.887483	1268.16303
342	1597	6/30/2020 8:27:03 AM	61.245228	-149.887328	1259.92936
342	1598	6/30/2020 8:31:54 AM	61.241181	-149.890655	777.70896
342	1599	6/30/2020 8:39:41 AM	61.236338	-149.894283	210.24772
342	1600	6/30/2020 8:43:55 AM	61.235237	-149.895478	96.71474
342	1601	6/30/2020 8:45:35 AM	61.232914	-149.897619	232.43649
342	1602	6/30/2020 8:49:13 AM	61.231114	-149.901797	531.68086
342	1604	6/30/2020 8:53:26 AM	61.22767	-149.906434	981.63415
342	1605	6/30/2020 9:04:11 AM	61.226424	-149.905136	1053.15801

Group ID	Created Date	Last Update	Species Common Name
342	6/30/2020 8:02:53 AM	6/30/2020 5:08:04 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		Milling	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

****NEX:** 0804 Fix 1588-1591, 1594-95, 1597 Four belugas in two sets of two (spaced 200 meters apart) observed crossing outbound line traveling north to south and travelling along seawall into POA proper; F1595 Both sets of two have become one group just south of the corner; A fifth beluga passed NEX at 0820; Other behavior observed included bubbling that coincided with fish jumping out of the water. Feeding suspected; Last seen 0827; ****SC:** 0831 Took over from NEX; Fix 1598 Belugas seen traveling towards PCT dock; Fix 1599-1600 Belugas seen surfacing near construction barge; Last seen 0844.

****PCT:** PCT takes over fixes from SC; 0845 F1601-F1602 5 whites traveling SW along near shore; 0852 PCT radios SC for take over; ****SC:** 0853 Fix 1604 Belugas in mouth of SC; 0904 FIX 1605 4 belugas milling in mouth of Ship Creek, mostly bubbling, occasionally surfacing; 0914 Fix 1606 whales moved out of the mouth, traveling northwest towards PCT; ****PCT:** 0915 take over from SC; F1608-F1610 group travel NE along nearshore; 0919 PCT passes fixes to NEX; ****NEX:** PCT passed off group at 0919; Fix 1611 Headed north towards NEX station; Fix 1612-1616 Moving NW across the arm; Fix 1617-1626 Moving N along far shore; F1627 at 1123 Group is 100m plus beyond 7888M bubble can zone; Last seen 1134.

342	1606	6/30/2020 9:12:59 AM	61.228626	-149.905215	858.47525
342	1608	6/30/2020 9:15:23 AM	61.232311	-149.903756	540.63986
342	1609	6/30/2020 9:16:39 AM	61.234643	-149.900601	317.23767
342	1610	6/30/2020 9:17:14 AM	61.234704	-149.898869	225.63114
342	1611	6/30/2020 9:22:39 AM	61.234111	-149.897603	160.86616
342	1612	6/30/2020 9:34:02 AM	61.244867	-149.893091	1160.02903
342	1613	6/30/2020 9:40:54 AM	61.244953	-149.903462	1257.39392
342	1614	6/30/2020 9:49:03 AM	61.247425	-149.914079	1775.50647
342	1615	6/30/2020 9:55:35 AM	61.2508	-149.921215	2304.48668
342	1616	6/30/2020 10:03:13 AM	61.252309	-149.929963	2737.36472
342	1617	6/30/2020 10:15:57 AM	61.257628	-149.924727	3034.73944
342	1618	6/30/2020 10:23:16 AM	61.258594	-149.914775	2889.31385
342	1620	6/30/2020 10:29:21 AM	61.261667	-149.908869	3117.3718
342	1621	6/30/2020 10:37:53 AM	61.265275	-149.908134	3499.31319
342	1622	6/30/2020 10:41:57 AM	61.2719	-149.911446	4256.18484

Group ID	Created Date	Last Update	Species Common Name
342	6/30/2020 8:02:53 AM	6/30/2020 5:08:04 PM	Beluga
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Travelling	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
5	0	0	0	0	0	0	0	0	

Comments

****NEX:** 0804 Fix 1588-1591, 1594-95, 1597 Four belugas in two sets of two (spaced 200 meters apart) observed crossing outbound line traveling north to south and travelling along seawall into POA proper; F1595 Both sets of two have become one group just south of the corner; A fifth beluga passed NEX at 0820; Other behavior observed included bubbling that coincided with fish jumping out of the water. Feeding suspected; Last seen 0827; ****SC:** 0831 Took over from NEX; Fix 1598 Belugas seen traveling towards PCT dock; Fix 1599-1600 Belugas seen surfacing near construction barge; Last seen 0844.

****PCT:** PCT takes over fixes from SC; 0845 F1601-F1602 5 whites traveling SW along near shore; 0852 PCT radios SC for take over; ****SC:** 0853 Fix 1604 Belugas in mouth of SC; 0904 FIX 1605 4 belugas milling in mouth of Ship Creek, mostly bubbling, occasionally surfacing; 0914 Fix 1606 whales moved out of the mouth, traveling northwest towards PCT; ****PCT:** 0915 take over from SC; F1608-F1610 group travel NE along nearshore; 0919 PCT passes fixes to NEX; ****NEX:** PCT passed off group at 0919; Fix 1611 Headed north towards NEX station; Fix 1612-1616 Moving NW across the arm; Fix 1617-1626 Moving N along far shore; F1627 at 1123 Group is 100m plus beyond 7888M bubble can zone; Last seen 1134.

342	1623	6/30/2020 10:46:11 AM	61.276049	-149.910676	4700.22378
342	1624	6/30/2020 10:51:13 AM	61.28042	-149.909127	5165.55876
342	1625	6/30/2020 10:58:06 AM	61.284362	-149.909236	5599.85724
342	1626	6/30/2020 11:08:26 AM	61.292042	-149.904527	6420.57842
342	1627	6/30/2020 11:23:51 AM	61.314891	-149.885589	8951.15623

Group ID	Created Date	Last Update	Species Common Name
343	6/30/2020 8:51:13 AM	6/30/2020 3:41:52 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Milling

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	2	0		

Comments

**SC: Fix 1603 Seal seen at mouth of Ship Creek, look and sink; 0907 second seal spotted milling at the mouth of SC. Both seals presumed to still be in the mouth of ship creek but walkway is obstructing view; 1107 one seal observed near tug boats, looking and sinking; 1139 Fix 1628 Seal looking and sinking; 1206 Fix 1631 Seal traveled from tug in front of station to mouth of Ship Creek; 1210 One seal milling in mouth of Ship Creek, other seal in front of station with full body caterpillering out of water onto beach; 1233-1241 two harbor seals in mouth of Ship Creek, face to face, rolling in the water, flipper waving...presumed mating?
 **NEX: observations of both Harbor Seals confirm SC's comments and in particular their interaction with one another; Rolling and frolicking with one another to NW of off shore barge; Last seen 1241.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
343	1603	6/30/2020 8:51:23 AM	61.227325	-149.904634	954.54071
343	1628	6/30/2020 11:39:30 AM	61.221699	-149.915925	1816.68763
343	1631	6/30/2020 12:06:21 PM	61.226563	-149.906729	1088.27241

Group ID	Created Date	Last Update	Species Common Name
344	6/30/2020 9:10:57 AM	6/30/2020 5:05:17 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Diving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0		1	0	

Comments

** PW: Harbor Seal Looking and Diving; Last Seen 0955.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
344	1607	6/30/2020 9:14:15 AM	61.209138	-150.000447	6318.81583

Group ID

345

Created Date

6/30/2020 10:24:10 AM

Last Update

6/30/2020 5:05:09 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Sedate

Primary Behavior

Looking

Secondary Behavior

Sink

**Beluga
Counts****White**

0

Gray

0

Calf

0

Neonate

0

Unknown

0

**Other MM
Counts****Other Adult**

1

Other Calf

0

Total Other**Comments**

PW: 1023 HS Look/Sink; Last seen 1023

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

345

1619

6/30/2020 10:24:41 AM

61.202802

-149.988141

6113.38783

Group ID	Created Date	Last Update	Species Common Name
346	6/30/2020 11:45:53 AM	6/30/2020 5:04:57 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX: 1146 F1629-1630 Harbor Seal observed bobbing and weaving on surface; Last seen at 1200

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
346	1629	6/30/2020 11:46:02 AM	61.258587	-149.881476	2772.82409
346	1630	6/30/2020 12:00:54 PM	61.258891	-149.88145	2805.85401

Group ID	Created Date	Last Update	Species Common Name
347	6/30/2020 12:05:48 PM	6/30/2020 5:07:31 PM	Harbor Porpoise
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
Primary Behavior		Secondary Behavior	
Travelling		None	

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

PW: Fix ID 1632 Harbor porpoise traveling northeast towards PCT; ***NEX sighted porpoise one time and took fix 1636. Last time seen: 1230.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
347	1632	6/30/2020 12:06:26 PM	61.220502	-149.962371	3938.49329
347	1633	6/30/2020 12:08:38 PM	61.221389	-149.953065	3443.71854
347	1634	6/30/2020 12:12:58 PM	61.220856	-149.951324	3385.55389
347	1635	6/30/2020 12:14:31 PM	61.223523	-149.944059	2906.90318
347	1636	6/30/2020 12:30:08 PM	61.243332	-149.907198	1191.94475

Group ID	Created Date	Last Update	Species Common Name
349	6/30/2020 12:50:51 PM	6/30/2020 5:09:19 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Moderate
		Primary Behavior	Secondary Behavior
		Looking	Tail Waving

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**PW: Harbor seal exhibiting tail splashing behaviour. EDIT: Fix ID 1639 (IGNORE) is an accidental ghost fix; Last seen 1426

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
349	1637	6/30/2020 12:51:01 PM	61.212454	-149.993602	5829.01811

Group ID	Created Date	Last Update	Species Common Name
350	6/30/2020 2:54:11 PM	6/30/2020 5:03:49 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX: 1448

Fix 1641 Harbor Seal observed shucking and jiving; Last seen 1448.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
350	1641	6/30/2020 2:54:22 PM	61.246935	-149.919445	1917.23932

Group ID	Created Date	Last Update	Species Common Name
351	6/30/2020 2:55:31 PM	6/30/2020 5:08:34 PM	Harbor Seal
Spread	Formation	Combined Group	Pace
1	Linear	False	Sedate
			Primary Behavior
			Looking
			Secondary Behavior
			Sink

Beluga Counts	White	Gray	Calf	Neonate	Unknown	Other MM Counts	Other Adult	Other Calf	Total Other
0	0	0	0	0	0	1	0		

Comments

**NEX: 1455 F1642 Harbor Seal observed looking and sinking; Last seen 1455.

Group ID	Fix ID	Fix Time	MM Latitude	MM Longitude	Distance To PCT
351	1642	6/30/2020 2:55:40 PM	61.253593	-149.881847	2234.47894

Group ID

352

Created Date

6/30/2020 5:04:22 PM

Last Update

6/30/2020 5:06:19 PM

Species Common Name

Harbor Seal

Spread

1

Formation

Linear

Combined Group

False

Pace

Sedate

Primary Behavior

Milling

Secondary Behavior

None

**Beluga
Counts****White**

0

Gray

0

Calf

0

Neonate

0

Unknown

0

**Other MM
Counts****Other Adult**

1

Other Calf

0

Total Other**Comments**

PW: Fix ID 1643 one harbor seal milling at mouth of creek in front of PW; last time seen: 1705

Group ID**Fix ID****Fix Time****MM Latitude****MM Longitude****Distance To PCT**

352

1643

6/30/2020 5:05:00 PM

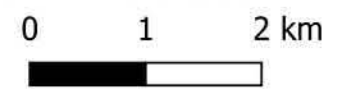
61.200752

-149.990864

6364.56628

**2020 POA PCT
Marine Mammal Sightings
Overview
06/29/20 - 06/30/20**

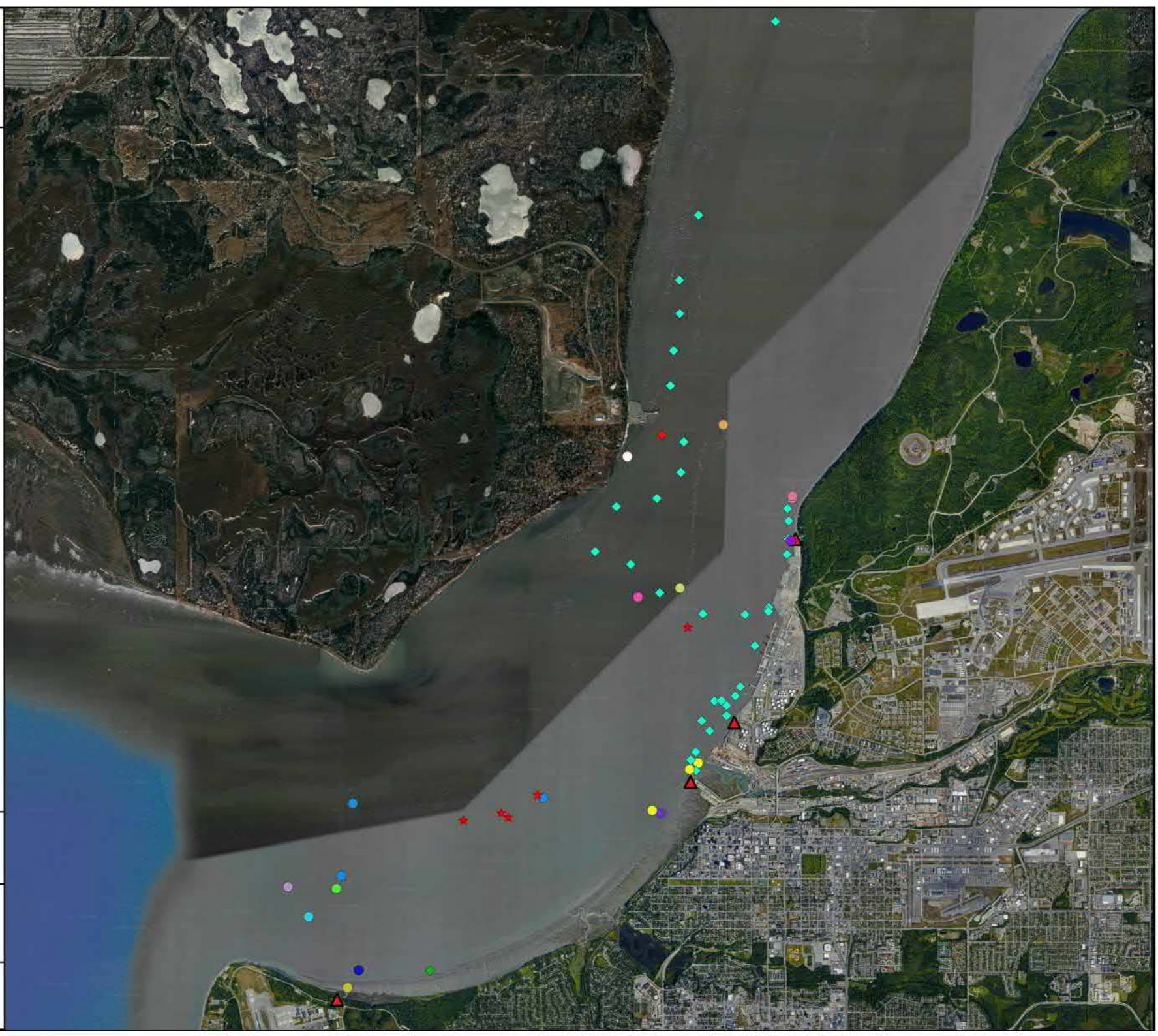
- ▲ PSO Station
- Marine Mammal Groups**
- Group 333 Harbor Seal
 - Group 334 Harbor Seal
 - Group 335 Pinniped Unid
 - ◆ Group 336 Beluga
 - Group 337 Harbor Seal
 - Group 338 Harbor Seal
 - Group 339 Harbor Seal
 - ◆ Group 341 Beluga
 - ◆ Group 342 Beluga
 - Group 343 Harbor Seal
 - Group 344 Harbor Seal
 - Group 345 Harbor Seal
 - Group 346 Harbor Seal
 - ★ Group 347 Harbor Porpoise
 - Group 349 Harbor Seal
 - Group 350 Harbor Seal
 - Group 351 Harbor Seal
 - Group 352 Harbor Seal



61 | N
61 North Environmental



Map Imagery Source:
Google Earth, 2020



**2020 POA PCT
Beluga Sightings
06/29/20 - 06/30/20
Figure 1**



▲ PSO Station

Beluga Track Lines

→ Group 336

→ Group 341

→ Group 342



0 0.75 1.5 km



61 | N

61 North Environmental

Map Imagery Source:
Google Earth, 2020

Appendix H – Data Field Information for Sighting Reports

Port of Alaska, PCT Construction 2020
Marine Mammal Monitoring
Data Field Information for Sighting Reports

Marine Mammal Group Sighting - Parent Record Information	
Group ID	The marine mammal group identification number generated by the database upon entry. Note: The marine mammal sighting form is used test the theodolites each morning to ensure they are functioning properly. The database assigns a Group ID number to the test record , therefore some group ID numbers are missing from the sequence of marine mammal group sightings.
Created Date	The date and time the parent record of the marine mammal sighting was first created.
Last Update	The date and time any field within the parent record of the marine mammal sighting was last edited.
Species Common Name	The common name of the marine mammal sighted, selected from the list: Beluga, Harbor Seal, Harbor Porpoise, Steller Sea Lion, Pinniped Unid., Humpback Whale, Gray Whale, Fin Whale, Minke Whale, Dall's Porpoise, Cetacean Unid., Mysticetes Unid., Unknown.
Spread	The spread of the whales is defined as the mean distance between beluga whales in body lengths (e.g., a spread of 2 indicates that the whales are spaced out, on average, 2 body lengths apart). One selection is made from a dropdown for each sighting from 1 - 10, or >10. Additional notes on spread may be located in the Comments field.
Formation	The formation of the group references how the individual marine mammals are distributed within the group. The formation code that best reflects the distribution pattern of the group is entered: Circular (C) – arranged in a circular group while moving in one direction Parallel (P) – alongside each other, spread perpendicular to direction of movement Linear (L) – forming a line, spread along direction of movement Echelon (E) – Arranged diagonally, each marine mammal to the side and behind animal ahead of it; also includes "V" formation No Formation (NF) – Random or un-patterned formation
Combined Group	A field to indicate if the parent record of the sighting is related to another sighting. The default setting is "False" meaning the group did not combine with or split from another group. "True" means the group either combined with or split from another group and the comments of each sighting should be reviewed for behavior.
Pace	Sedate, moderate, or vigorous.
Primary and Secondary Behavior	The primary and secondary behaviors represent the most common and second most common behavior exhibited by the group throughout the sighting. Additional behaviors are presented in the Comments field. Behaviors are selected from a dropdown and include: Unknown, Avoiding Predation, Bubbling, Calving, Diving, Feeding Observed, Feeding Suspected, Mating Suspected, Milling, Other, Resting, Side Scanning, Snorkeling, Socializing, Spyhopping, Startling, Tail Slapping, Tail Waving, Travelling, Vocalizing, Multiple-see comments, Breach, Porpoising, Sink, None, Looking.
Beluga Counts White, Gray, Calf, Neonate, and Unknown	The MMOs best count of the number of each category of belugas present in the group. Often multiple MMOs observe the group and reach consensus on the best count. The addition of animals to the overall counts throughout the sighting are often documented in the Comments field.
Other MM Counts: Adult, Calf, Total	The MMOs best count of the number of adults and calf/pup present in the group if it can be discerned. Often multiple MMOs observe the group and reach consensus on the "best" count. The addition of animals to the overall counts throughout the sighting are often documented in the Comments field.
Comments	MMO comments on behaviors, fix details, counts, sighting progression, which station is has "control" of the parent record and is entering fixes, and other sighting details.
Marine Mammal Position Table	
Group ID	Corresponds to the Group ID of the sighting parent record in the database.
Fix ID	The sequential identification number given to a marine mammal position (or theodolite check shot) measured through entry of a horizontal and vertical angle.
Fix Time	The initial time the fix is entered. Updates can be made to the horizontal or vertical angles of a fix and that time is also captured, but not displayed on the report form.
MM Latitude	The latitude in decimal degrees of the marine mammal group position. In a group that is spread out, generally the animal closest to the PCT is selected for measurement of the position.
MM Longitude	The longitude in decimal degress of the marine mammal group position.
Distance To PCT	The distance of the marine mammal group from either a specific pile if there is a pile driving activity selected in the database, or from a the generalized PCT location 61.23445565°, -149.8946812° if no pile-driving activity is selected in the database.

Pile Driving Activity

Drive Date	Pile Type	Pile Location Name	Pile Diameter (inches)	Hammer Type	Total time (minutes)
1-Jun	Loading Platform Template	Temp- 11	24	Vibratory	13
1-Jun	Loading Platform Template	Temp- 13	24	Vibratory	7
1-Jun	Loading Platform Template	Temp- 1	24	Vibratory	13
1-Jun	Loading Platform Template	Temp- 2	24	Vibratory	7
1-Jun	Loading Platform Template	Temp- 3	24	Vibratory	3
1-Jun	Loading Platform Template	Temp- 4	24	Vibratory	3
1-Jun	Loading Platform Template	Temp- 5	24	Vibratory	6
1-Jun	Loading Platform Template	Temp- 6	24	Vibratory	3
1-Jun	Permanent	J T-1	48	Impact	37
1-Jun	Permanent	J T-2	48	Impact	31
1-Jun	Permanent	J T-3	48	Impact	33
2-Jun	Access Trestle Template	T-11	24	Vibratory	12
2-Jun	Loading Platform Template	Temp- 12	24	Vibratory	8
2-Jun	Loading Platform Template	Temp- 14	24	Vibratory	15
2-Jun	Loading Platform Template	Temp- 15	24	Vibratory	11
3-Jun	Loading Platform Template	Temp- 16	24	Vibratory	10
3-Jun	Temporary Trestle	4 S-1	24	Vibratory	10
3-Jun	Temporary Trestle	4 S-2	36	Vibratory	19
3-Jun	Temporary Trestle	4 S-3	24	Vibratory	12
3-Jun	Temporary Trestle	4 S-4	24	Vibratory	13
3-Jun	Temporary Trestle	4 S-5	36	Vibratory	7
4-Jun	Temporary Trestle	4 S-2	36	Vibratory	36
4-Jun	Temporary Trestle	4 S-5	36	Vibratory	22
4-Jun	Access Trestle Template	T-12	24	Vibratory	9
5-Jun	Access Trestle Template	T-12	24	Vibratory	11
6-Jun	Permanent	I T-1	48	Vibratory	22
6-Jun	Permanent	I T-2	48	Vibratory	19
7-Jun	Permanent	I T-1	48	Impact	34
7-Jun	Permanent	I T-2	48	Impact	32
7-Jun	Permanent	I T-3	48	Impact	11
7-Jun	Permanent	C-1	48	Vibratory	3
8-Jun	Temporary Trestle	3 S-2	36	Vibratory	26
8-Jun	Permanent	C-1	48	Impact	15
9-Jun	Temporary Trestle	3 S-5	36	Vibratory	29
9-Jun	Bubble Curtain	A1-BC	72	Vibratory	7
10-Jun	Temporary Trestle	3 S-1	24	Vibratory	13
10-Jun	Temporary Trestle	3 S-3	24	Vibratory	13
10-Jun	Temporary Trestle	3 S-4	24	Vibratory	13
10-Jun	Permanent	A-1	48	Impact	24
10-Jun	Permanent	A-1	48	Vibratory	5
10-Jun	Permanent	D-1	48	Impact	25
10-Jun	Permanent	D-1	48	Vibratory	5
10-Jun	Permanent	I T-3	48	Impact	26
11-Jun	Pin Pile	G-H	36	Vibratory	24

12-Jun	Permanent	B-2	48	Vibratory	5
12-Jun	Permanent	B-2	48	Impact	5
12-Jun	Permanent	E-1	48	Impact	21
12-Jun	Permanent	E-1	48	Vibratory	5
12-Jun	Access Trestle Template	T-13	24	Vibratory	14
12-Jun	Access Trestle Template	T-14	24	Vibratory	22
13-Jun	Permanent	E-2	48	Impact	25
13-Jun	Permanent	E-2	48	Vibratory	7
13-Jun	Permanent	H T-3	48	Impact	25
13-Jun	Permanent	H T-3	48	Vibratory	3
14-Jun	Permanent	C-2	48	Impact	21
14-Jun	Permanent	C-2	48	Vibratory	11
14-Jun	Permanent	H T-2	48	Impact	22
14-Jun	Permanent	H T-2	48	Vibratory	10
14-Jun	Bubble Curtain	A2-BC	72	Vibratory	5
14-Jun	Bubble Curtain	C2-BC	72	Vibratory	9
15-Jun	Bubble Curtain	D2-BC	72	Vibratory	22
15-Jun	Permanent	D-2	48	Impact	23
15-Jun	Permanent	D-2	48	Vibratory	12
15-Jun	Permanent	A-2	48	Impact	29
15-Jun	Permanent	A-2	48	Vibratory	9
15-Jun	Permanent	H T-1	48	Impact	22
15-Jun	Permanent	H T-1	48	Vibratory	10
16-Jun	Permanent	B-1	48	Impact	23
16-Jun	Permanent	B-1	48	Vibratory	17
16-Jun	Permanent	B-2	48	Impact	23
16-Jun	Access Trestle Template	T-15	24	Vibratory	28
16-Jun	Access Trestle Template	T-16	24	Vibratory	22
16-Jun	Temporary Trestle	2 S-5	36	Vibratory	39
17-Jun	Temporary Trestle	2 S-1	24	Vibratory	12
17-Jun	Temporary Trestle	2 S-2	36	Vibratory	40
18-Jun	Temporary Trestle	2 S-3	24	Vibratory	10
18-Jun	Temporary Trestle	2 S-4	24	Vibratory	11
18-Jun	Bubble Curtain	E4-BC	72	Vibratory	12
19-Jun	Permanent	E-4	48	Impact	30
19-Jun	Permanent	E-4	48	Vibratory	12
20-Jun	Permanent	G T-3	48	Impact	25
20-Jun	Permanent	G T-3	48	Vibratory	10
21-Jun	Permanent	A-4	48	Impact	22
21-Jun	Permanent	A-4	48	Vibratory	10
21-Jun	Permanent	D-5	48	Vibratory	10
21-Jun	Permanent	E-5	48	Impact	22
21-Jun	Permanent	E-5	48	Vibratory	10
21-Jun	Permanent	G T-2	48	Vibratory	10
22-Jun	Permanent	A-5	48	Impact	27
22-Jun	Permanent	A-5	48	Vibratory	11
22-Jun	Permanent	G T-1	48	Impact	6

22-Jun	Permanent	G T-1	48	Vibratory	10
22-Jun	Permanent	G T-2	48	Impact	28
23-Jun	Permanent	B-5	48	Impact	34
23-Jun	Permanent	B-5	48	Vibratory	10
24-Jun	Temporary Trestle	1 S-1	24	Vibratory	11
24-Jun	Temporary Trestle	1 S-3	24	Vibratory	8
24-Jun	Temporary Trestle	1 S-4	24	Vibratory	19
24-Jun	Temporary Trestle	1 S-5	36	Vibratory	31
24-Jun	Permanent	B-4	48	Vibratory	10
24-Jun	Permanent	D-5	48	Impact	25
24-Jun	Permanent	A-1	48	Impact	6
25-Jun	Access Trestle Template	T-19	24	Vibratory	28
25-Jun	Access Trestle Template	T-20	24	Vibratory	38
25-Jun	Temporary Trestle	1 S-2	36	Vibratory	23
25-Jun	Permanent	B-4	48	Impact	19
25-Jun	Permanent	C-5	48	Impact	23
25-Jun	Permanent	C-5	48	Vibratory	11
25-Jun	Permanent	G T-1	48	Impact	25
25-Jun	Permanent	C-4	48	Impact	27
26-Jun	Permanent	C-4	48	Vibratory	11
27-Jun	Permanent	D-4	48	Impact	25
27-Jun	Permanent	D-4	48	Vibratory	10
27-Jun	Permanent	FT-2	48	Impact	13
27-Jun	Permanent	FT-2	48	Vibratory	11
27-Jun	Permanent	FT-3	48	Impact	26
27-Jun	Permanent	FT-3	48	Vibratory	10
28-Jun	Permanent	FT-1	48	Impact	27
28-Jun	Permanent	FT-1	48	Vibratory	11
29-Jun	Permanent	A-3	48	Impact	20
29-Jun	Permanent	A-3	48	Vibratory	10
29-Jun	Permanent	C-3	48	Impact	22
29-Jun	Permanent	C-3	48	Vibratory	11
29-Jun	Permanent	E-3	48	Impact	11
29-Jun	Permanent	E-3	48	Vibratory	11
30-Jun	Permanent	D-3	48	Vibratory	11

NO.	DATE	BY	ISSUE / DESCRIPTION

DESIGNED BY: SMS	DRAWN BY: TJM
APPROVED BY: KHC	REVISION NO.: 0
DATE: 11/26/19	



PORT OF ALASKA - ANCHORAGE MODERNIZATION PROGRAM -
TEMPORARY WORK TRESTLE DESIGN
ANCHORAGE, ALASKA

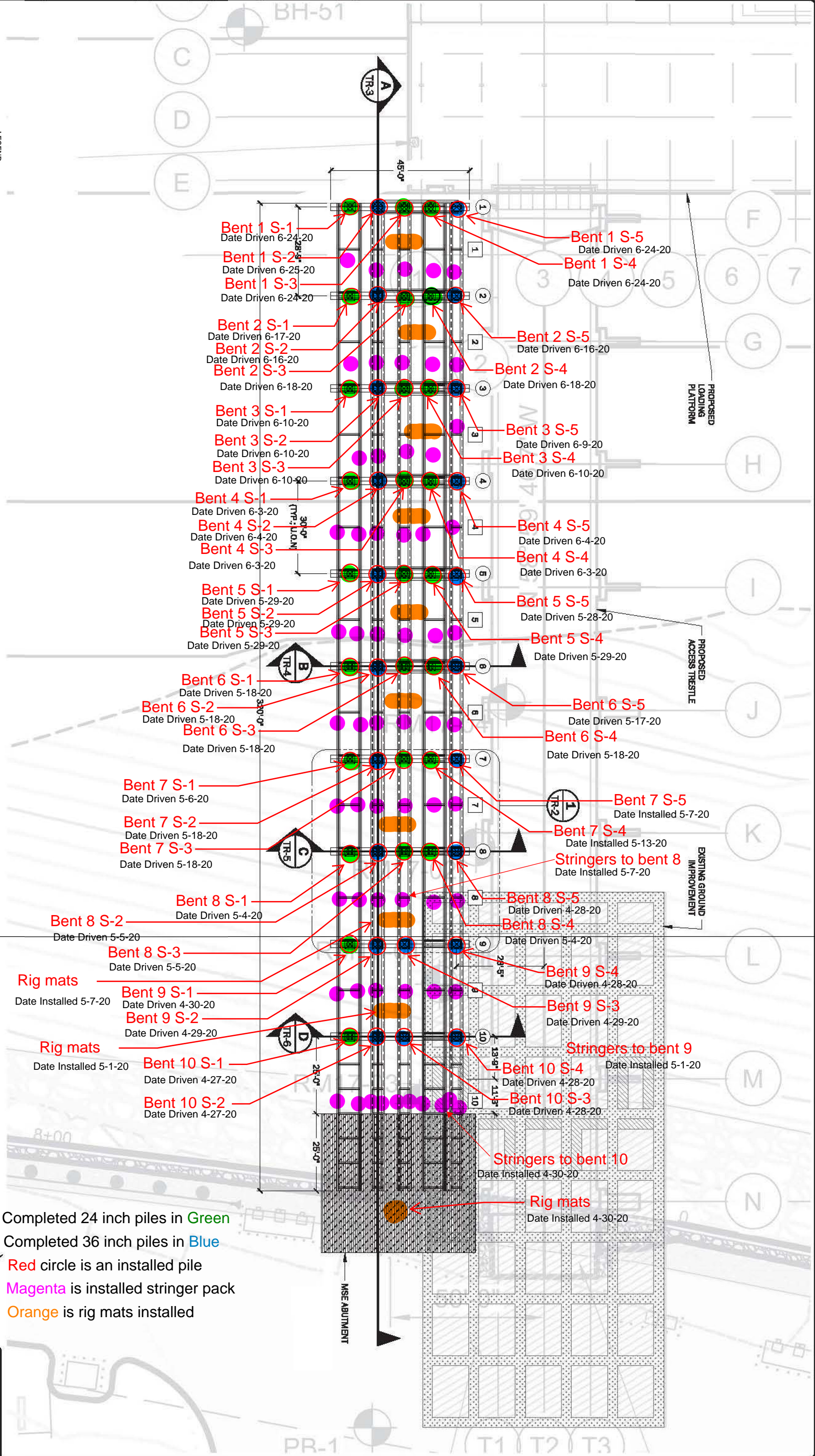
OVERALL PLAN VIEW

DRAWING NUMBER:
TR-1
SHEET: 2 OF 11

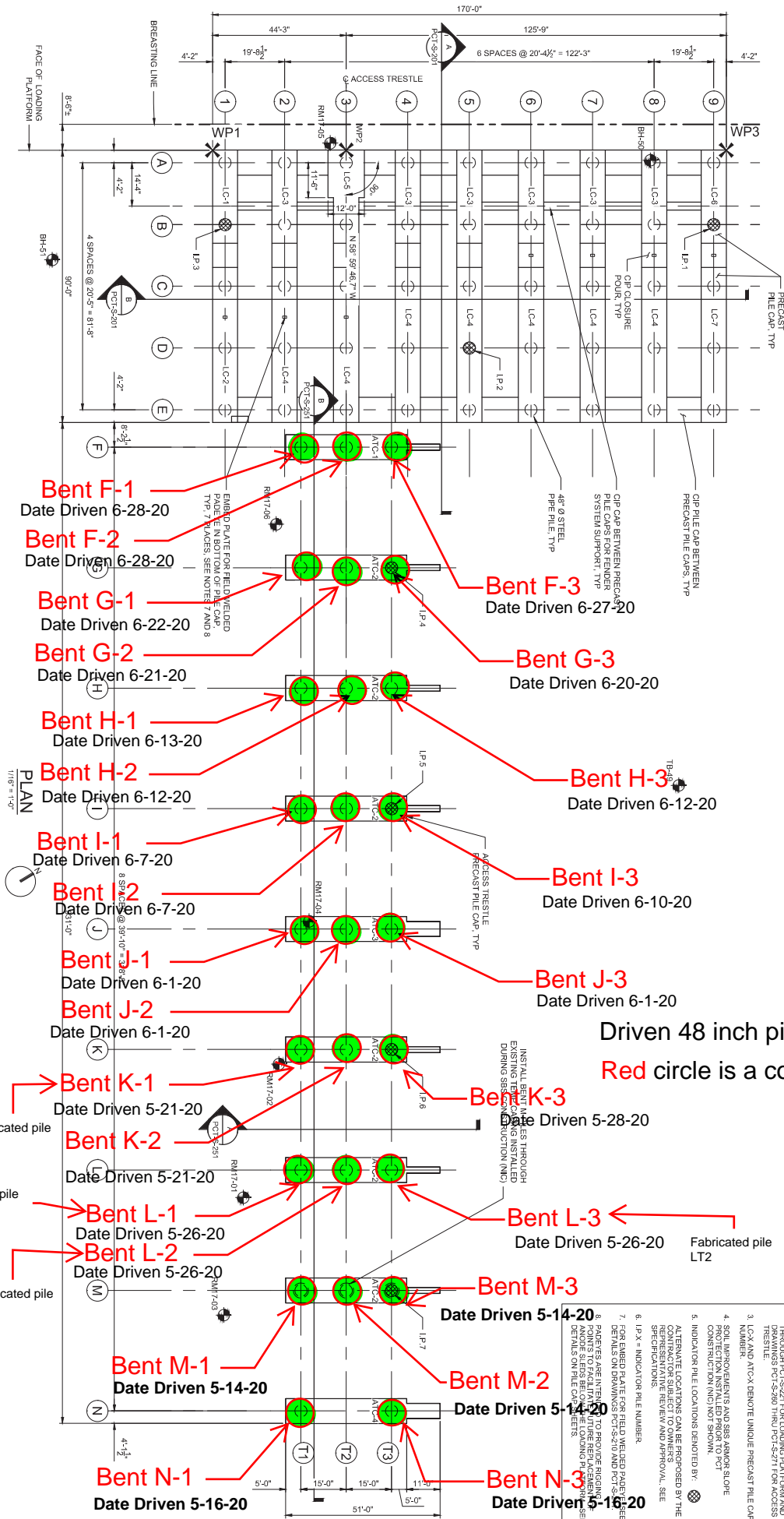
- LEGEND
- 1 TEMPORARY SPAN NUMBER
 - 1 TEMPORARY BENT NUMBER

OVERALL PLAN VIEW
SCALE: 1" = 15'-0"

Completed 24 inch piles in **Green**
Completed 36 inch piles in **Blue**
Red circle is an installed pile
Magenta is installed stringer pack
Orange is rig mats installed



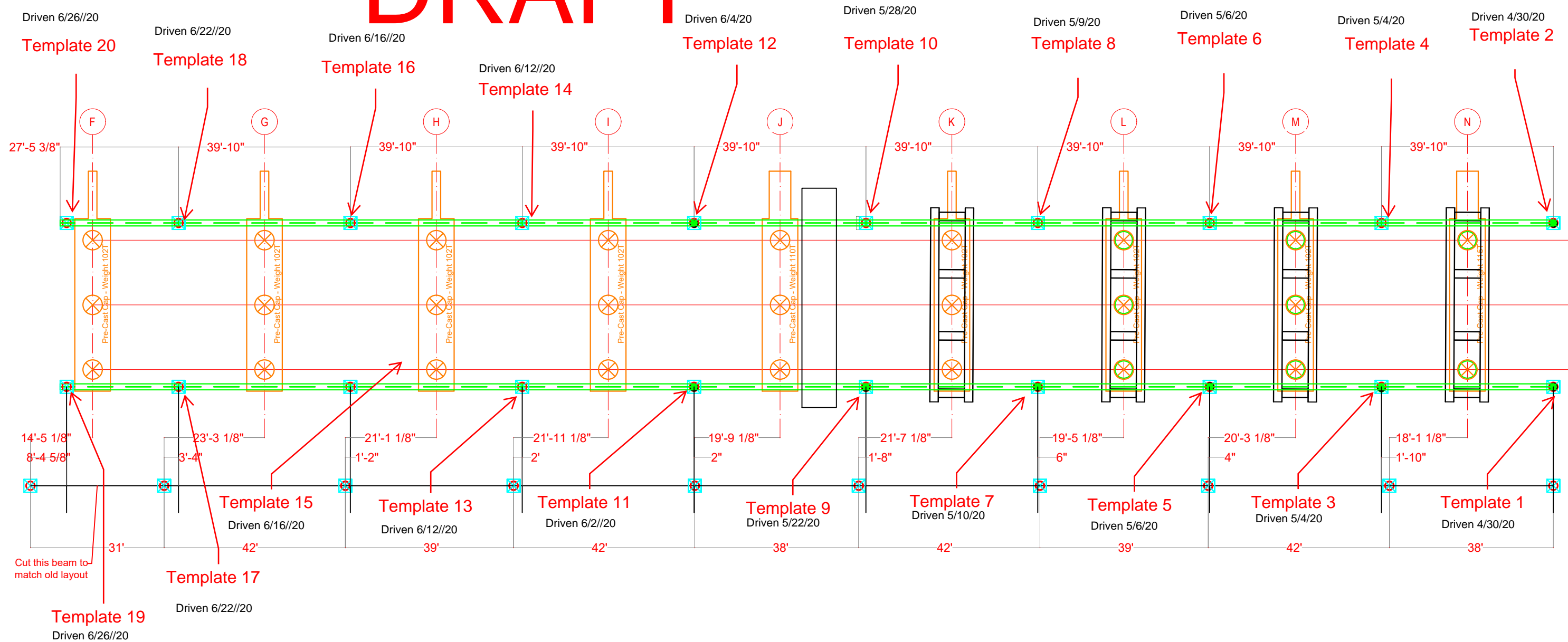
DATE & TIME MODIFICATION BY DATE		DESCRIPTION BY APPROVED	
1. NOT ONE MODIFICATION 2. NOT ONE MODIFICATION 3. NOT ONE MODIFICATION 4. NOT ONE MODIFICATION 5. NOT ONE MODIFICATION 6. NOT ONE MODIFICATION 7. NOT ONE MODIFICATION 8. NOT ONE MODIFICATION 9. NOT ONE MODIFICATION 10. NOT ONE MODIFICATION		REVISIONS	
COWI		ISSUED S. VEE	
K. BUNGER CONSULTANT		OR M. OSLIUNIAN APPROVED	
SEAL		P. GIESSEN SEAL	
PORT OF ALASKA PETROLEUM AND CEMENT TERMINAL		STRUCTURAL PILE AND PILE CAP PLAN	
HORIZ SCALE: AS SHOWN VERT SCALE: N/A		PORT OF ALASKA PETROLEUM AND CEMENT TERMINAL ANCHORAGE, ALASKA SHEET: 50 OF 267 PCT-S-100	



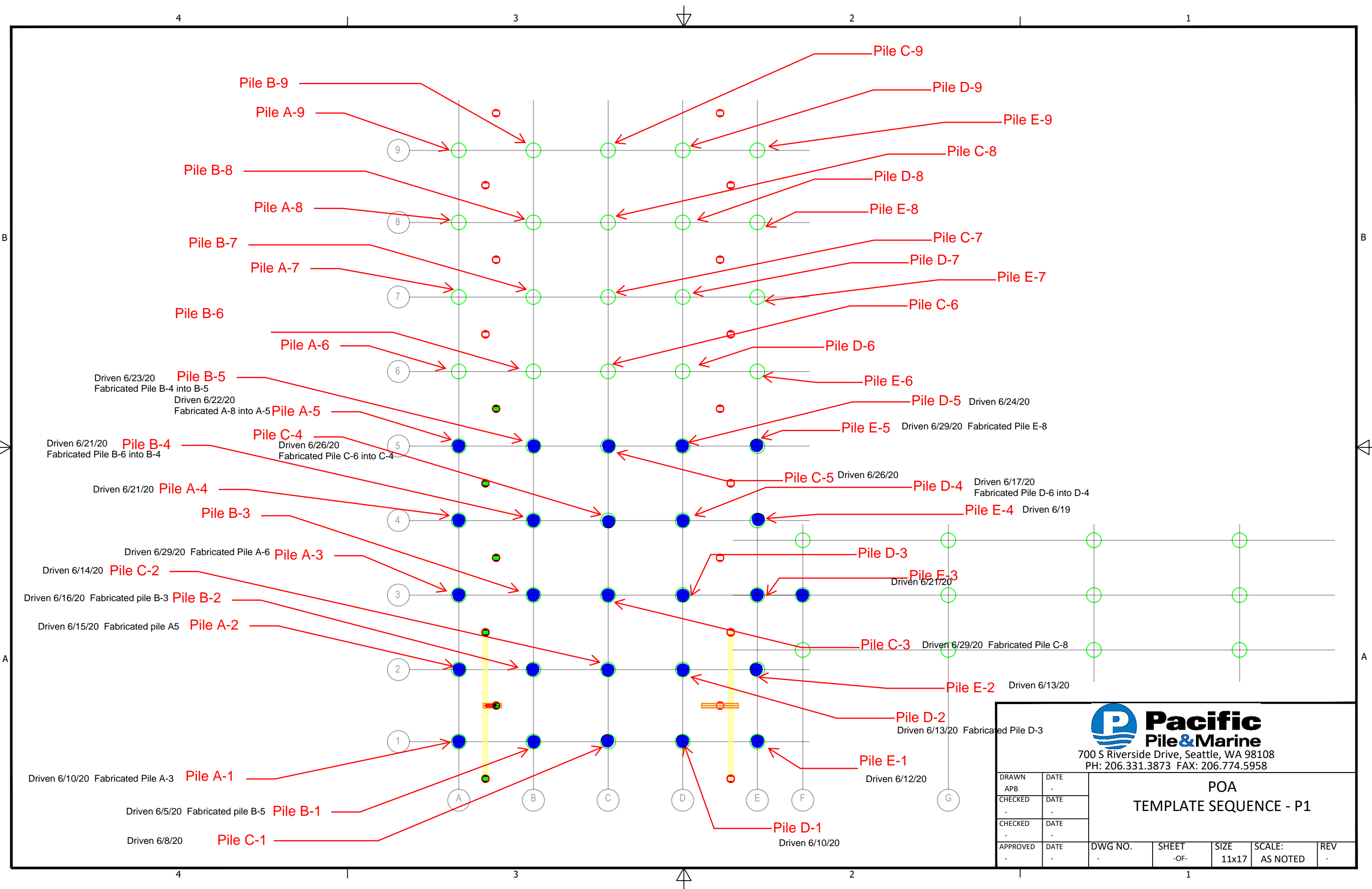
NOTES

1. FOR PILE DETAILS, SEE DRAWINGS PCT-S-101 THROUGH PCT-S-104.
2. FOR PILE CAP DETAILS, SEE DRAWINGS PCT-S-210 THROUGH PCT-S-221 FOR LOADING PLATFORM AND TRESTLE.
3. LC-X AND AT-CX DENOTE UNIQUE PRECAST PILE CAP NUMBER.
4. SOIL IMPROVEMENTS AND SLS AROUND SLOPE PROTECTION INSTALLED PRIOR TO PCT CONSTRUCTION (INDICATED NOT SHOWN).
5. INDICATOR PILE LOCATIONS DENOTED BY:
 - 6. IP-X - INDICATOR PILE NUMBER.
 - 7. FOR SLOPED PILE FOR FIELD WELDED PILE, SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS.
 - 8. PILES ARE TO BE INSTALLED TO PROVIDE REQUIRED SLS AND SLS AROUND SLOPE PROTECTION. SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS ON PILE CAP DETAILS.
6. PILES ARE TO BE INSTALLED TO PROVIDE REQUIRED SLS AND SLS AROUND SLOPE PROTECTION. SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS ON PILE CAP DETAILS.
7. FOR SLOPED PILE FOR FIELD WELDED PILE, SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS.
8. PILES ARE TO BE INSTALLED TO PROVIDE REQUIRED SLS AND SLS AROUND SLOPE PROTECTION. SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS ON PILE CAP DETAILS.
9. ALTERNATE LOCATIONS CAN BE PROPOSED BY THE CONTRACTOR SUBJECT TO OWNERS REVIEW AND APPROVAL. SEE SPECIFICATIONS.
10. INDICATOR PILE LOCATIONS DENOTED BY:
 - IP-X - INDICATOR PILE NUMBER.
 - FOR SLOPED PILE FOR FIELD WELDED PILE, SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS.
 - PILES ARE TO BE INSTALLED TO PROVIDE REQUIRED SLS AND SLS AROUND SLOPE PROTECTION. SEE PCT-S-210 THROUGH PCT-S-221 FOR DETAILS ON PILE CAP DETAILS.

DRAFT



DRAWN JTW		DATE 9/18/19		Port of Alaska - PCT Pile Layout with Beam Lengths			
CHECKED -		DATE -					
CHECKED -		DATE -					
APPROVED -	DATE -	DWG NO. -	SHEET -OF-	SIZE 11x17	SCALE: AS NOTED	REV -	



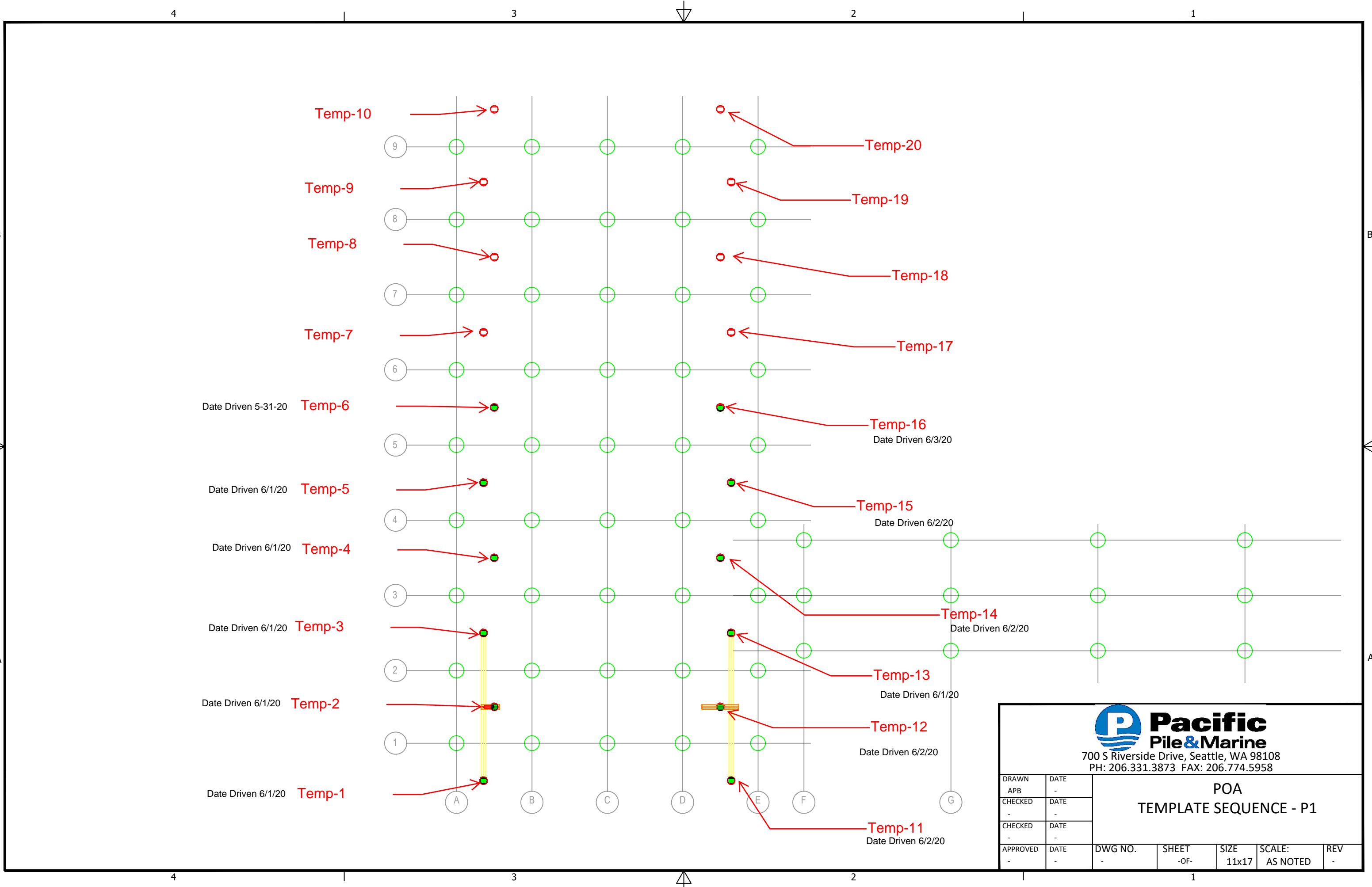



Pacific
Pile&Marine
700 S Riverside Drive, Seattle, WA 98108
PH: 206.331.3873 FAX: 206.774.5958

POA

TEMPLATE SEQUENCE - P1

DRAWN	DATE	POA TEMPLATE SEQUENCE - P1				
APB	-					
CHECKED	DATE					
-	-					
CHECKED	DATE	DWG NO.	SHEET -OF-	SIZE 11x17	SCALE: AS NOTED	REV -
-	-					
APPROVED	DATE	-	-	-	-	-
-	-	-	-	-	-	-





Pacific
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DRAWN	DATE	POA TEMPLATE SEQUENCE - P1				
APB	-					
CHECKED	DATE					
-	-					
CHECKED	DATE	DWG NO.	SHEET	SIZE	SCALE:	REV
-	-	-	-OF-	11x17	AS NOTED	-
APPROVED	DATE					
-	-					

Temp-10
Temp-9
Temp-8
Temp-7
Temp-6
Temp-5
Temp-4
Temp-3
Temp-2
Temp-1

Temp-20
Temp-19
Temp-18
Temp-17
Temp-16
Temp-15
Temp-14
Temp-13
Temp-12
Temp-11

Date Driven 5-31-20
Date Driven 6/1/20
Date Driven 6/1/20
Date Driven 6/1/20
Date Driven 6/1/20
Date Driven 6/1/20
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Date Driven 6/1/20
Date Driven 6/2/20
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