

2015 Chionoecetes opilio Collection - Benthic

Species Optimal Collection - Pathobiology Hematology

Negative crabs - Control Group - 2 black zip tie

Plate #

45

Collected by

Jen. Niki. Nick

Date _____

9/29/2015

Record date in first & last well (all wells 'in between' should be used on same data). Record tag #'s in each 'well' & any comments on back of form. Begin in A1 & proceed down column to B1, C1, etc. Proceed to column 2 when column 1 is full.

fill down



2015 *Chionoecetes opilio* Collection - Pathobiology Hematochitum Project

Negative crabs - Control Group - 2 black zip ties

Plate # 46

Date 10/12/15

Record date in first & last well (all wells 'in between' should be used on same data). Record tag #'s in each 'well' & any comments on back of form. Begin in A1 & proceed down column to B1, C1, etc. Proceed to column 2 when column 1 is full

2015 *Chionoecetes opilio* Collection - Pathobiology Hematodinium Project

Negative crabs - Control Group - 2 black zip ties

Plate # 47

Collected by Nick + Nikki

Date / 0 / 27 / 15

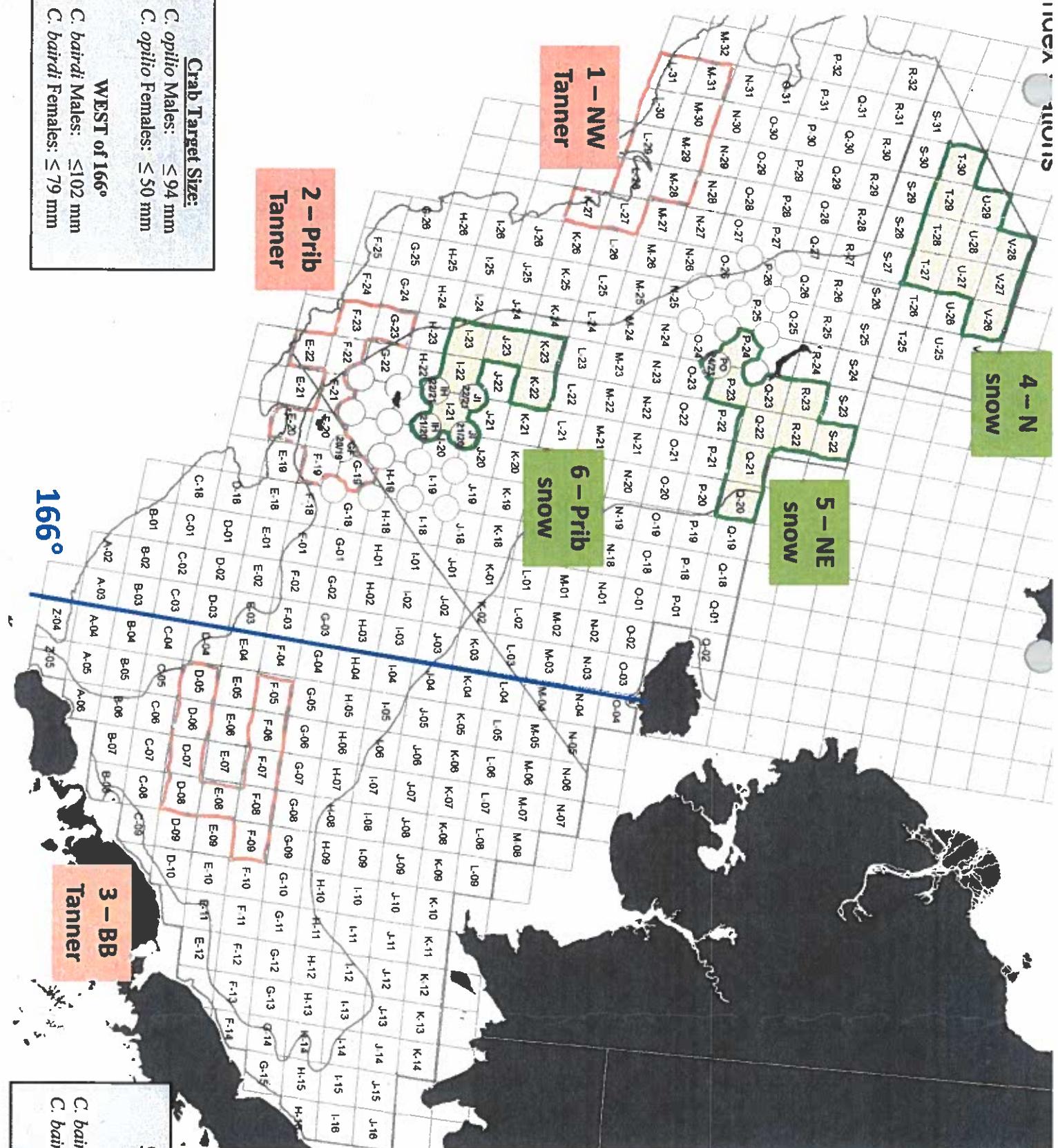
Record date in first & last well (all wells 'in between' should be used on same date). Record tag #s in each 'well' & any comments on back of form. Begin in A1 & proceed down column to B1, C1, etc. Proceed to column 2 when column 1 is full.



INDEX SITES

2015 BCS

Index Sites
○ *C. opilio*
○ *C. bairdi*



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2015 EBS SHELF Survey: Bitter Crab – Kodiak / Pathobiology

The goal is to collect **200 blood samples** within each index site. There are 3 index sites assigned to *Chionoecetes opilio*, and 3 to *C. bairdi*. Within each index site, there are 10 stations (see below & index station map). Collect **20 blood samples** of the specified species at designated stations. If you cannot collect 20 at a station, make up the difference at the next station within the index site.

1. Refer to BCS Index Site and Station map. When on a station, randomly sample immature crabs regardless of sex. See below and the index station map for *C. opilio* and *C. bairdi* target sizes. It is *very* important to obtain 20 crabs/station! Crab leads: please keep in touch with each other to ensure that the 200 crab collection goals are met at each index site.
2. For small (<30mm) crabs, try to collect blood at an arthrodial membrane or by using cardiac puncture method. If unable to withdrawal blood, freeze whole crab. Write vessel and haul number on a specimen label, place whole animal inside a bag with label on the inside facing out. Freeze crabs individually!!!!

Index Site Stations:

- 1 – NW Tanner: K-27, L-27, L-28, M-28, L-29, M-29, L-30, M-30, L-31, M-31
- 2 – Prib Tanner: F-19, G-19, GF-20/19, E-20, F-20, F-21, E-22, F-22, F-23, G-23
- 3 – BB Tanner: F-09, D-08, E-08, F-08, D-07, F-07, D-06, F-06, D-05, F-05
- 4 – N Snow: V-26, T-27, U-27, V-27, T-28, U-28, V-28, T-29, U-29, T-30
- 5 – NE Snow: Q-20, Q-21, Q-22, R-22, S-22, P-23, Q-23, R-23, PO-24/23, P-24
- 6 – Prib Snow: IH-21/20, JI-21/20, I-21, IH-22/21, JI-22/21, I-22, K-22, I-23, J-23, K-23

Crab Target Size:	
<i>C. opilio</i> Males:	≤ 94 mm
<i>C. opilio</i> Females:	≤ 50 mm
EAST of 166°	
<i>C. bairdi</i> Males:	≤ 112 mm
<i>C. bairdi</i> Females:	≤ 84 mm
WEST of 166°	
<i>C. bairdi</i> Males:	≤ 102 mm
<i>C. bairdi</i> Females:	≤ 79 mm

Chionoecetes Blood Collection

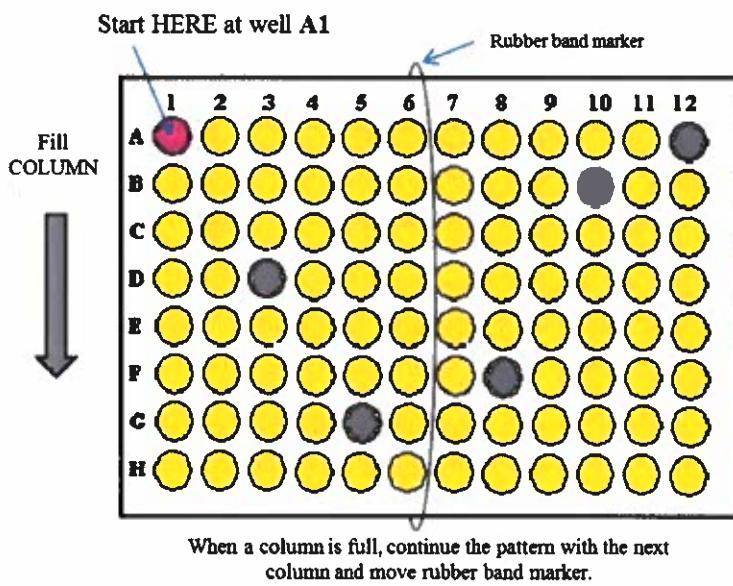
Crabs can be kept in baskets inside the live tank until you are ready to sample. If crabs have been sitting on deck for a long time during haul processing, they may be more difficult to withdrawal blood. You can let them “soak” in the live tank until the next haul is complete. NOTE: Crab samples must be random; please do not cherry pick crabs based on their visual status.

Sample collection in Ethanol:

1. Enter crab data onto provided datasheets. Data should include the vessel, leg, and collection plate number, your name, haul number, species, sex, size (carapace width in mm), shell condition, chela height (mm; optional), and **note if crab looks visually BCS+ or BCS-**. Use calipers to measure all lengths and record in mm.
2. Obtain a clean syringe with attached needle. Choose a region of the crab where the arthrodial membrane is exposed and insert the needle (a good spot is where the legs meet the carapace). Pull back on the plunger to extract blood; you may need to move the needle around to locate a sinus. **Do not collect more than 0.2 mL blood!** If the blood is brownish-yellow, you have sucked up hepatopancreas with the blood and the sample must be discarded. Obtain a new syringe and try again.
3. Insert the needle into the colored well plug (cap) and eject the blood into the well prefilled with ethanol. Pull out the needle (the well plug will reseal itself). If you find that the plug is loose or comes out, try removing air from the well with the syringe before injecting the blood sample. Do not remove any ethanol. **Do not use wells A12, B10, D3, F8 or G5 (grey-colored caps).**
4. Remove needle from the syringe using the needle remover on the sharps container, trap the plastic part of the needle in the V and twist off the syringe. Used syringes and wrappers may be placed in trash. Extra plastic “trash” bags are provided to include in the caddy. Also, once all of the syringes are gone, use the plastic bag as a trash bag.
5. Start all plates with the well marked **A1 (pink cap)** then proceed down column 1 to B1, C1 etc. When **column 1** is full, move to well **A2** and continue filling **column 2** etc. Use this pattern for all plates. When a column is complete move the rubber band over the well plugs to the next column to help you keep track of where you are on the plate. If it helps, mark the top of the plug with a sharpie to show that the well has been filled, preferably on the edge of the plug. If you have any problems, comments, or mistakes, note the well number and any information on the back of the datasheet.



6. Periodically invert the plate to mix the blood and ethanol.
7. When a plate is full, replace in Ziploc bag and seal. Stack and store in the gray 5-gal bucket. Buckets will be sent back to Seattle in EBS Survey shipping containers at the end of Leg 3. Please coordinate hazmat with shipping contact personnel:
Grey buckets contain: 0.768 L 100% Ethanol (10 collection plates; 76.8 mL 100 % Ethanol per plate)
8. If you see a King Crab that could be infected with *Hematodinium*, please do the following: Please take a blood sample (just use a *Chionoecetes* well) and take 3 blood smears. Label Slide: In pencil, write the collection plate well number on the white frosted end of a new microscope slide. Withdraw blood using a syringe and dispense 2 drops of blood near the edge of the non-frosted end of the microscope slide. Take a second slide, place it at a 30°-45° angle, place it so it touches the inner edge of the drop of blood and then drag the "smearing" slide toward the frosted end of the slide with a smooth and steady motion. Drag blood, don't push it. Set smears aside and allow to dry, try to avoid all water splash while making smears. When done, set smears inside to dry. Used "smearing" slides can be disposed of in a container labeled "Used Smearing Slides". When the container is full, cover the opening and tape the lid to the container for shipping back to Seattle. After the slides are completely dry, place in slide box.
9. At the end of the survey, combine any frozen crab from both boats. Check with the deck boss to see if you can add the frozen crab to other Seattle-bound frozen shipments. If not, please ship frozen crab to Seattle using Coastal Transportation. Bill of Lading info: Christie Lang, 7600 Sand Point Way NE, Seattle WA, 206-526-6715. Send shipment COD.



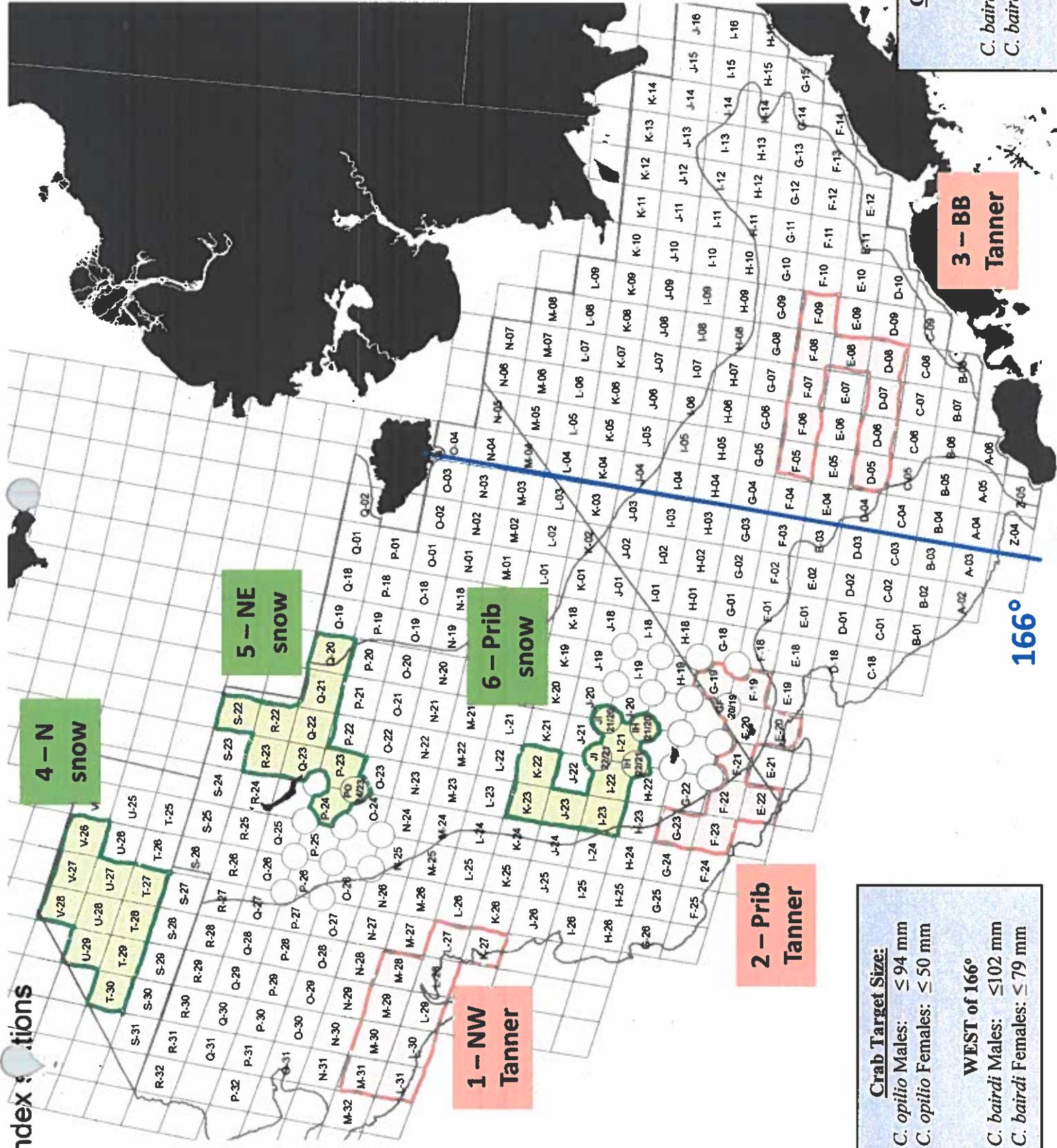
Recommended Caddy Contents:

- Collection plate
- Sharps container
- Bag of unused syringes
- Plastic bag for used syringes and wrappers
- Plastic bags for small crabs (freezing)
- Specimen label booklet (freezing)



2015 BCS

Index Sites



2015 EBS SHELF Survey: *Chionoecetes opilio* LIVE collection – Kodiak / Pathobiology Leg 3 – Alaska Knight

The goal is to collect **50** LIVE immature male *Chionoecetes opilio* outside of Pathobiology index sites on LEG 3, Alaska Knight.

Collections:

- 1) During Leg 3, select **50** immature male *C. opilio* between **50 & 75 mm** carapace width that appear to be in good shape (look healthy, have all limbs)
- 2) Please do **not** take crab from the Index Site stations:

Index Site Stations: Please do not collect live crab from these stations

- 1 – NW Tanner: K-27, L-27, L-28, M-28, L-29, M-29, L-30, M-30, L-31, M-31
- 2 – Prib Tanner: F-19, G-19, GF-20/19, E-20, F-20, F-21, E-22, F-22, F-23, G-23
- 3 – BB Tanner: F-09, D-08, E-08, F-08, D-07, F-07, D-06, F-06, D-05, F-05
- 4 – N Snow: V-26, T-27, U-27, V-27, T-28, U-28, V-28, T-29, U-29, T-30
- 5 – NE Snow: Q-20, Q-21, Q-22, R-22, S-22, P-23, Q-23, R-23, PO-24/23, P-24
- 6 – Prib Snow: IH-21/20, JI-21/20, I-21, IH-22/21, JI-22/21, I-22, K-22, I-23, J-23, K-23

- 3) Place ~10 crab per onion bags and keep bags in holding tank for the duration of the survey.
- 4) Periodically check the collection and toss out dead crabs.

Packing crabs: (notes from ADFG Procedure “Packing Live Crabs for Transport”)

- 1) If checked baggage, contact Pen Air in advance with flight details and the number of coolers as checked bags containing live crabs. Dutch Harbor Pen Air: 907-581-1383.
- 2) If shipping on Air Cargo, coordinate with them the day before: find out flight times and best time to deliver crabs. Typically, Pen Air Cargo requests delivery by ~8 am to make their morning cargo flight and ACE Cargo will deliver to Kodiak in the same day ONLY if it is set up in advance and they have a large enough load to justify it. Dutch Harbor ACE: 907-581-5787.
- 3) Tare the scale with empty cooler before packing.
- 4) Place a row of large ice packs along the bottom (2-3) and one upright at each end.
- 5) Soak burlap in cold seawater and cover the ice packs, ensuring that the crab will not come in direct contact with the ice packs. Retain as much moisture in the burlap as possible.
- 6) Add the first layer of crab (right side up with legs outstretched), so the crabs are touching but their bodies are not overlapping. Ensure they have a burlap cushion and are packed carefully to avoid smashing or in contact with ice pack edges. Crabs can be placed inside onion bags for additional protection.
- 7) Add a layer of wet burlap over the crab. Add 2 medium or large ice packs, placed at the 1/3 and 2/3 mid-points, add another layer of wet burlap.
- 8) Add the second layer of crab, and then add another layer of wet burlap, covering the crab.
- 9) Add 3 medium ice packs, at the start, 1/2, and end points, add another layer of wet burlap. Repeat.
- 10) Finally, add several small ice packs (5-8), interspersed on top (it is important to have multiple ice packs here as warm air rises).
- 11) Repeat as needed to fill the cooler, but ensure the lid can close without putting any pressure on the contents.
- 12) Weigh the cooler. Since the scale reads in kg and you are trying to keep weight under 100 lbs, ensure the scale reads no more than 46 kg (although 45 kg is just under 100 lbs, assume at least 1 kg of water (or ~1L) will be drained out at the airport).
- 13) Tape on a shipping label to the lid.
- 14) Seal cooler with duct tape if shipping on Air Cargo or with duct tape or cooler straps if taking as checked baggage.
- 15) At the airport, hold each cooler at an angle off the tail gate, open the stop cock, and drain all the water out (this is important both for weight allowances and for crab health, as crabs at the bottom of the cooler will suffocate if immersed in water).
- 16) When transporting coolers as checked baggage, STRESS the fact that there are live crabs in the coolers and they **MUST be loaded with you**; ask them to add Live Animal and Must Load tags to the coolers (& possibly Keep Cool).
- 17) If transporting coolers as Air Cargo, STRESS the fact that they contain live crabs and they must be shipped as quickly as possible (Gold Streak).



Brown & Formalin Plate
Data Sheet for HEMOCYTE Collections

St. Mots Opies

Location: Kodiak Lab Year: 2012-2015 09/03/15 PCT

tag #	Species	Sex	Size (mm)	Comments
2011/2013	Cephalio	1		BCCS - GP (gravity prep) well A1 - 10% F formalin, slide C.1 bld +, 10%
2014/2017	Co	1		BCCS - GP well A2 20% F formalin, slide C.1 bld +, 10%
2010/2017	Co - nearly dead	1		BEST - GP Blood smear
2010/2015	Co	1		BEST - GP Blood smear
				C1 10% F
				C2 20% F
				Blood smear
2015/2017	Co	1		BCCS - DI (slide only)
2013/2017	Co	1		BEST + GP (slide only) crab nearly dead white blood
2020/2040	Co	1		BEST + GP Blood smear
				F1
				F2
				BEST + Blood smear
2024/2018	Co	1		BEST + GP

1872



**Gravity Loop & Fetalin Plate
Data Sheet for HEMOCYTE Collections**

of Mathematics

Location: Kodiak Lab Year: 2012 Date: 2015



2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 20
Collected By: CA/NS

Vessel: Nootka
Leg: 1

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	24	CB	1	109	3	23	
B 1	24	CB	1	110	3	25	
C 1	24	CB	1	100	3	20	
D 1	24	CB	1	109	3	23	
E 1	40	CB	1	109	3	22	
F 1	40	CB	1	87	3	17	
G 1	40	CB	1	108	3	22	
H 1	40	CB	1	112	3	22	
A 2	40	CB	2	77	3		
B 2	41	CB	2	74	4		
C 2	41	CB	2	81	4		
D 2	41	CB	2	81	4		
E 2	41	CB	2	82	4		
F 2	41	CB	2	75	4		
G 2	41	CB	2	82	4		
H 2	41	CB	2	81	4		
A 3	41	CB	2	79	4		
B 3	41	CB	2	78	4		
C 3	41	CB	2	69	4		
D 3	DO NOT TAKE SAMPLE - CONTROL WELL						
E 3	41	CB	2	78	4		
F 3	41	CB	2	82	4		
G 3	41	CB	2	79	4		
H 3	41	CB	2	73	4		
A 4	41	CB	2	77	4		
B 4	41	CB	2	81	4		
C 4	41	CB	1	102	3	20	
D 4	41	CB	1	109	3	22	
E 4	41	CB	1	48	2	5	
F 4	41	CB	2	78	4		
G 4	41	CB	2	44	2		
H 4	41	CB	2	45	2		
A 5	41	CB	1	108	3	23	
B 5	41	CB	1	77	3	13	
C 5	41	CB	2	45	2	18	
D 5	41	CB	2	79	3		
E 5	41	CB	2	73	3		
F 5	41	CB	1	35	2		
G 5	DO NOT TAKE SAMPLE - CONTROL WELL						
H 5	41	CB	2	74	4		
A 6	41	CB	1	36	3		
B 6	41	CB	2	77	4		
C 6	41	CB	1	88	3	16	
D 6	41	CB	2	82	4		
E 6	41	CB	1	108	3		
F 6	41	CB	2	79	4		
G 6	41	CB	2	76	4		
H 6	41	CB	2	76	4		

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	41	CB	2	83	4		
B 7	41	CB	2	82	3		
C 7	41	CB	2	76	4		
D 7	42	CB					
E 7	42	CB	1	104	3	20	
F 7	42	CB	2	62	2		
G 7	42	CB	1	109	3	20	
H 7	42	CB	2	58	2		
A 8	42	CB	1	107	2	19	
B 8	42	CB	1	100	3	16	
C 8	42	CB	1	59	2	7	
D 8	42	CB	1	94	3	19	
E 8	42	CB	1	32	2		
F 8	DO NOT TAKE SAMPLE - CONTROL WELL						
G 8	42	CB	2	73	4		
H 8	42	CB	2	79	3		
A 9	42	CB	2	46	2		
B 9	42	CB	2	59	2		
C 9	42	CB	2	80	3		
D 9	42	CB	2	46	2		
E 9	42	CB	2	46	2		
F 9	42	CB	2	77	2		
G 9	42	CB	2	61	2		
H 9	42	CB	1	61	2		
A 10	42	CB	2	79	3		
B 10	DO NOT TAKE SAMPLE - CONTROL WELL						
C 10	42	CB	1	59	2		
D 10	42	CB	1	54	2	7	
E 10	42	CB	1	108	3	18	
F 10	42	CB	2	74	2		
G 10	42	CB	1	78	2		
H 10	42	CB	1	111	3	22	
A 11	42	CB	2	52	2		
B 11	44	CB	2	68	3		
C 11	44	CB	1	51	2	6	
D 11	44	CB	2	84	3		
E 11	44	CB	2	46	2		
F 11	44	CB	1	107	2	21	
G 11	44	CB	1	110	4	20	
H 11	44	CB	1	88	4	16	
A 12	DO NOT TAKE SAMPLE - CONTROL WELL						
B 12	44	CB	2	73	3		
C 12	44	CB	1	62	2	7	
D 12	44	CB	1	108	4		
E 12	44	CB	1	109	3	20	
F 12	44	CB	1	110	3	17	
G 12	44	CB	1	48	2	5	
H 12	44	CB	1	106	3	23	

QA/QC 11/10/15

② n/41

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

D7: cap popped, read instructions AFTER discarding crab
w/o taking measurement! Sorry . . .

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)!

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number:

21

Vessel:

Vesteradon

Collected By: CA/NS 10CJ

Leg:

Keys & Comments on back



Well: Haul # Species Sex Size Shell Chela BCS+

A1	44	CB	1	109	3	23	
B1	44	CB	1	78	3		
C1	44	CB	1	82	4	15	
D1	44	CB	1	66	2	8	
E1	44	CB	2	49	2		
F1	44	GB	1	50	2	6	
G1	44	CB	2	56	2		
H1	42	CB	1	86	2	12	
A2	42	CB	1	42	2	5	
B2	42	CB	1	49	2	6	
C2	42	CB	2	50	2		
D2	42	CB	1	43	2	-	
E2	42	CB	1	65	2	8	
F2	42	GB	2	71	4		
G2	41	CB	2	75	4		
H2	41	CB	2	77	4		
A3	104	CB	1	97.7	3	18.8	-
B3				96.1	3	19.6	-
C3				90.6	3	14.1	-
D3	DO NOT TAKE SAMPLE - CONTROL WELL						
E3				102.0	3	21.2	-
F3				98.5	3	20.2	-
G3				95.4	2	18.5	-
H3				93.8	3	18.9	-
A4				98.4	3	20.0	-
B4				97.4	3	19.2	-
C4				97.9	3	17.4	-
D4				85.4	3	19.3	-
E4				85.6	4	16.3	-
F4				101.4	3	21.6	-
G4	101	CB	2	46.8	2	-	-
H4	106	CB	2	23.7	2	-	-
A5	104	CB	1	30.7	2	-	-
B5	104		1	23.0	2	-	-
C5	104		1	22.2	2	-	-
D5	106		1	88.0	3	16.2	-
E5	106		1	74.2	2	10.6	-
F5	106		1	91.4	2	15.4	-
G5	DO NOT TAKE SAMPLE - CONTROL WELL						
H5	102	CB	1	100.4	3	18.4	-
A6				84.1	3	16.9	-
B6				93.5	2	16.5	-
C6				83.8	3	14.8	-
D6				91.1	3	20.2	-
E6				90.8	3	17.3	-
F6				83.1	3	15.1	-
G6				86.8	3	16.9	-
H6	102	CB	2	42.5	2	-	-

SHORT M (4)

101, 104, 106, 102, 108, 114

6 + 20 = 120

QA/QC 80.5-75
10/15 ② 11/4/15

A7	102	CB	1	40.8	2	5.3	-
B7	104	CB	1	97.8	3	21.4	-
C7				98.5	3	22.0	-
D7				99.8	3	21.0	-
E7				100.6	3	18.8	-
F7				97.0	4	21.8	-
G7				99.3	2	18.5	-
H7				95.3	3	18.1	-
A8				93.5	3	20.3	-
B8				97.2	2	19.0	-
C8				101.3	2	21.3	-
D8				99.0	2	19.3	-
E8				98.6	3	19.3	-
F8	DO NOT TAKE SAMPLE - CONTROL WELL						
G8				101.4	3	20.4	-
H8				96.7	3	19.6	-
A9				103.5	3	24.9	-
B9				99.9	3	22.5	-
C9				96.3	3	19.6	-
D9				99.9	2	22.6	-
E9				94.9	3	20.5	-
F9				82.6	3	13.9	-
G9				102.1	3	20.5	-
H9				100.8	3	19.6	-
A10	104	CB	1	702.4	3	19.7	-
B10	DO NOT TAKE SAMPLE - CONTROL WELL						
C10	108	CB	1	98.3	3	19.0	-
D10				89.7	3	15.8	-
E10				89.6	3	15.6	-
F10				97.9	3	16.6	-
G10				107.3	3	20.0	-
H10				89.7	2	15.1	-
A11				94.5	2	17.1	-
B11				85.0	2	12.0	-
C11				99.2	2	15.1	-
D11				87.5	2	10.5	-
E11				65.4	2	8.7	-
F11				96.9	3	16.7	-
G11				79.9	2	11.3	-
H11				101.2	3	19.2	-
A12	DO NOT TAKE SAMPLE - CONTROL WELL						
B12	108	CB	1	95.3	2	13.0	-
C12				90.0	2	15.6	-
D12				87.8	3	14.9	-
E12				80.1	2	11.3	-
F12				87.3	2	14.7	-
G12				77.2	2	10.8	-
H12	108	CB	1	63.6	2	8.3	-

Column 11

Column 12

NOTES: Non-random? Mistakes? Anything Unusual? (Please write WELL Number in front of comment)

E5 - broken claws regen

H4 - rt claw bld

C9, F6 - left^{rt} claw missing; mid left

F10, G6 - left claw regen

C9 - rt claw missing

rt claw regen; mid left: E10, G11

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

AND 3

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! **BLOOD SMEARS**

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS *Chionoecetes* Index Site Hemolymph Collections - Pathobiology

Plate Number: 21-22

Vessel: 74

Collected By: RCS

Leg: 2 201501

Keys & Comments on back

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	108	CB	1	76.8	2		
B 1			2	68.7	2		
C 1			2	63.3	2		
D 1			2	34.7	2		
E 1			2	30.7	2		
F 1			2	33.9	2		
G 1			1	31.7	2		
H 1	108	CB	2	31.2	2		
A 2	114	CB	2	37.4	2		
B 2			2	29.9	2		
C 2			2	56.0	2		
D 2			1	20.7	2		
E 2			2	30.4	2		
F 2			2	35.4	2		
G 2			2	58.7	2		
H 2			1	23.1	2	2.9	H
A 3			2	30.0	2		
B 3			1	23.7	2		
C 3			1	24.1	2		
D 3	DO NOT TAKE SAMPLE - CONTROL WELL						
E 3			1	30.8	2		
F 3			2	33.0	2		
G 3			2	32.2	2		
H 3			1	32.8	2		
A 4			2	29.6	2		
B 4			1	24.5	2		
C 4			2	32.6	2		
D 4			1	24.4	2		
E 4			1	22.7	2		
F 4			2	35.6	2		
G 4			1	33.5	2		
H 4			1	40.0	2		
A 5			1	31.6	2		
B 5			1	32.9	2		
C 5			1	44.9	2		
D 5			1	31.6	2		
E 5			1	32.6	2		
F 5			1	32.8	2		
G 5	DO NOT TAKE SAMPLE - CONTROL WELL						
H 5				35.4	2		
A 6			2	30.6	2		
B 6			1	21.9	2		
C 6			1	25.0	2		
D 6			1	24.2	2		
E 6			2	60.3	2		
F 6			1	32.7	2		
G 6			2	34.0	2		
H 6	114	CB	2	58.9	2		

Well	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	114	CB	2	72.6	2	-	-
B 7			2	78.6	2	-	-
C 7			2	31.6	2	-	-
D 7			2	58.0	2	-	-
E 7			2	33.5	2	-	-
F 7			2	31.2	2	-	-
G 7			2	31.5	2	-	-
H 7			1	101.5	4	27.1	-
A 8			1	93.4	3	20.0	-
B 8	114	CB	1	97.6	4	19.9	-
C 8	115	CB	1	74.1	2	-	-
D 8			1	97.8	4	14.9	-
E 8			1	86.7	2	14.2	-
F 8	DO NOT TAKE SAMPLE - CONTROL WELL						-
G 8			1	101.4	4	18.2	-
H 8			1	72.3	2	12.3	-
A 9			1	76.5	2	11.1	-
B 9			1	71.4	4	11.4	-
C 9			1	76.2	2	10.2	-
D 9			1	96.2	3	12.9	-
E 9			1	60.7	2	7.4	-
F 9			2	34.2	2	-	-
G 9			1	36.0	2	7.2	-
H 9			2	29.6	2	-	-
A 10			1	30.9	2	-	-
B 10	DO NOT TAKE SAMPLE - CONTROL WELL						-
C 10			1	28.1	2	-	-
D 10	113	CB	1	90.6	3	-	-
E 10	116	CB	1	29.4	2	3.4	-
F 10			1	18.5	2	3.0	-
G 10			1	23.3	2	-	-
H 10			1	29.0	2	-	-
A 11			2	20.8	2	-	-
B 11			1	23.6	2	-	-
C 11			2	30.3	2	-	-
D 11			2	29.0	2	-	-
E 11			2	43.3	2	-	-
F 11			1	24.2	2	3.2	-
G 11			2	30.2	2	-	-
H 11			1	30.5	2	-	-
A 12	DO NOT TAKE SAMPLE - CONTROL WELL						-
B 12			1	26.4	2	-	-
C 12			1	20.8	2	-	-
D 12			1	22.5	2	-	-
E 12			2	31.0	2	-	-
F 12			1	31.4	2	-	-
G 12			1	24.8	2	-	-
H 12	116	CB	1	21.3	2	-	-

101, 104, 106, 102, 108, 114. Rate,
C. E. 20-140

$(25+7 \times 8) - 23$
 $75 + 56 - 23 = 108 - 23 = 85$ 11/13/15 Q/A/bc @ 11/14/15

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

1 ml bld: D2, E2, A3, B4, C4

white blood: H2

missing claw: H7, B8

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

AND 3

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! BLOOD SMEARS

KEYS:

Species: CO = <i>C. opilio</i> CB = <i>C. bairdi</i> *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number:

23

Vessel:

94

Collected By:

PCJ + WCL

Leg:

8/2015/01

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	116	CB	1	73.3	3	13.0	-
B 1			1	74.4	2	9.8	-
C 1			1	83.0	3	15.1	-
D 1	116	CB	1	75.0	2	10.5	-
E 1	117	CB	2	30.2	2	-	-
F 1			1	31.3	2	-	-
G 1			1	37.3	2	-	-
H 1			2	37.2	2	-	-
A 2			2	33.7	2	-	-
B 2			2	30.9	2	-	-
C 2			1	30.5	2	-	-
D 2			1	22.3	2	-	-
E 2			1	26.3	2	-	-
F 2			2	31.5	2	-	-
G 2			1	30.5	2	-	-
H 2			2	24.0	2	-	-
A 3			2	29.5	2	-	-
B 3			2	31.0	2	-	-
C 3			2	23.2	2	-	-
D 3	DO NOT TAKE SAMPLE - CONTROL WELL						
E 3			2	29.7	2	-	-
F 3			1	25.1	2	-	-
G 3	117	CB	2	20.6	2	-	-
H 3	124	Co	1	84.3	4	17.2	-
A 4			1	85.6	4	8.5	-
B 4			1	55.6	3	11.8	-
C 4	124	Co	1	81.3	3	18.0	-
D 4	136	Co	1	71.5	2	12.7	-
E 4	136	Co	1	87.6	4	21.9	-
F 4	137	Co	1	72.3	3	15.6	-
G 4	137	Co	1	73.3	3	16.4	-
H 4	137	Co	1	92.3	4	18.5	-
A 5	121	Co	1	78.0	2	12.5	-
B 5			1	94.6	2	16.0	-
C 5			1	72.3	3	14.3	-
D 5			1	81.4	4	20.2	-
E 5			1	97.3	3	14.6	-
F 5	121	Co	1	71.0	2	16.0	-
G 5	DO NOT TAKE SAMPLE - CONTROL WELL						
H 5	122	Co	1	79.7	4	16.0	-
A 6	122	Co	1	71.2	4	15.9	-
B 6	137		1	49.7	4	19.1	-
C 6	137		1	89.6	4	22.5	-
D 6	137		1	87.8	3	20.9	-
E 6			1	89.6	4	22.3	-
F 6			1	63.1	3	12.8	-
G 6			1	75.6	4	17.8	-
H 6	137		1	80.8	4	16.2	-

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	137	Co	1	76.3	3	16.2	-
B 7			1	89.4	4	21.4	-
C 7			1	82.9	4	21.1	-
D 7			1	92.2	3	20.8	-
E 7			1	75.8	4	18.9	-
F 7			1	88.7	4	20.5	-
G 7			1	92.7	3	22.2	-
H 7	137	Co	1	90.8	3	19.6	-
A 8	139	Co	1	63.0	4	13.0	-
B 8			1	77.8	3	17.5	-
C 8			1	64.6	3	14.1	-
D 8			1	60.8	3	12.3	-
E 8			1	74.7	3	17.2	-
F 8	DO NOT TAKE SAMPLE - CONTROL WELL						
G 8			1	74.1	3	17.4	-
H 8			1	79.7	4	18.0	-
A 9			1	77.9	3	18.2	-
B 9			1	77.5	3	18.3	-
C 9			1	72.5	4	18.4	-
D 9			1	76.9	3	16.7	-
E 9			1	70.9	3	16.4	-
F 9	139	Co	1	84.3	3	20.0	-
G 9	170	Co	1	59.0	2	12.6	-
H 9		Co	2	60.1	2	9.2	-
A 10			1	48.9	2	7.9	-
B 10	DO NOT TAKE SAMPLE - CONTROL WELL						
C 10			1	67.6	2	11.0	-
D 10			1	61.0	2	9.4	-
E 10			1	66.3	2	10.0	-
F 10			2	52.8	2	-	-
G 10			2	21.5	2	-	-
H 10			2	43.7	2	-	-
A 11			1	26.4	2	3.9	-
B 11			2	37.9	2	-	-
C 11			2	36.7	2	-	-
D 11			1	34.1	2	-	-
E 11			1	56.5	2	11.1	-
F 11			1	86.7	2	16.9	-
G 11			1	21.2	2	3.2	-
H 11			2	39.3	2	-	-
A 12	DO NOT TAKE SAMPLE - CONTROL WELL						
B 12			1	39.6	2	6.39	-
C 12			2	39.0	2	-	-
D 12			1	38.5	2	15.2	-
E 12	170	Co	1	56.2	2	11.1	-
F 12	170	Co	1	40.4	2	6.6	-
G 12	171	Co	1	68.3	2	14.7	-
H 12			1	-	-	-	-

124, 136, 137, 121, 122

② 11/9/15 QC
11/23/15 Measurements in mm

NOTES: Non-random? Mistakes? Anything Unusual? (Please write WELL Number in front of comment)

Chela missing: A5D5, F7

CL - has D6 + E6 claws mixed - don't process

** many small crabs, only .1 ml bld

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

AND 3
BLOOD SMEARS

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)!

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 205 24
Collected By: NCL/NR

Vessel: 9A
Leg: 3

Keys & Comments on
back

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+	Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	195	cb	1	24.0	2	2.8	-	A 7	198	cb	1	48.3	2	6.4	-
B 1	193	cb	1	17.8	2	2.0	-	B 7			1	27.5	2	-	-
C 1	196	cb	1	108.4	3	22.8	-	C 7			2	25.4	2	-	-
D 1	194	cb	1	102.7	3	20.3	-	D 7			1	26.0	2	-	-
E 1	196	cb	1	86.3	3	15.0	-	E 7			2	16.9	2	-	-
F 1	196	cb	1	95.6	3	17.7	-	F 7	x		1	29.0	2	-	-
G 1	196	cb		98.3	3	18.9	-	G 7			3	27.2	2	-	-
H 1	196	cb	1	99.4	3	17.8	-	H 7			1	58.2	2	8.9	-
A 2	196	cb	2	35.7	2	-	-	A 8			1	57.0	2	-	-
B 2	196	cb	1	97.6	3	18.0	-	B 8			2	35.1	2	-	-
C 2	196	cb	1	99.2	3	18.9	-	C 8			2	31.7	2	-	-
D 2	196	cb	2	61.0	2	-	-	D 8			1	27.3	2	-	-
E 2	196	cb	1	97.5	3	17.2	-	E 8			2	23.2	2	-	-
F 2	196	cb	1	87.9	3	15.00	-	F 8	DO NOT TAKE SAMPLE - CONTROL WELL						
G 2	196	cb	1	90.1	2	14.8	-	G 8			2	25.1	2	-	-
H 2	196	cb	1	93.0	3	15.0	-	H 8			2	23.3	2	-	(+)
A 3	196	cb	1	95.0	2	17.0	-	A 9			2	27.0	2	-	-
B 3	196	cb	1	95.6	3	18.6	-	B 9			1	31.2	2	-	-
C 3	196	cb	1	81.0	2	15.5	-	C 9			1	30.2	2	-	-
D 3	DO NOT TAKE SAMPLE - CONTROL WELL							D 9			2	33.2	2	-	-
E 3	196	cb	1	90.6	3	15.2	-	E 9	cb		2	47.6	2	-	-
F 3	196	cb	1	82.9	3	13.5	-	F 9			1	55.7	2	7.5	-
G 3	196	cb	1	81.2	3	13.5	-	G 9			1	32.2	2	-	-
H 3	196	cb	1	100.0	2	8.7	-	H 9	198	ca	2	29.3	2	-	-
A 4	196	cb	1	93.5	2	17.2	-	A 10	196	cb	2	93.2	3	13.6	-
B 4	196	cb	1	63.7	2	8.8	-	B 10	DO NOT TAKE SAMPLE - CONTROL WELL						
C 4	196	cb	1	77.7	2	11.0	-	C 10	cb	1	91.6	2	16.4	-	
D 4			1	74.3	2	12.3	-	D 10			1	99.9	2	18.2	-
E 4			1	95.0	2	17.8	-	E 10			1	85.7	2	14.2	-
F 4			1	94.8	2	17.1	-	F 10			1	100.9	2	15.6	-
G 4			1	87.0	2	-	-	G 10			1	94.0	2	17.6	-
H 4			1	95.6	2	17.0	-	H 10			1	94.7	2	17.1	-
A 5			1	87.2	2	15.7	-	A 11			1	90.9	3	15.6	-
B 5			1	88.4	2	13.5	-	B 11			1	97.6	2	15.3	-
C 5			1	95.3	2	16.7	-	C 11			1	101.2	2	19.7	-
D 5			1	89.3	2	15.7	-	D 11			1	94.5	3	17.5	-
E 5			1	95.9	2	17.4	-	E 11			1	80.2	2	11.4	-
F 5			1	95.0	2	16.7	-	F 11			1	95.0	2	18.5	-
G 5	DO NOT TAKE SAMPLE - CONTROL WELL							G 11			1	93.3	3	16.1	-
H 5			1	77.5	2	18.3	-	H 11			1	95.2	2	17.0	-
A 6			1	100.2	2	18.4	-	A 12	DO NOT TAKE SAMPLE - CONTROL WELL						
B 6			1	25.7	2	3.5	-	B 12			1	88.2	2	15.5	-
C 6			1	94.4	2	16.3	-	C 12			1	93.9	3	17.7	-
D 6			1	98.5	2	18.2	-	D 12			1	92.0	2	16.2	-
E 6			1	98.5	2	18.2	-	E 12			1	98.9	3	18.2	-
F 6			1	96				F 12			1	91.3	3	16.8	-
G 6			1	91.0	cb			G 12			1	100.9	3	19.5	-
H 6			1	91.0	cb			H 12	196	cb	1	98.8	2	17.4	-

QA/QC 11/21/15

② 11/21/15

9 behnd

15 F 24

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

0.1 ml sample - A1, B6, B7, E7, H8, H9

G4 - NO chela

A5 - No Samples in one well

One chela - F10

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

AND 3

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! BLOOD SMEARS

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 25

Vessel: 94
Leg: 3

Keys & Comments on
back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	171	CO	1	61.2	2	10.1	-
B 1	3	4	1	72.0	2	12.9	-
C 1			1	61.5	2	13.2	-
D 1			1	59.9	2	9.5	-
E 1			1	53.6	2	8.5	-
F 1			1	75.1	2	13.1	-
G 1			1	63.2	2	10.1	-
H 1			1	68.1	2	12.5	-
A 2			1	55.9	2	9.5	-
B 2			1	45.4	2	7.4	-
C 2			1	66.9	2	11.7	-
D 2			1	64.0	2	10.9	-
E 2			1	71.7	2	15.7	-
F 2			1	64.7	2	13.6	-
G 2			1	56.8	2	9.8	-
H 2			1	60.4	2	10.0	-
A 3			1	62.2	2	10.4	-
B 3	171	CO	1	62.10	2	10.9	-
C 3	182	cb	1	34.9	2	7.4	-
D 3							DO NOT TAKE SAMPLE - CONTROL WELL
E 3	183	cb	2	34.2	2		
F 3	184	cb	2	50.9	2		
G 3	184	cb	2	29.2	2		
H 3	184	cb	2	50.0	2		
A 4	184	cb	1	43.6	2	5.4	-
B 4	184	cb	2	57.3	2	-	-
C 4	184	cb	2	44.5	2	-	-
D 4	184	cb	2	32.0	2	4.1	+
E 4	184	cb	2	33.5	2	-	-
F 4	184	cb	1	44.5	2	5.2	-
G 4	192	cb	1	38.5	2	4.7	-
H 4			1	31.8	2	3.9	-
A 5			1	32.4	2	3.9	-
B 5			1	22.4	2	2.9	-
C 5			1	24.10	2	3.0	-
D 5			1	23.8	2	3.0	-
E 5			1	24.10	2	3.2	-
F 5			1	25.7	2	2.7	+
G 5							DO NOT TAKE SAMPLE - CONTROL WELL
H 5			1	20.4	2	5.1	+
A 6			1	18.16	2	2.2	-
B 6			1	17.3	2	2.2	-
C 6			2	15.0	2		-
D 6			2	33.0	2		+
E 6			2	32.0	2		-
F 6			2	30.8	2		-
G 6	192	cb	2	18.50	2	-	+
H 6	193	cb	1	90.4	2	15.8	-

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	193	cb	1	62.2	2	7.3	-
B 7	193	cb	1	44.7	2	5.5	-
C 7	193	cb	1	52.5	2	6.8	-
D 7	193	cb	1	42.0			
E 7	193	cb	1	42.8	2	5.40	-
F 7	193	cb	1	51.5	2	6.8	-
G 7	193	cb	1	61.1	2	9.1	-
H 7	193	cb	1	41.9	2	5.2	-
A 8			1	39.0	2	5.3	-
B 8			1	44.8	2	5.4	-
C 8			1	32.9	2	4.4	-
D 8			1	35.2	2	4.4	-
E 8			1	55.2	2	7.4	-
F 8							DO NOT TAKE SAMPLE - CONTROL WELL
G 8			1	34.6	2	4.9	-
H 8			1	42.8	2	5.3	-
A 9			1	48.0	2	10.3	-
B 9			1	45.8	2	5.9	-
C 9			1	24.5	2	3.2	-
D 9			2	44.2	2		-
E 9			2	31.4	2	+	-
F 9			2	38.7	2		-
G 9			2	48.4	2		-
H 9			2	37.0	2	+	-
A 10			2	48.0	2	-	-
B 10							DO NOT TAKE SAMPLE - CONTROL WELL
C 10			2	41.7	2	+	-
D 10			2	37.8	2	-	-
E 10			2	27.3	2	-	-
F 10			2	43.2	2	+	-
G 10			2	33.5	2	+	-
H 10			2	53.7	2	-	-
A 11	192	cb	2	26.8	2	-	-
B 11			2	31.4	2	-	-
C 11			2	26.4	2	-	-
D 11			2	25.2	2	-	-
E 11			2	20.0	2	-	-
F 11			2	24.2	2	-	-
G 11	192	cb	2	24.4	2	-	-
H 11	195	cb	2	26.2	2	-	-
A 12							DO NOT TAKE SAMPLE - CONTROL WELL
B 12	195	cb	2	18.7	2	-	-
C 12	195	cb	2	32.5	2	-	-
D 12	195	cb	2	22.5	2	-	-
E 12	195	cb	2	17.3	2	-	-
F 12	195	cb	2	19.4	2	-	-
G 12	195	cb	2	18.9	2	-	-
H 12	195	cb	1	27.7	2	3.8	-

QA/QC 11/31/15

© 11/31/15

NOTES: Non-random? Mistakes? Anything Unusual? (Please write WELL Number in front of comment)

- 0-1ml
- C4, H4, A5, B5, C5, D5, F5, H5, A6, B6, F6, G6, C8
 - C9, E10, F10, G10, E11, G11, B12, E12, F12, G12, H12
 - F5 - Hippato pancreas?
 - C7 - may be empty & contents in D7

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! AND 3 BLOOD SNEAKS

KEYS:

Species: CO = <i>C. opilio</i> CB = <i>C. bairdi</i> *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 260
 Collected By: WCL/NR

Vessel: 94
 Leg: 201501

Keys & Comments on
back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A1	96	Cb	2	98.6	3	15.2	
B1				94.3	2	10.9	
C1				101.97	3	15.5	
D1				91.0	2	15.4	
E1				96.6	2	14.26	
F1				98.3	3	16.8	
G1							
H1							
A2							
B2							
C2							
D2							
E2							
F2							
G2							
H2							
A3							
B3							
C3							
D3		DO NOT TAKE SAMPLE - CONTROL WELL					
E3							
F3							
G3							
H3							
A4							
B4							
C4							
D4							
E4							
F4							
G4							
H4							
A5							
B5							
C5							
D5							
E5							
F5							
G5		DO NOT TAKE SAMPLE - CONTROL WELL					
H5							
A6							
B6							
C6							
D6							
E6							
F6							
G6							
H6							

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A7							
B7							
C7							
D7							
E7							
F7							
G7							
H7							
A8							
B8							
C8							
D8							
E8							
F8		DO NOT TAKE SAMPLE - CONTROL WELL					
G8							
H8							
A9							
B9							
C9							
D9							
E9							
F9							
G9							
H9							
A10							
B10		DO NOT TAKE SAMPLE - CONTROL WELL					
C10							
D10							
E10							
F10							
G10							
H10							
A11							
B11							
C11							
D11							
E11							
F11							
G11							
H11							
A12		DO NOT TAKE SAMPLE - CONTROL WELL					
B12							
C12							
D12							
E12							
F12							
G12							
H12							

QA/QC 11/23/15 @ 11/14/15

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! **BLOOD SHEARS**

KEYS:

Species:	Sex:	Size:	Shell Condition:	Chela:	BCS+:
CO = C. opilio	1 = Male	Carapace	0 = Premolt/Molt	MALE Chela	P = Visually Positive
CB = C. bairdi	2 = Female	Width (mm)	1 = Soft Shell	Height (mm)	N = Visually Negative
*or write out "opilio" or "bairdi"	3 = Unknown		2 = New Shell		
			3 = Old Shell	**Optional**	
			4 = Very Old Shell		
			5 = Graveyard		

2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number:

10

Vessel: 102

Collected By: Ron Dahlgren / Mike Fauston

Leg: 1

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A1	30	6	2	58	2		-
B1				62	2		-
C1				66	2		-
D1				100	2		-
E1				62	2		-
F1				52	2		-
G1				55	2		-
H1				64	2		-
A2	30	6	1	104	2		-
B2	1	1	1	111	3		-
C2			2	52	2		-
D2				55	2		-
E2			1	91	3		-
F2			2	54	2		-
G2			1	108	2		-
H2			1	58	2		-
A3			1	56	2		-
B3			2	58	2		-
C3	✓	✓	1	82	3		-
D3	DO NOT TAKE SAMPLE - CONTROL WELL						
E3	30	6	1	112	3		-
F3			2	52	2		-
G3	✓	✓	2	52	2		-
H3	30		1	90	2		-
A4	31	6	1	110	3		-
B4	31	6	1	105	2		-
C4	31	6	1	103	3		-
D4	31	6	2	43	2		-
E4	31	6	1	106	3		-
F4	31	6	1	50	2		-
G4	31	6	1	112	2		-
H4	31	6	1	112	2		-
A5	31	6	1	83	3		-
B5	31	6	1	89	3		-
C5	31	6	2	52	2		-
D5	31	6	1	37	2		-
E5	32	6	1	84	3		-
F5	32	6	1	66	2		-
G5	DO NOT TAKE SAMPLE - CONTROL WELL						
H5	32	6	1	93	3		-
A6	32	6	1	45	2		-
B6	32	6	1	89	3		-
C6	32	6	1	52	2		-
D6	32	6	1	70	2		-
E6	32	6	1	103	3		-
F6	32	6	1	52	2		-
G6	32	6	1	51	2		-
H6	32	6	1	52	2		-

Species 6 = C. bairdii

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A7	32	6	2	58	2		-
B7	32	6	1	43	2		-
C7	32	6	1	107	3		-
D7	32	6	1	55	2		-
E7	32	6	1	40	2		-
F7	32	6	1	39	2		-
G7	30	6	2	56	2		-
H7	30	6	2	51	2		-
A8	30	6	1	60	2		-
B8	30	6	2	52	2		-
C8	30	6	2	53	2		-
D8	30	6	1	50	2		-
E8	48	6	1	42	2		-
F8	DO NOT TAKE SAMPLE - CONTROL WELL						
G8	48	6	1	83	2		-
H8	48	6	1	105	2		-
A9	48	6	1	105	2		-
B9	48	6	1	80	2		-
C9	48	6	1	110	3		-
D9	48	6	1	43	2		-
E9	48	6	2	59	2		-
F9	48	6	2	46	2		-
G9	48	6	2	44	2		-
H9	48	6	1	45	2		-
A10	48	6	1	43	2		-
B10	DO NOT TAKE SAMPLE - CONTROL WELL						
C10	51	6	1	101	3		-
D10	51	6	1	75	3		-
E10	51	6	1	111	2		-
F10	51	6	2	57	2		-
G10	51	6	1	110	2		-
H10	51	6	2	67	2		-
A11	51	6	1	109	3		-
B11	51	6	1	111	3		-
C11	51	6	1	62	2		-
D11	51	6	1	109	3		-
E11	51	6	2	55	2		-
F11	51	6	2	46	2		-
G11	51	6	2	88	3		-
H11	51	6	1	112	2		-
A12	DO NOT TAKE SAMPLE - CONTROL WELL						
B12	51	6	1	84	3		-
C12	51	6	1	89	3		-
D12	51	6	1	54	2		-
E12	51	6	1	41	2		-
F12	51	6	1	82	3		-
G12	51	6	1	103	3		-
H12	51	6	1	54	2		-

Q/HAC
11/23/15 @ulivis

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

-Clutch info 2014 vs 2015

-Shco 4? immature??

-optional chela!

-tenths measurements

-from animals larger
than range

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)!

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 11

Vessel: 162

Collected By: Ben Daly / Mike Knutson

Leg: 1

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A1	51	CB	1	46	2		-
B1	51	CB	2	48	2		-
C1	51	CB	1	44	2		-
D1	51	GB	1	95	3		-
E1	51	CB	1	39	2		-
F1	51	CB	2	42	2		-
G1	51	CB	2	43	2		-
H1	138	CO	1	103	2		-
A2			2	45	2		-
B2			1	55	2		-
C2			1	40	2		-
D2			1	70	2		-
E2			1	72	2		-
F2			1	71	2		-
G2			1	76	2		-
H2			1	73	2		-
A3			1	63	2		-
B3			1	60	2		-
C3			1	78	2		-
D3							DO NOT TAKE SAMPLE - CONTROL WELL
E3			1	60	2		-
F3			1	77	2		-
G3			1	78	2		-
H3			1	75	2		-
A4	148		1	78	2		-
B4			1	79	2		-
C4			1	84	3		-
D4			1	69	2		-
E4			1	77	3		-
F4			1	85	2		-
G4			1	74	3		-
H4			1	75	2		-
A5			1	72	2		-
B5			2	57	2		-
C5			1	76	3		-
D5			1	82	3		-
E5			2	74	2		-
F5			1	73	3		-
G5							DO NOT TAKE SAMPLE - CONTROL WELL
H5			1	62	2		-
A6			1	72	2		-
B6			1	54	2		-
C6			1	63	2		-
D6			1	59	2		-
E6			1	66	2		-
F6			1	85	2		-
G6			1	54	2		-
H6	139		1	68	2		-

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A7	139		1	67	2		-
B7			1	58	2		-
C7			1	58	2		-
D7			2	59	2		-
E7			2	59	2		-
F7			1	64	2		-
G7			1	59	2		-
H7	151		2	59	2		-
A8			1	96	2		-
B8			1	75	2		-
C8			1	73	3		-
D8			1	84	3		-
E8			1	56	3		-
F8							DO NOT TAKE SAMPLE - CONTROL WELL
G8							183 3
H8							92 3
A9							102 2
B9							78 3
C9							52 2
D9							51 2
E9	166	CO	1	68	4		14
F9			1	74	3		17
G9			1	67	3		16
H9			1	81	3		19
A10							42 2
B10							DO NOT TAKE SAMPLE - CONTROL WELL
C10							42 2
D10							39 2
E10							40 2
F10							35 2
G10							36 2
H10	166	CO	2	35	2		-
A11	167	CO	1	77	3		17
B11			1	63	3		13
C11			1	56	2		9
D11			1	62	2		11
E11			2	55	2		-
F11			2	59	2		-
G11			1	49	2		9
H11			2	56	2		-
A12							DO NOT TAKE SAMPLE - CONTROL WELL
B12			2	44	2		-
C12			2	49	2		-
D12			2	43	2		-
E12			1	65	3		14
F12			1	63	2		11
G12			2	43	2		-
H12	167	CO	1	58	2		12

QHQC 11/15 01114K

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! Blood Smears
KEYS:

KEYS:

Species: CO = C. opilio CB = C. bairdi *or write out "opilio " or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 12

Vessel: 162

Collected By: Du/DB

Leg: 3

Keys & Comments on back



Well: Haul # Species Sex Size Shell Chela BCS+

A1	167	Co	2	48	2	-
B1			2	46	2	-
C1			2	44	2	-
D1			2	50	2	-
E1			1	41	2	00PS!
F1			2	43	2	-
G1			1	58	2	8
H1			1	49	2	8
A2			1	49	2	8
B2			1	65	2	11
C2			1	40	2	6
D2			1	52	2	8
E2			1	47	2	7
F2			2	44	2	-
G2			2	43	2	-
H2			2	49	2	-
A3			2	43	2	-
B3			2	48	2	-
C3			2	47	2	-
D3		DO NOT TAKE SAMPLE - CONTROL WELL				
E3				48	2	8
F3			2	43	2	-
G3			1	57	3	10
H3			1	60	2	10
A4			1	45	2	7
B4			1	43	2	6
C4			2	46	2	-
D4			1	57	2	10
E4			1	60	3	12
F4			1	47	2	8
G4			1	49	2	8
H4			2	43	2	-
A5			2	49	2	-
B5			1	62	2	14
C5			2	48	2	-
D5			1	62	2	12
E5			1	61	2	11
F5			2	50	2	-
G5		DO NOT TAKE SAMPLE - CONTROL WELL				
H5			2	47	2	-
A6			2	49	2	-
B6			1	54	2	10
C6			2	46	2	-
D6			1	50	2	7
E6			1	46	2	7
F6	✓	✓	1	52	2	8
G6			2	46	2	-
H6	167	Co	2	45	2	-

*H3, C7, D5, D11, F12 - RIGHT CHELA MISSING

QA/QC
11/23/15

② w/145

A7	167	Co	2	50	2	-
B7			1	48	2	-
C7			1	51	2	7
D7			1	51	2	8
E7			1	52	2	8
F7	✓	✓	1	50	2	7
G7	167	Co	1	76	3	15
H7	168	Co	1	75	2	16
A8			1	69	2	15
B8			1	56	2	12
C8			1	61	2	11
D8			1	70	2	13
E8			1	62	2	12
F8	DO NOT TAKE SAMPLE - CONTROL WELL					
G8			1	53	3	11
H8			1	55	2	11
A9			1	66	3	14
B9			1	68	3	14
C9			2	47	2	-
D9			2	48	2	-
E9			2	49	2	-
F9			2	50	2	-
G9			2	45	2	-
H9			2	46	2	-
A10			2	45	2	-
B10	DO NOT TAKE SAMPLE - CONTROL WELL					
C10			2	48	2	-
D10	✓	✓	2	44	2	-
E10	168	Co	2	50	2	-
F10	170	Co	1	76	2	16
G10			1	62	3	13
H10			1	79	2	14
A11			1	60	3	12
B11			1	62	2	11
C11			1	50	2	9
D11	✓	✓	1	55	3	8
E11	170	Co	1	47	2	10
F11	171	Co	1	82	2	18
G11			1	63	3	11
H11			1	52	2	8
A12	DO NOT TAKE SAMPLE - CONTROL WELL					
B12			1	66	2	12
C12			1	57	2	10
D12			1	60	2	10
E12			1	59	2	10
F12	✓	✓	1	46	2	7
G12	✓	✓	1	60	2	10
H12	171	Co	1	48	2	8

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! And 3 Blood Smears

KEYS.

Species: CO = C. opilio CB = C. bairdi *or write out "opilio " or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm)	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 13
Collected By: DU/DB

Vessel: 162
Leg: 3

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+	Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	171	C _o	1	50	2	8		A 7	174	C _o	1	38	2	6	
B 1			1	50	2	8		B 7			1	37	2	6	
C 1			1	55	2	9		C 7			1	37	2	6	
D 1			1	53	2	10		D 7			1	35	2	5	
E 1			1	76	2	14		E 7			1	36	2	6	
F 1			1	48	2	8		F 7			1	36	2	6	
G 1			2	47	2	—		G 7			2	50	2	—	
H 1			2	49	2	—		H 7			2	36	2	—	
A 2			2	41	2	—		A 8			2	42	2	—	
B 2			2	49	2	—		B 8			2	39	2	—	
C 2			2	48	2	—		C 8			2	38	2	—	
D 2			2	49	2	—		D 8			2	42	2	—	
E 2			2	46	2	—		E 8			2	45	2	—	
F 2			2	46	2	—		F 8		DO NOT TAKE SAMPLE - CONTROL WELL					
G 2			2	46	2	—		G 8			2	39	2	—	
H 2			2	49	2	—		H 8			2	43	2	—	
A 3			2	46	2	—		A 9	174	C _o	2	36	2	—	
B 3			2	44	2	—		B 9	183	C _o	2	48	3	—	
C 3			2	49	2	—		C 9			2	49	2	—	
D 3		DO NOT TAKE SAMPLE - CONTROL WELL						D 9			2	46	2	—	
E 3			2	44	2	—		E 9			1	65	2	11	
F 3	✓	✓	2	45	2	—		F 9			1	62	2	9	
G 3	174	C _o	2	45	2	—		G 9			1	52	2	8	
H 3	173	C _o	1	43	2	8		H 9			1	61	2	11	
A 4			1	55	2	10		A 10			1	35	2	10	
B 4			1	41	2	7		B 10		DO NOT TAKE SAMPLE - CONTROL WELL					
C 4			1	43	2	7		C 10			1	72	2	13	
D 4			1	53	2	9		D 10			1	60	2	9	
E 4			1	49	2	8		E 10			1	64	3	13	
F 4			1	48	2	7		F 10	✓	✓	1	56	2	9	
G 4			1	52	2	9		G 10	✓	✓	1	59	3	12	
H 4			1	45	2	7		H 10	183	C _o	1	59	3	13	
A 5			1	47	2	7		A 11	184	C _o	2	50	3	—	
B 5			2	45	2	—		B 11			2	48	2	—	
C 5			2	44	2	—		C 11			1	70	2	12	
D 5			2	43	2	—		D 11			1	55	2	9	
E 5			2	50	2	—		E 11			1	60	2	7	
F 5			2	48	2	—		F 11			1	62	2	8	
G 5	DO NOT TAKE SAMPLE - CONTROL WELL							G 11			1	58	2	10	
H 5	✓	✓	2	45	2	—		H 11			1	70	2	14	
A 6			2	48	2	—		A 12		DO NOT TAKE SAMPLE - CONTROL WELL					
B 6			2	43	2	—		B 12			1	53	2	9	
C 6	✓	✓	2	45	2	—		C 12			1	67	2	12	
D 6	173		2	41	2	—		D 12			1	56	2	10	
E 6	174		1	56	2	11		E 12			1	56	2	9	
F 6	✓	✓	1	45	2	7		F 12	✓	✓	1	57	2	9	
G 6	✓	✓	1	45	2	8		G 12	✓	✓	1	65	2	10	
H 6	174		1	41	2	7		H 12	184	C _o	1	61	2	10	

QAQC 11/23/15 E-11 RIGHT CHELA MISSING (2) 11

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! **Blood Smears**

KEYS:

Species:	Sex:	Size:	Shell Condition:	Chela:	BCS+:
CO = <i>C. opilio</i>	1 = Male	Carapace	0 = Premolt/Molt	MALE Chela	P = Visually Positive
CB = <i>C. bairdi</i>	2 = Female	Width (mm)	1 = Soft Shell	Height (mm)	N = Visually Negative
*or write out "opilio" or "bairdi"	3 = Unknown		2 = New Shell	**Optional**	
			3 = Old Shell		
			4 = Very Old Shell		
			5 = Graveyard		

2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 14
Collected By: Du/DB

Vessel: 162
Leg: 3

Keys & Comments on back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	184	Co	1	65	2	14	
B 1				57		10	*
C 1				60		10	
D 1				63		10	
E 1				91		16	
F 1				64		11	
G 1	184			57		9	*
H 1	185			86		15	
A 2				70		13	
B 2				77		13	
C 2				83		18	
D 2				86		15	
E 2				77		13	
F 2				65		11	
G 2				61		10	
H 2				86		19	
A 3				58	2	11	
B 3				61	3	12	
C 3				79	2	14	
D 3	DO NOT TAKE SAMPLE - CONTROL WELL						
E 3				80		15	
F 3				92		17	
G 3				78		15	
H 3				78		14	
A 4				69		11	
B 4				61	2	10	
C 4				74	3	12	
D 4				65	2	14	
E 4				57		9	
F 4				60		10	
G 4				68		12	
H 4				63		11	
A 5				65		11	
B 5				61		11	
C 5				67		11	
D 5				59		12	
E 5				90		20	
F 5				81	2	13	
G 5	DO NOT TAKE SAMPLE - CONTROL WELL						
H 5				86	3	20	
A 6				72	2	12	
B 6				52		9	
C 6				68		11	
D 6				90		16	
E 6				52		8	
F 6				87		20	
G 6				74		17	
H 6	185	Co	1	83	2	20	

RIGHT CHELA MISSING G1, G10

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	185	Co	1	82	2	19	
B 7	185			53		8	
C 7	185			82		15	
D 7	186			75		16	
E 7				74		13	
F 7				63	2	11	
G 7				72	3	15	
H 7				68	2	11	
A 8				65		11	
B 8				61		12	
C 8				64		12	
D 8				56		9	
E 8				58		11	
F 8	DO NOT TAKE SAMPLE - CONTROL WELL						
G 8				59		19	
H 8				57		9	
A 9				63		10	
B 9				61		9	
C 9				60		11	
D 9				63		11	
E 9				59		10	
F 9				59		7	
G 9				54		9	
H 9				53		9	
A 10				58		9	
B 10	DO NOT TAKE SAMPLE - CONTROL WELL						
C 10	186			62		12	
D 10	82			68		12	
E 10				71		15	
F 10				72		13	
G 10				63		10	
H 10				75		12	
A 11				78		13	
B 11				69		12	
C 11				63		11	
D 11				63		12	
E 11				69		12	
F 11				60		11	
G 11				60		9	
H 11				65		12	
A 12	DO NOT TAKE SAMPLE - CONTROL WELL						
B 12				66		11	
C 12				61		12	
D 12				73		12	
E 12				62		11	
F 12				68		14	
G 12				62		10	
H 12	182	Co	1	76	2	13	

QAC QC
11/23/15

© 11/16/15

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! AND ³
Blood Smears

KEYS:

Species: CO = <i>C. opilio</i> CB = <i>C. bairdi</i> *or write out "opilio" or "bairdi"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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2015 EBS Chionoecetes Index Site Hemolymph Collections - Pathobiology

Plate Number: 15
Collected By: Du/DB

Vessel: 162
Leg: 3

Keys & Comments on
back



Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 1	188	C6	1	70	2	11	
B 1				71	2	13	
C 1				75	2	13	
D 1				75	2	13	
E 1				84	2	14	
F 1				80	2	15	
G 1				89	2	17	
H 1				67	2	12	
A 2				72	2	13	
B 2				63	2	10	
C 2				78	2	17	
D 2				68	2	12	
E 2				72	2	13	
F 2				70	2	15	
G 2				75	2	15	
H 2				89	2	19	
A 3				80	2	14	
B 3				72	2	13	
C 3				80	2	14	
D 3		DO NOT TAKE SAMPLE - CONTROL WELL					
E 3				67	2	12	
F 3				83	2	15	
G 3				76	2	14	
H 3				77	2	14	
A 4				67	2	12	
B 4				78	2	14	
C 4				74	2	15	
D 4				83	2	15	
E 4				71	2	11	
F 4				81	2	14	
G 4				77	2	12	
H 4				74	2	14	
A 5				74	2	14	
B 5	V			80	2	14	
C 5	188			75	2	12	
D 5	189			50	2	-	
E 5				94	2	17	
F 5				74	2	16	
G 5		DO NOT TAKE SAMPLE - CONTROL WELL					
H 5				90	2	17	
A 6	V		1	78	2	14	
B 6	189	C6	1	90	2	16	
C 6	210	Cb	1	97	3	17	
D 6))	1	93	2	12	
E 6))	1	107	2	20	
F 6	V		1	59	2	7	
G 6	V		1	93	2	16	
H 6	210	Ch	1	76	2	10	

Well:	Haul #	Species	Sex	Size	Shell	Chela	BCS+
A 7	210	Cb	1	101	2	18	
B 7	211	Cb	1	54	2	6	
C 7	211	Cb	1	93	2	16	
D 7							
E 7							
F 7							
G 7							
H 7							
A 8							
B 8							
C 8							
D 8							
E 8							
F 8		DO NOT TAKE SAMPLE - CONTROL WELL					
G 8							
H 8							
A 9							
B 9							
C 9							
D 9							
E 9							
F 9							
G 9							
H 9							
A 10							
B 10		DO NOT TAKE SAMPLE - CONTROL WELL					
C 10							
D 10							
E 10							
F 10							
G 10							
H 10							
A 11							
B 11							
C 11							
D 11							
E 11							
F 11							
G 11							
H 11							
A 12		DO NOT TAKE SAMPLE - CONTROL WELL					
B 12							
C 12							
D 12							
E 12							
F 12							
G 12							
H 12							

QA/QC 11/23/15

② 11/16/15

NOTES: Non-random? Mistakes? Anything Unusual ? (Please write WELL Number in front of comment)

If a cap pops off: put cap back on, rinse plate with fresh water and blot dry

If you ever see a positive King Crab, please take a photo and a blood sample (use a collection plate well)! AND 3 BLOOD SMEARS
KEYS:

Species: CO = C. opilio CB = C. bairdii *or write out "opilio" or "bairdii"	Sex: 1 = Male 2 = Female 3 = Unknown	Size: Carapace Width (mm)	Shell Condition: 0 = Premolt/Molt 1 = Soft Shell 2 = New Shell 3 = Old Shell 4 = Very Old Shell 5 = Graveyard	Chela: MALE Chela Height (mm) **Optional**	BCS+: P = Visually Positive N = Visually Negative
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