



Miranda Buckmaster
Environmental Advisor
ConocoPhillips Alaska, Inc.
Environmental Sustainability & Permitting
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Anchorage, AK 99510-0360
Phone: (907) 263-4868
Email: miranda.buckmaster@conocophillips.com

4/21/2025

Alaska Department of Natural Resources
Water Section
550 W. 7th Ave., Suite 1020
Anchorage, AK 99501

Submitted electronically to:
Lesli.Schick@alaska.gov
Jessica.Miller@alaska.gov

Re: Request to Amend the Water Right Certificate for Lake K214 (M8103) in Support of Oil and Gas Operations

Dear Regulators:

ConocoPhillips Alaska, Inc. (CPAI) requests to amend the Water Right Certificate of Appropriation LAS 2762 for Lake K214 (also known as Lake M8103).

Lake K214 is directly connected to the Central Processing Facility 2 (CPF2) Pumphouse Basin Reservoir (Reservoir) via a man-made channel which freezes solid during winter (i.e., a hydrological connection between the basins exists only during summer months). The location of K214 and the Reservoir can be seen on the map in Attachment 1. The current authorizations for water withdrawal from Lake K214 and the Reservoir can be found in Attachment 2 and are listed in Table 1.

Table 1. Lake K214 and Reservoir Water Use Authorizations Information*

Approval	Approved Volume (MM gallons)	Expiration
Alaska Department of Natural Resources (ADNR) LAS 2762	37.800 water/ice year-round (0.103 daily limit)	N/A
ADNR Temporary Water Use Authorization (TWUA) A2023-62	5.000 MG (summer water only)	5/1/2028

*Water withdrawal from Lake K214 and the Reservoir is also approved by the Alaska Department of Fish & Game Fish Habitat Permit (FHP) FH11-III-0299 A3 which expires upon abandonment of use. The FHP is included in Attachment 2.

CPAI requests the amendment request include:

- updating the name of the Certificate Grantee to ConocoPhillips Alaska, Inc.
- amending the points of withdrawal to include

- Lake K214: Sections 17, 19, 20, and 29 of Township 11 North, Range 9 East, Umiat Meridian
 - Reservoir: Section 20 of Township 11 North, Range 9 East, Umiat Meridian
- defining the seasons of use to reflect the separation of the basins in winter (due to channel freeze up) and the connection of the basins in summer (total annual withdrawal not to exceed the water right volume of 37.800 MM gallons):
 - Winter use would include winter withdrawal from Lake K214 of 0.010 MM gallons liquid water plus up to 37.790 MM gallons ice
 - Summer use would include withdrawal from the Reservoir of up to 15.096 MM gallons liquid water
- increasing the daily limit to a minimum of 1.000 million gallons or clarify no daily limit is required

Current ADNR Authorizations

In 1984, the ADNR Division of Mining Land and Water (DMLW) Water Resources Section initially issued Water Right Certificate LAS 2762 and later, in 2002, approved an amendment request to change ownership from Arco Alaska, Inc. to Phillips Alaska, Inc. In 2023 DMLW issued a TWUA (A2023-62) approving the withdrawal of 5.000 MM gallons of water during summer including a daily limit of 1.000 MM gallons (LAS 2762 has a daily limit of 0.103 MM gallons) to be used for hydrotesting. In 2023 during an evaluation of water-sharing agreements, ADNR indicated that the LAS 2762 would need to be amended because the volume authorized (37.800 MM gallons) exceeds the volume identified as the maximum recommended winter removal in 2011 (i.e., 0.010 MM gallons; Attachment 3), thus indicating the water source was over-appropriated. The current authorizations discussed here and listed in Table 1 apply to Lake K214 and the Reservoir which have been authorized as one water source for water withdrawal. Additionally, the 2011 bathymetry shows Lake K214 and the Reservoir as one source; additional information provided as markup in Attachment 3 demonstrates how the source volumes should be considered during winter months.

Lake K214 and the Reservoir

Lake K214 is a large, shallow basin which supports the resistant fish species ninespine stickleback and provides large grounded-ice withdrawal areas around its perimeter during winter. The maximum depth of K214 is 5.3 feet and the surface area is 539 acres. The total volume of K214 is 456.49 MM gallons and the maximum allowable liquid water under five feet of ice is 0.010 MM gallons and maximum ice aggregate available is 90.722 MM gallons. Summer water cannot be withdrawn from K214 because the deepest portions of the lake are inaccessible in summer months. Historically, some liquid water has been pulled from K214 during winter. Lake K214 is directly connected to the Reservoir via a man-made channel. CPAI reviewed as-built surveys and conducted a depth-sounding survey in November 2023 to determine if the channel between K214 and the Reservoir freezes solid during winter (Attachment 4). Results showed depths of four feet or shallower indicating

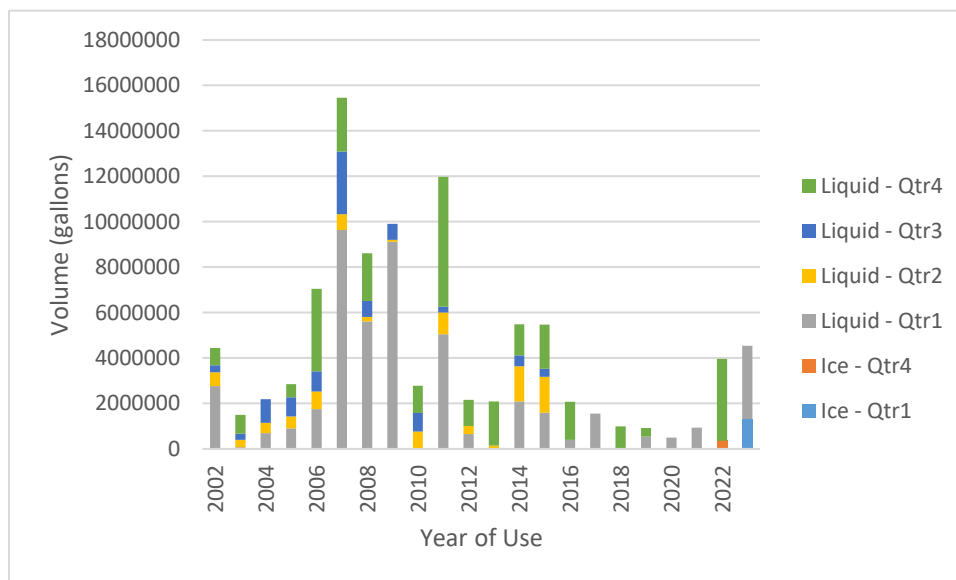
that the channel does freeze solid, eliminating the direct connection from K214 to the Reservoir during winter.

CPAI recalculated volumes for K214 and the Reservoir (Attachment 3). The 2011 bathymetry was used for K214 and only the top 1 foot of water of the Reservoir was included in the 2011 water and ice volume calculations. To isolate K214 volumes from the Reservoir, the volume of the top 1-foot of the Reservoir was removed from the total lake volume and the potential ice aggregate initially calculated in 2011 (Attachment 3 markups show the corrected water volumes).

Water Use Needs

Maximum use of K214 occurred in 2007 when a total of 15.5 MM gallons liquid water was withdrawn throughout the year (Figure 1). Ice was withdrawn in 2022 (0.357 MM gallons) and 2023 (1.312 MM gallons). The Reservoir maintains liquid water year-round but does not contain usable ice during winter; the Reservoir walls are too steep for ice to ground.

Figure 1. Annual water and/or ice volumes withdrawn by quarter.



K214 is considered a critical water source for CPAI operations. Upcoming activities that will be supported by water withdrawal from Lake K214 include, but are not limited to, the following:

- Pipeline hydrotesting
- Ice road construction and maintenance
- Existing pipeline maintenance and upgrades
- Annual operations and maintenance activities within the Kuparuk Water Use area

- Fire-water use
- Future potential developments, including drill sites, that would require roads, pads ice roads, etc.

CPAI depends heavily on K214 for current and ongoing activities and may utilize the source for future potential activities. The requested volumes in this Water Right Certificate amendment request are critical for the maintenance of CPAI operations.

Ice aggregate will be collected from portions of K214 that are four-feet deep or shallower and naturally grounded at the time of collection. Each water intake structure used in fish-bearing waters will be outfitted with an ADF&G certified fish exclusion screen at the intake. Intakes will be covered with 0.25-inch screened mesh and sized to ensure that instantaneous water velocities remain at or below 0.5 feet per second; more restrictive screening criteria would be employed as directed by ADF&G.

CPAI requests that the amended Certificate be effective no later than September 1, 2025. Payment for the application fee, in the amount determined by ADNR, will be made by calling the Public Information Center (PIC).

If you have any questions or need additional information, please contact me at (907) 263-4868 or by email at miranda.buckmaster@conocophillips.com.

Sincerely,



Miranda Buckmaster
Environmental Advisor

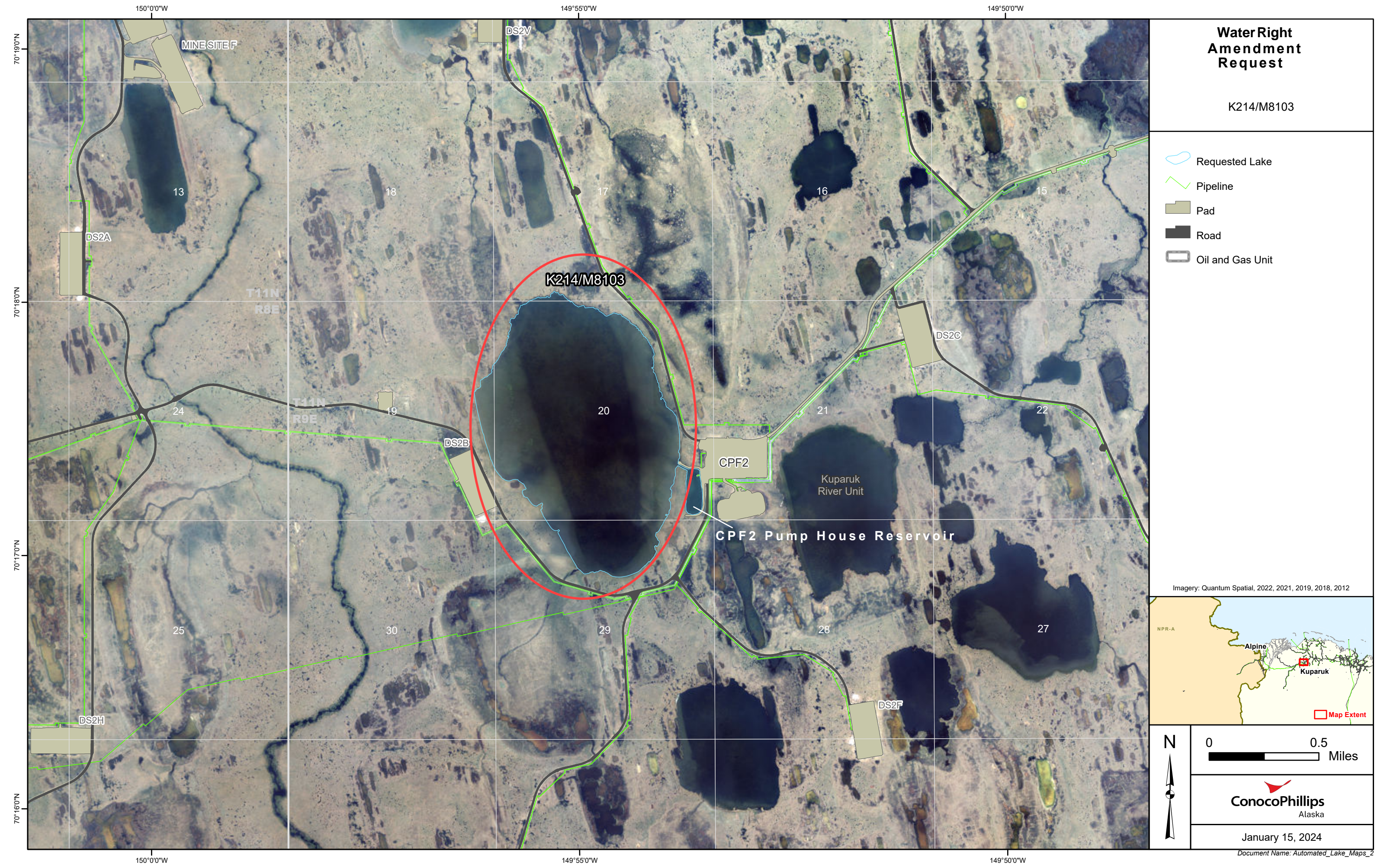
Attachments:

1. Map of K214
2. Water Withdrawal Approvals
 - a. Water Right Certificate LAS 2762
 - b. TWUA A2023-62
 - c. FHP FH11-III-0299-A3

3. Bathymetry Data (2011) with Markup for the CPF2 Pump House Reservoir (Please note that the attached bathymetry is proprietary data and should not be shared externally)
4. Lake K214 Channel Depth Soundings
5. Amendment Request Calculation Worksheet

Attachment 1

Map of K214



Attachment 2

Water Withdrawal Approvals

- a. **Water Right Certificate LAS 2762**
- b. **TWUA A2023-62**
- c. **Fish Habitat Permit FH11-III-0299-A3**

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND AND WATER WATER RESOURCES SECTION

158044 FW
TONY KNOWLES, GOVERNOR

550 W. 7TH AVE., SUITE 900A
ANCHORAGE, ALASKA 99501-3577

PHONE: (907) 269-8503
FAX: (907) 269-8947

September 20, 2002

Certified Mail 7000 1530 0004 5727 2625
Return Receipt Requested

Michael Nelson
Senior Environmental Coordinator
Phillips Alaska, Inc.
P.O. Box 100360
Anchorage, Alaska 99510-0360

Re: Amended Water Right Certificates of Appropriation, LAS 2762

Dear Mr. Nelson:

The Water Resources Section completed the review of your request to amend the above Water Right Certificate of Appropriation. Enclosed please find a copy of the Amended Water Right Certificate. The original was sent to the Barrow Recorder's Office to be officially recorded. Upon receipt of the returned document, the original will be forwarded to you.

If changes to this project are proposed during operation, please contact this office immediately to determine if further review is necessary. Please do not hesitate to contact me at (907) 269-8620 if you have any questions regarding the matter.

Sincerely,



Patricia Bettis
Natural Resource Officer

Encls: Amended Water Right Certificate of Appropriation LAS 2762

"Develop, Conserve and Enhance Natural Resources for Present and Future Alaskans"

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND AND WATER WATER RESOURCES SECTION

TONY KNOWLES, GOVERNOR

550 W. 7TH AVE., SUITE 900A
ANCHORAGE, ALASKA 99501-3577

PHONE: (907) 269-8503
FAX: (907) 269-8947

September 20, 2002

Certified Mail 7000 1530 0004 5727 2588
Return Receipt Requested

Barrow Recording Office
1648 S. Cushman St., #201
Fairbanks, AK 99701-6206

Re: Water Rights Certificates of Appropriation


Dear Barrow Recorder:

Please record the enclosed two Water Rights Certificates of Appropriation, (LAS 2762 and LAS 2762 Amended), and return the documents to the grantor at the following address.

Department of Natural Resources
Division of Mining, Land & Water
Attn: Patricia Bettis
550 West 7th Ave., Suite 900A
Anchorage, AK 99501-3577

No fees are enclosed, as this is State business. Thank you for your attention to this matter.

Sincerely,



Patricia Bettis
Natural Resource Officer

Encls: Certificate of Appropriation LAS 2762
Certificate of Appropriation LAS 2762 Amended

"Develop, Conserve and Enhance Natural Resources for Present and Future Alaskans"



Printed on Recycled Paper

State of Alaska



Water Rights

AMENDED CERTIFICATE OF APPROPRIATION

LAS 2762

The State of Alaska under AS 46.15, the Alaska Water Use Act, and the Regulations adopted under it, grants to:

Grantee:

Phillips Alaska, Inc.
P.O. Box 100360
Anchorage, Alaska 99510-0360

Grantor:

Department of Natural Resources
Division of Mining, Land and Water
550 West 7th Avenue, Suite 900A
Anchorage, Alaska 99501-3577

the right to the following use of water:

Source: Lake K214
Quantity: 116.0 acre-feet per year
Use: Oil and Gas

Priority Date: 24 December 1984
Period: 1 January through 31 December

The location of this water source:

The point of take is located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 20 on Lake K214 located within Sections 17, 19, 20, and 29, Township 11 North, Range 9 East, Umiat Meridian, Alaska.

The location to which this water right is appurtenant:

The Kuparuk River Unit of which Phillips Alaska, Inc. is the unit operator in accordance with the approved Kuparuk River Unit Agreement for oil and gas leases to Phillips Alaska, Inc. and other working interest owners. Phillips Alaska, Inc., its sublessees, or successors in interest in the leased land shall have the right to the use of the water for ice road construction and oil field development in accordance with AS 46.15.160 (A) and 11 AAC 93.060. Upon termination of the leases or termination of any extensions of those leases, the right to the use of the water shall revert to the State of Alaska unless a preference right to purchase the land is granted.

The holder of this Amended Certificate of Appropriation shall:

1. Follow acceptable engineering standards in exercising the water right granted by this amended certificate of appropriation.
2. Except for claims or losses arising from negligence of the State, defend and indemnify the state against and hold it harmless from any and all claims, demands, legal actions, loss, liability and expense from injury to or death of persons and damages to or loss of property arising out of or connected with the exercise of the water right granted by this amended certificate of appropriation.
3. Comply with all applicable laws, regulations and conditions.
4. Notify the Grantor of any change of address, transfer of any real property identified in this document, or proposed change in the water appropriation.
5. Establish a metering system acceptable to the Division and submit monthly water use records to the Division on a quarterly basis.
6. Wastewater discharges subsequent to this appropriation must comply with Alaska Wastewater Disposal Regulations as promulgated in 18 AAC 72.010.
7. Dewatering of the water source will not exceed eighty percent (80%) of the total volume.
8. This appropriation of water is subject to an annual administrative service fee.

The water right is granted subject to the pertinent statutory provisions in AS 46.15, and Administrative Regulations in 11 AAC 93.

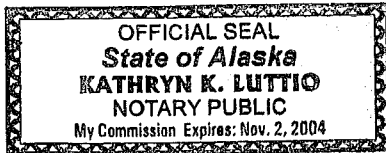
The Certificate of Appropriation is amended to better define the water source locality formally known as "Unnamed Lake" now known as Lake K214, to clarify water use quantity totaling 116.0 acre-feet per year, to reflect the change in unit operator from Arco Alaska, Inc. to Phillips Alaska, Inc., and to add standard conditions 1 and 8. This Amended Certificate of Appropriation is issued by authority of AS 46.15.080, AS 46.15.120, 11 AAC 93.120 and 11 AAC 93.130 on

September 18, 2002.

Approved *Dan J. [Signature]*
Title *Chief Mts Resources Section*
Division of Mining, Land and Water

STATE OF ALASKA)
) ss.
3rd JUDICIAL DISTRICT)

This is to certify that on September 18, 2002 before me appeared Gary Prokosch, known by me to be the director or authorized representative of the Division of Mining, Land & Water, Department of Natural Resources, and acknowledged to me that this Permit and Certificate of Appropriation was voluntarily executed on behalf of the State of Alaska.



Kathryn K. Luttio
Notary Public in and for the State of Alaska
My Commission Expires 11/2/2004

After recording return to Grantor.

This Amended Certificate supercedes the Certificate issued on 26 December 1989, recorded concurrently herewith.

State of Alaska



Water Rights

CERTIFICATE OF APPROPRIATION

LAS

2762

This is to certify that the foregoing is a full, true and correct copy of the original as the same appears in the files of my office.

Signed Patricia Bottis

Title NATURAL RESOURCE OFFICER

Date 16 SEPTEMBER 2002

THE STATE OF ALASKA UNDER AS 46.15, THE ALASKA WATER USE ACT, AND THE REGULATIONS ADOPTED UNDER IT, GRANTS TO:

ARCO ALASKA, INC.
PO BOX 100360
ANCHORAGE, AK. 99510

THE RIGHT TO USE WATER FROM THE FOLLOWING SOURCE:

A) UNNAMED LAKE WITH A PRIORITY DATE OF 12/24/1984
103562.0 GAL/DAY
FOR CRUDE PETROLEUM JAN 01 THRU DEC 31

THE LOCATION TO WHICH THIS WATER RIGHT APPERTAINS IS:

THE KUPARUK RIVER UNIT OF WHICH ARCO ALASKA, INC. IS THE UNIT OPERATOR IN ACCORDANCE WITH THE APPROVED KUPARUK RIVER UNIT AGREEMENT FOR OIL AND GAS LEASES TO ARCO ALASKA, INC. AND OTHER WORKING INTEREST OWNERS. ARCO ALASKA, INC., IT'S SUBLESSEES, OR SUCCESSORS IN INTEREST IN THE LEASED LAND SHALL HAVE THE RIGHT TO THE USE OF THE WATER FOR ICE ROAD CONSTRUCTION AND OIL FIELD DEVELOPMENT IN ACCORDANCE WITH AS 46.15.160 (A) AND 11 AAC 93.060. UPON TERMINATION OF THE LEASES OR TERMINATION OF ANY EXTENSIONS OF THOSE LEASES, THE RIGHT TO THE USE OF THE WATER SHALL REVERT TO THE STATE OF ALASKA UNLESS A PREFERENCE RIGHT TO PURCHASE THE LAND IS GRANTED. THE POINT OF TAKE IS LOCATED IN THE NE1/4SE1/4 SECTION 20 ON AN UNNAMED LAKE LOCATED WITHIN UNSURVEYED SECTIONS 17, 19, 20, AND 29, TOWNSHIP 11 NORTH, RANGE 9 EAST, UMIAT MERIDIAN. QUANTITY OF APPROPRIATION SHALL BE 37,800,000 GALLONS PER YEAR.

THE CONDITIONS THAT APPLY TO THIS APPROPRIATION ARE FOUND IN ATTACHMENT A, ATTACHED HERETO AND MADE A PART HEREOF.

State of Alaska



Water Rights

CERTIFICATE OF APPROPRIATION

LAS

2762

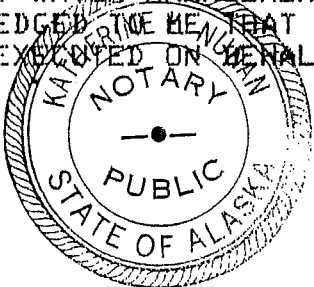
THE WATER RIGHT IS GRANTED SUBJECT TO THE PERTINENT STATUTORY PROVISIONS IN AS 46.15, AND ADMINISTRATIVE REGULATIONS IN 11 AAC 93.

THIS CERTIFICATE OF APPROPRIATION IS ISSUED BY AUTHORITY OF AS 46.15.120 AND 11 AAC 93.130 ON December 26, 1989.

APPROVED: Mary A. Schultz
TITLE: Natural Resource Officer
DIVISION OF LAND AND WATER MANAGEMENT

STATE OF ALASKA)
) SS
4th JUDICIAL DISTRICT)

THIS IS TO CERTIFY THAT ON December 26, 1989
BEFORE ME APPEARED Mary A. Schultz, KNOWN BY
ME TO BE THE DIRECTOR OR AUTHORIZED REPRESENTATIVE OF THE DIVISION OF
LAND AND WATER MANAGEMENT, DEPARTMENT OF NATURAL RESOURCES, AND
ACKNOWLEDGED TO ME THAT THIS CERTIFICATE OF APPROPRIATION WAS VOLUN-
TARILY EXECUTED ON BEHALF OF THE STATE OF ALASKA.



Katherine Thuman
NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA
MY COMMISSION EXPIRES: May 20, 1992

PURSUANT TO AS 46.15.160 AND APPLICABLE REGULATIONS THE CERTIFICATE HOLDER SHALL NOTIFY THE ALASKA DIVISION OF LAND AND WATER MANAGEMENT UPON CHANGE OF ADDRESS OR TRANSFER OF ANY REAL PROPERTY RELATED THERETO.



Water Rights

CERTIFICATE OF APPROPRIATION

LAS

2762

ATTACHMENT A - CONDITIONS:

THE HOLDER OF THIS CERTIFICATE SHALL:

DEFEND AND INDEMNIFY THE STATE AGAINST AND HOLD IT HARMLESS FROM ANY AND ALL CLAIMS, DEMANDS, LEGAL ACTIONS, LOSS, LIABILITY AND EXPENSE FOR INJURY TO OR DEATH OF PERSONS AND DAMAGES TO OR LOSS OF PROPERTY ARISING OUT OF OR CONNECTED WITH THE EXERCISE OF THE WATER RIGHT GRANTED BY THIS CERTIFICATE.

COMPLY WITH ALL APPLICABLE LAWS, REGULATIONS AND CONDITIONS.

NOTIFY THE DIVISION OF LAND AND WATER MANAGEMENT, DEPARTMENT OF NATURAL RESOURCES OF ANY CHANGE OF ADDRESS OF THE GRANTEE OR TRANSFER OF ANY REAL PROPERTY IDENTIFIED IN THIS DOCUMENT.

ESTABLISH A METERING SYSTEM ACCEPTABLE TO THE DIVISION AND SUBMIT MONTHLY WATER USE RECORDS TO THE DIVISION ON A QUARTERLY BASIS.

WASTEWATER DISCHARGES SUBSEQUENT TO THIS APPROPRIATION MUST COMPLY WITH ALASKA WASTEWATER DISPOSAL REGULATIONS AS PROMULGATED IN 18 AAC 72.010.

DEWATERING OF THE WATER SOURCE WILL NOT EXCEED 80% OF THE TOTAL VOLUME.



ALASKA DEPARTMENT OF NATURAL RESOURCES

Division of Mining, Land, and Water

Water Resources Section

550 West 7th Avenue, Suite 1020, Anchorage, AK 99501-3562

TEMPORARY WATER USE AUTHORIZATION TWUA A2023-62

Pursuant to AS 46.15, as amended and the rules and regulations promulgated thereunder, permission is hereby granted to ConocoPhillips Alaska Inc. (authorization holder), P.O. Box 100360, Anchorage, AK 99510-0360, and its contractors, to withdraw water and/or ice aggregate **from K214 (also known as Lake M8103) in the Kuparuk River Unit**. See source specific water limits below. The water will be used during summer for hydrotesting at a higher daily rate than authorized in water right LAS 2762. Other potential uses may include maintenance of roads, pads, bridges, ramps, drilling, camp use, drilling support, AS38.35 pipeline activities, dust suppression and other uses to support oil and gas activities to the extent those projects have appropriate approvals.

SOURCES OF WATER:

Lake K214/M8103, located in Section 17, 19, 20 and 29 of Township 11 North, Range 9 East, Umiat Meridian. Maximum annual withdrawal from this source: **5,000,000 gallons water for summer use only with a daily limit of 1,000,000 gallons**.

STRUCTURES TO BE CONSTRUCTED AND USED:

Water pumps with 3-7 inch intake and 2,250 gpm maximum capacity, hose and water trucks with tank capacity of 13,650 gallons.

Changes in the natural state of water are to be made as stated herein and for the purposes indicated.

The authorization holder shall comply with the following conditions:

CONDITIONS:

- 1) This authorization does not authorize the authorization holder to enter upon any lands until proper rights-of-way, easements, or permission documents from the appropriate landowner have been obtained.
- 2) Follow acceptable engineering standards in exercising the privileges granted herein.
- 3) Comply with all applicable laws, and any rules and/or regulations issued thereunder.
- 4) Except for claims or losses arising from negligence of the State, defend and indemnify the State, the State's agents, and the State's employees against and hold each of them harmless from any and all claims, demands, suits, loss, liability and expense for injury to or death of persons and damages to or

loss of property arising out of or connected with the exercise of the privileges covered by this authorization.

- 5) Notify the Water Resources Section upon change of address.
- 6) The authorization holder shall obtain, maintain, and comply with other permits/approvals (state, federal, or local) that may be required prior to beginning water/ice withdrawal pursuant to this authorization.
- 7) Failure to respond to a request for additional information during the term of the authorization may result in the termination of this authorization.
- 8) The authorization holder shall allow an authorized representative of the Water Resources Section to inspect, at reasonable times, any facilities, equipment, practices, or operations regulated or required under this authorization.
- 9) This authorization, or a copy thereof, shall be kept at the site of the authorized project described herein. The authorization holder is responsible for the actions of contractors, agents, or other persons who perform work to accomplish the approved project, and shall ensure that workers are familiar with the requirements of this authorization. For any activity that significantly deviates from the approved project during its siting, construction, or operation, the authorization holder is required to contact the Water Resources Section and obtain approval before beginning the activity.
- 10) The Water Resources Section may modify this authorization to include different limitations, expand monitoring requirements, evaluate impacts, or require restoration at the site.
- 11) Pursuant to 11 AAC 93.220 (f), this authorization may be suspended by the Department of Natural Resources to protect the water rights of other person or the public interest.
- 12) Any false statements or representations, in any application, record, report, plan, or other document filed or required to be maintained under this authorization, may result in the termination of this authorization.
- 13) The authorization holder shall inspect the intake screen for damage (torn screen, crushed screen, screen separated from intake ends, etc.) after each use and prior to each deployment. Any damage observed must be repaired prior to use of the structure. The structure must always conform to the original design specifications while in use.
- 14) There shall be no wheeled, tracked, excavating, or other machinery or equipment (with the exception of the non-motorized screened intake and ice augurs) operated in open water below the ordinary high water line.
- 15) The suction hose at the water extraction site must be clean and free from contamination at all times to prevent introduction of contamination to the water body, and should be in water of sufficient depth so that sediments are not disturbed during the water extraction process.
- 16) All equipment used at or adjacent to water bodies must always be clean and free from contamination and invasive species (terrestrial and aquatic) to prevent the introduction of contamination and invasive species to the water body.
- 17) In-water activity will be limited to placement and removal of the intake structure only. No other in-water activities will occur.

- 18) Water bodies shall not be altered to facilitate water withdrawal or disturbed in any way. If banks, shores, or beds are inadvertently disturbed, excavated, compacted, or filled by activities attributable to this project, they shall be immediately stabilized to prevent erosion and resultant sedimentation of water body which could occur both during and after operations. Any disturbed areas shall be recontoured and revegetated with native vegetation. The DNR-Water Resources Section is to be notified immediately if the above occurs. Additional corrective action may be required by DNR, the land manager/owner or other agencies.
- 19) Pumping operations shall be conducted in such a way as to prevent any petroleum products or other hazardous substances from contaminating surface or ground water. Pumps will not be fueled or serviced within 100 feet of a pond, lake, stream, or river unless the pumps are situated within a catch basin designed to contain any spills. Vehicles will not be fueled or serviced within 100 feet of a pond, lake, stream or river. In case of accidental spills, absorbent pads shall be readily available at the water collection point. All spills must be reported to the Alaska Department of Environmental Conservation and the Alaska Department of Natural Resources.
- 20) Operations shall not cause or contribute to the spread of preexisting or authorization holder caused contaminate plumes. All spills and contamination encountered must be immediately reported to the Alaska Department of Environmental Conservation (ADEC) and the Alaska Department of Natural Resources (DNR). Authorization holder shall cooperate with lawful prohibitions, restrictions, instructions, stop work orders or work plan requirements issued by ADEC for authorization holder's projects
- 21) Water discharge (including runoff) shall not be discharged at a rate or location resulting in sedimentation, erosion, or other disruptions to the bed or banks of water bodies, causing water quality degradation.
- 22) **Monitoring and reporting of water withdrawal shall begin when the water withdrawal starts.** Monitor water use monthly and submit reports to this office quarterly. Electronic copies shall be forwarded to dnr.water.reports@alaska.gov. Reports shall specify water/ice withdrawal for each water source.
- 23) The authorization holder shall coordinate water withdrawals with **ALL** other companies that may be withdrawing water/ice from the same source to ensure that the maximum permittable water withdrawal volume is not exceeded for any source. Written documentation of coordination/sharing agreement shall be submitted from the authorization holder and received by this office within 45 days of noting use by another company.
- 24) Monitor water withdrawals for each day of actual use for each authorized water source and when withdrawals for each authorized water source reach 90% of the authorized withdrawal limit for that water source submit this information to this office prior to the initiation of any further withdrawals from the respective water source. Please send electronic copies to Jessica.miller@alaska.gov.
- 25) Per 11 AAC 05.260 (e), an annual administrative service fee shall be assessed on this authorization

This Temporary Water Use Authorization is issued pursuant to 11 AAC 93.220. No water right or priority is established by a temporary water use authorization issued pursuant to 11 AAC 93.220. Water so used is subject to appropriation by others.

Pursuant to 11 AAC 93.210 (b), authorized temporary water use is subject to amendment, modification, or revocation by the Department of Natural Resources if the Department of Natural Resources determines that amendment, modification, or revocation is necessary to supply water to lawful appropriators of record or to protect the public interest.

This authorization shall expire on May 31st, 2028.

Date issued: 6/1/2023

Approved: 

Jessie Zimmerman
Manager, South Central Region, Water Management Unit
Water Resources Section, ADNR/DMLW



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Fish and Game

HABITAT SECTION
Fairbanks Regional Office

1300 College Road
Fairbanks, AK 99701-1551
Main: 907.459.7289
Fax: 907.459.7303

FISH HABITAT PERMIT

FH11-III-0299 – AMENDMENT 3

ISSUED: May 3, 2023
EXPIRES: Upon Abandonment of Use

Robyn McGhee
ConocoPhillips Alaska Inc.
P.O. Box 100360
Anchorage, Alaska 99510-0360

RE: Year-Round Water Withdrawal/Ice Aggregate Collection/Intake Structure
Lake K214 (M8103)
Sections 19, 20, 29, T11N, R9E, UM.
Location Coordinates (NAD83): 70.2909 N, 149.9150 W

Dear Robin McGhee:

Pursuant to AS 16.05.841 (Fishway Act), the Alaska Department of Fish and Game (ADF&G), Habitat Section, has reviewed your April 13, 2023, request to amend an existing fish habitat permit to reflect year-round water withdrawal of the originally permitted volumes for Lake K214 (M1803).

Project Description

ConocoPhillips Alaska Inc. (CPAI) proposes to withdraw water and/or ice aggregate year-round from Lake K214 (M8103), a fish-bearing lake, to support oil and gas exploration and development activities. CPAI was originally permitted in 2011 to withdraw up to 15 million gallons of water and/or ice aggregate during winter from Lake K214 (Water Right LAS 2762). This withdrawal volume is more than the criterion of 30% of the water below 5 feet of ice for winter water withdrawal from lakes containing species of fish resistant to low concentrations of dissolved oxygen. However, based on historic use of the lake, timing of water withdrawal, the point of water withdrawal (in a large, excavated pit attached to the lake, not included in volume calculations), and monitoring of the water surface elevation of Lake K214 (see Stipulations 1

and 2), this withdrawal volume is permitted. Ice aggregate can be harvested from areas of naturally grounded ice.

Intake structures installed in the early to mid-1990s in Lake K214 (M8103) consist of a series of caissons up to 30 inches in diameter that reach the bed of the waterbody. Caissons do not appear to be screened and are slotted with eight evenly spaced 2-inch by 36-inch vertical slots. Based on available drawings of the water system installs at multiple KRU reservoirs, slotted portions of caissons appear to be located mid-water column in some or near the bottom in others. Each caisson is outfitted with a submersible pump with a basket screen approximately 17.5-inches in diameter by 8-inches long. It appears that basket screening consists of 0.25-inch mesh on some screens, but considerably larger mesh is likely on others. Determining the exact specification of screening on each submersible pump is not possible given the available information from these installs. CPAI will continue to evaluate options to bring the screens into full compliance with ADF&G screening criteria (0.25-inch mesh) and coordinate with ADF&G while investigating options.

The Lake K214 (M8103) withdrawal system has a combination of firewater pumps, raw water pumps, and back-up pumps with each pump installed in a separate caisson. Raw water pumps are operated occasionally while firewater pumps are operated only for testing and in the case of an emergency. Pumps 4204 and 4206 (firewater/raw water pumps) are currently operated at relatively low pump rates, and meet velocity criteria for fish bearing waterbodies, although mesh size is unknown. Pumps 4205a and 4205b (firewater pumps), which do not meet velocity criteria for fish bearing waterbodies and have an unknown mesh size, are only operated for annual testing, or in an emergency.

Fishway Act

Lake K214 (M8103) supports ninespine stickleback. Based upon our review of your plans and submitted lake and fish data, your proposed project will obstruct the efficient passage and movement of fish.

In accordance with AS 16.05.841, project approval is hereby given subject to the project description above with the following stipulations:

- 1) CPAI shall establish the relative water surface elevation of Lake K214 near the point of the water take location prior to initiation of and post water removal activities. CPAI shall establish the water surface elevation of Lake K214 post break-up but prior to June 30.

- 2) CPAI shall submit data collected in Stipulation #1 as well as a summary of water withdrawal from the lake for the preceding winter season to the Habitat Section within 90 days of collection of the post break-up water surface elevation data.
- 3) All new water pump intakes shall be screened with a maximum of 0.25-inch mesh. Water velocity at any given point along the intake structure shall not exceed 0.5 feet per second.
- 4) Ice aggregate and snow collection is authorized from areas of the lake that are 4 feet deep and shallower and naturally grounded at the time of collection.
- 5) The ADF&G Habitat Section shall be notified, and approval granted by the Habitat Section before any in-water maintenance activities or modifications to the pumps or intake structures occur; additional screening may be required based on current practices.

Permit Terms

This letter constitutes a permit issued under the authority of AS 16.05.841 and must be retained on site during project activities. Please be advised that this determination applies only to Habitat Section regulated activities; other agencies also may have jurisdiction under their respective authorities. This determination does not relieve you of your responsibility to secure other permits; state, federal, or local. You are still required to comply with all other applicable laws.

You are responsible for the actions of contractors, agents, or other persons who perform work to accomplish the approved project. For any activity that significantly deviates from the approved plan, you shall notify the Habitat Section and obtain written approval in the form of a permit amendment before beginning the activity. Any action that increases the project's overall scope or that negates, alters, or minimizes the intent or effectiveness of any provision contained in this permit will be deemed a significant deviation from the approved plan. The final determination as to the significance of any deviation and the need for a permit amendment is a Habitat Section responsibility. Therefore, we recommend you consult the Habitat Section before considering any deviation from the approved plan.

You shall give an authorized representative of the state free and unobstructed access to the permit site, at safe and reasonable times, for the purpose of inspecting or monitoring compliance with any provision of this permit. You shall furnish whatever assistance and information the authorized representative reasonably requires for monitoring and inspection purposes.

In addition to the penalties provided by law, this permit may be terminated or revoked for failure to comply with its provisions or failure to comply with applicable statutes and regulations. You shall mitigate any adverse effect upon fish or wildlife, their habitats, or any restriction or interference with public use that the commissioner determines was a direct result of your failure to comply with this permit or any applicable law.

You shall indemnify, save harmless, and defend the department, its agents, and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from permitted activities or your performance under this permit. However, this provision has no effect if, and only if, the sole proximate cause of the injury is the department's negligence.

Please direct questions about this permit to Habitat Biologist Maria Wessel at (907) 459-7281 or maria.wessel@alaska.gov.

Sincerely,
Doug Vincent-Lang
Commissioner



By: Audra L. J. Brase
Fairbanks Regional Supervisor

ecc: Brendan Scanlon, ADF&G, Fairbanks
Bob Henszey, USFWS, Fairbanks
James Hyun, ADNR, Anchorage
AWT Northern Detachment, Fairbanks
Northern Oil & Gas Team, ADNR, Fairbanks
Permit Coordinator, ADF&G, SF, Anchorage
Jessica Miller, ADNR, Anchorage

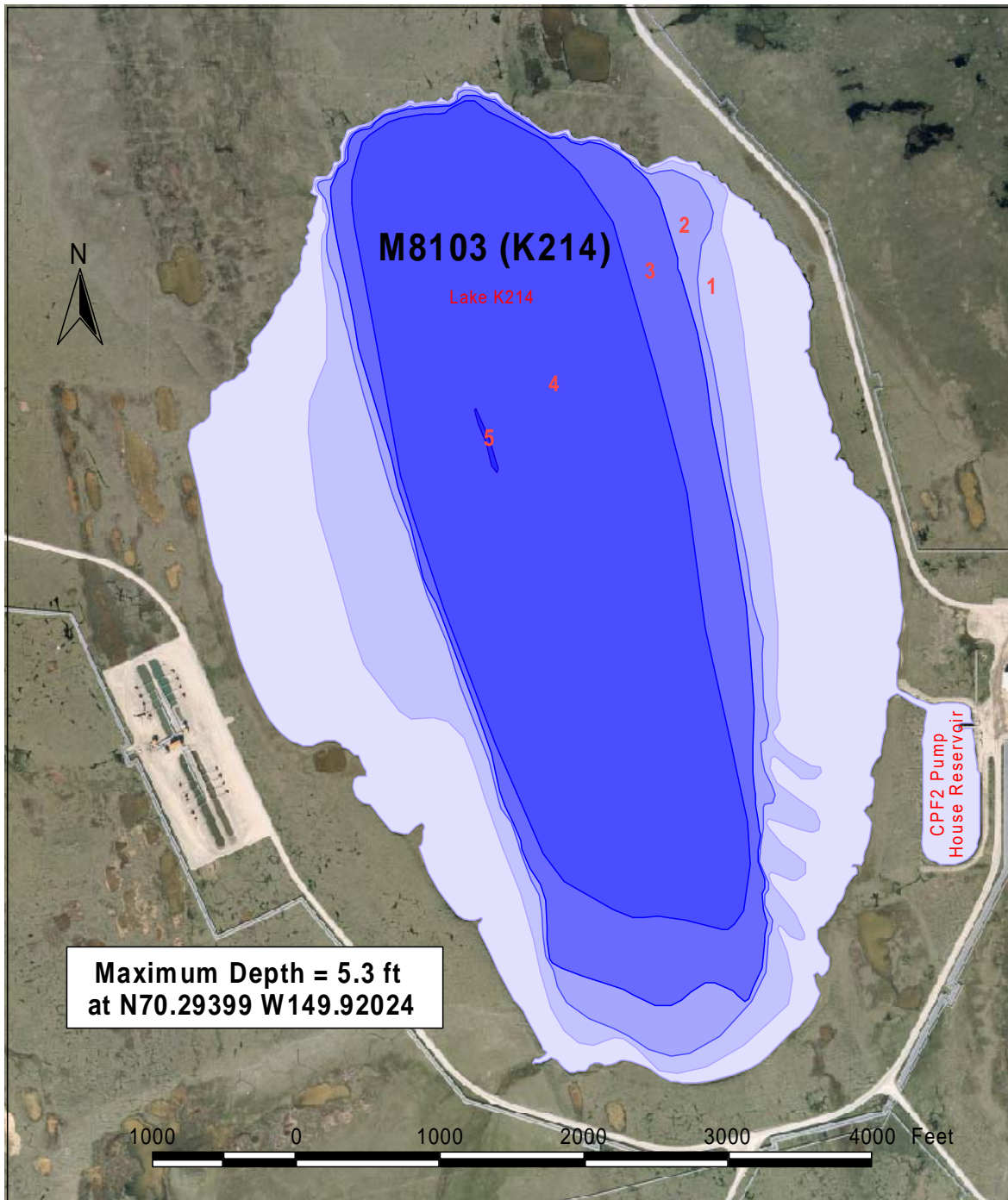
Al Ott, ADF&G, Fairbanks
Olivia Edwards, ADF&G, Fairbanks
Ashley Ethridge, ADNR, Anchorage
Justin Gatten, NSB, Utqiagvik
Gordon Brower, NSB, Utqiagvik

AB/mlw

Attachment 3

**Bathymetry Data (2011) and Markup for the CPF2 Pump House
Reservoir**

Proprietary Data – Not for External Distribution



Depth contours at Lake M8103 (K214) based on transects surveyed on August 17, 2011.
(depth in 1 ft intervals)

(not to be used for navigation or to direct the operation of heavy equipment)

Lake M8103 (K214)

Other Names: K214
Location: 70.29087°N 149.91501°W
USGS Quad Sheet: Beechey Point B-5: T11N R9E, Sec. 19/20/29
Habitat: Tundra
Area: 539 acres
Maximum Depth: 5.3 feet
Active Outlet: No
Total Lake Volume: ~~456.49~~ 453.662 million gallons TLV (excludes top 1' of reservoir)
Water Volume Under 4 ft of ice: 24.37 million gallons
Water Volume Under 5 ft of ice: 0.03 million gallons
Water Volume Under 7 ft of ice: 0.00 million gallons

Potential Ice Aggregate: ~~323.76~~ 315.080 acres (excludes top 1' of reservoir)
~~96.02~~ million gallons (water depth 4 ft or less)
~~93.192~~ million gallons available from upper 1 foot of ice (excludes top 1' of reservoir)

Maximum Recommended Winter Removal: 0.009 ~~0.010~~ million gallons
(30% of water under 5 ft of ice)
(does not include volume associated with ice aggregate)

Water Chemistry:

Year of Test	Specific Conductance (microS/cm)	Turbidity (NTU)	pH
2011	to be added		

Catch Record:

Gear	Date	Effort (hours)	Species	Number Caught
Gill Net	Aug 24 81	~24	None	0
	Jul 30 82	66.0	None	0
	Aug 17 11	7.7	None	0
Seine	Jul 30 82	1 haul	None	0
	Aug 17 11	1 haul	Ninespine stickleback	1
Electroshock	Jul 30 82	1.2 miles (20.4 minutes)	None	0

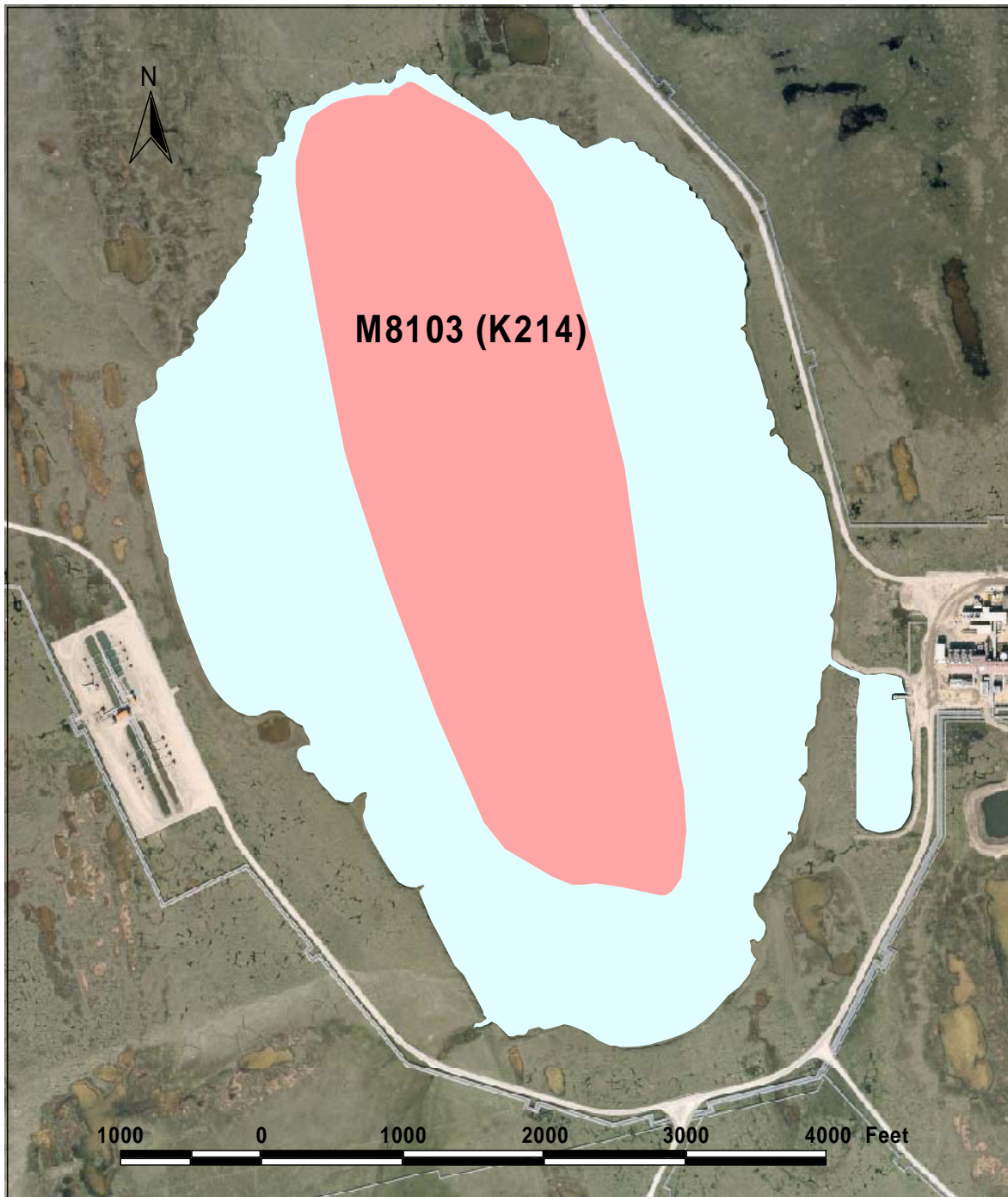
CPF2 Pump House Reservoir

Other Names: None
Location: 70.287692 N, -149.894225 W
USGS/MTRS: Beechey Point B-5: T11N, R9E, Sec. 20
Habitat: Tundra
Area: 8.68 areas
Maximum Depth: 31.0 feet
Active Outlet: No
Total Volume: 75.483 million gallons
Water Volume Under 5 ft of ice: 61.615 million gallons
Water Volume Under 7 ft of ice: 56.258 million gallons

2.828 million gallons
from upper 1 foot of ice

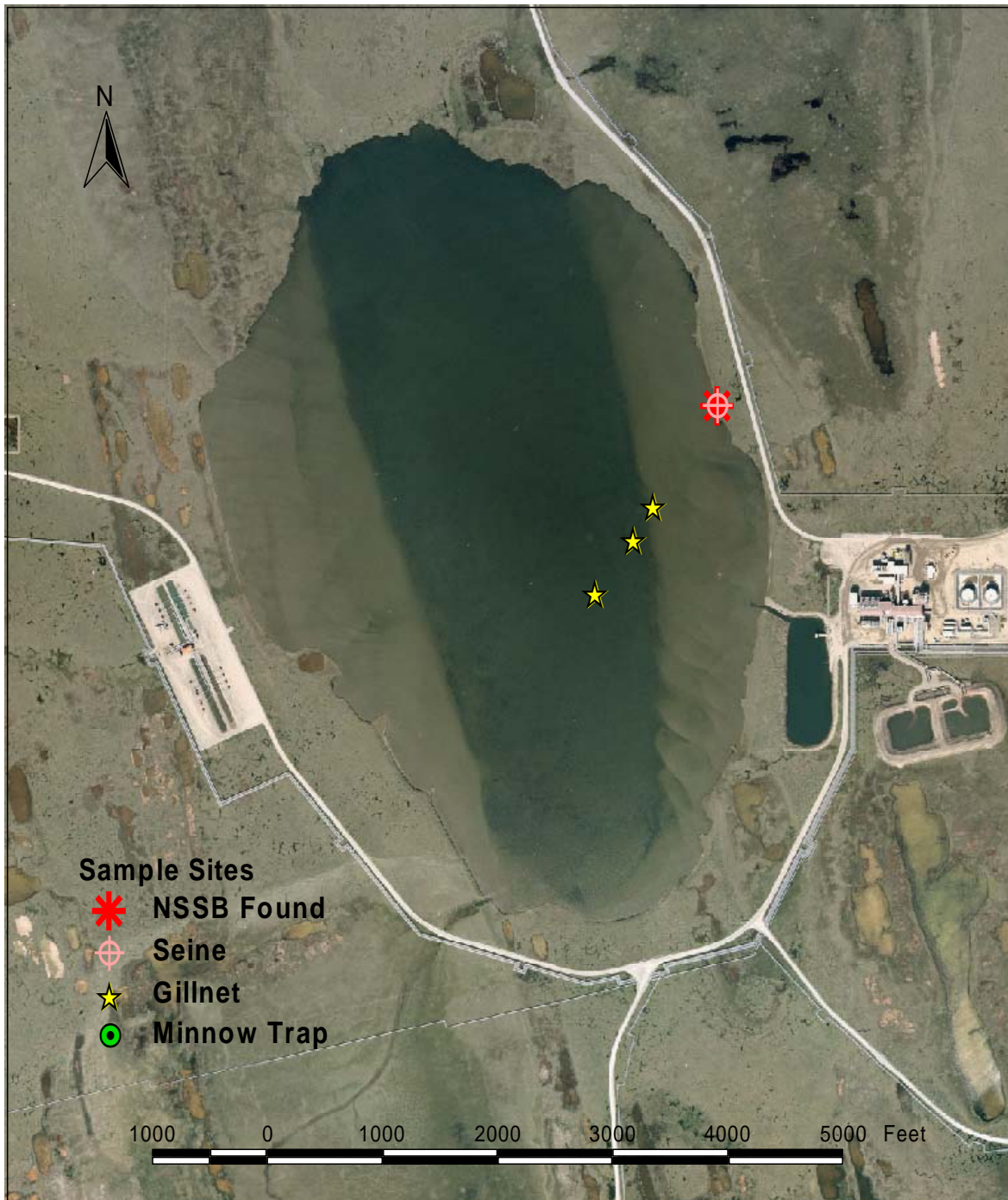
15.097 million gallons
(20% of total volume)
(Resistant species assumed; 30% under 5 ft of ice = 18.484 million gallons, so limited by 20% ADNR criteria)

1981 and 1982 data from Moulton, L.L. and C.B. Dew. 1983. Fish Utilization of Tundra Streams between the Colville and Kuparuk Rivers. Prepared by Woodward Clyde Consultants for Kuparuk River Unit. Anchorage, AK



Regions of Lake M8103 (K214) less than 4 feet deep (light blue) and likely to be available for ice chips, based on transects surveyed on August 17, 2011.

(not to be used for navigation or to direct the operation of heavy equipment)



Location of fish sample sites at Lake M8103 (K214) on August 17, 2011.
(NSSB = ninespine stickleback)



Depth transects surveyed at Lake M8103 (K214) on August 17, 2011.

Date:

8-17-2011

MJM Research Lake Data

Lake ID:

K214

Samplers:

L. Nowlton
M. Nowlton

Water Chemistry

Time:

17.34

DO (%):

—

Water Temp. (°C)

9.2

DO (mg/l):

—

pH:

7.11

Cond (µS/cm):

(180.9)

258.8

Turb (NTU):

2.50

Water Bottle No.:

#1

Lab Sample Taken?

Yes

No

(circle yes or no)

Gillnet	Time Set	Time Pulled	Catch (record lengths on back)
1	1649	1920	0
2	1652	1925	0
3	1654	1930	0
4			

Minnow

Time

Time

Trap

Set

Pulled

Catch

1

not set

set

N55B caught by seine

2

3

4

Seine:

Number of Hauls:

1

Time:

1720

Catch:

2 N55B

Visual: Yds Surveyed:

0

Time:

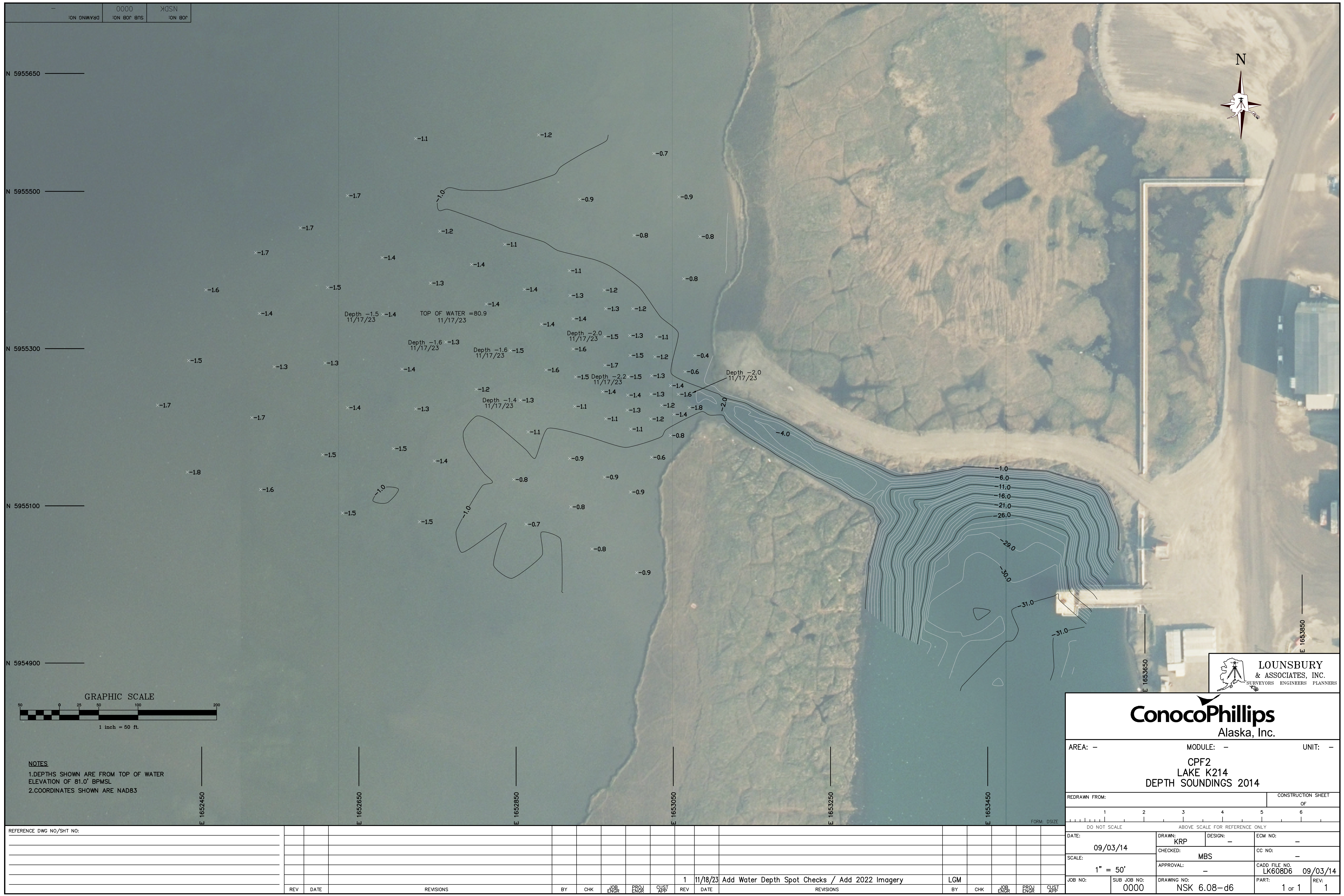
N55B caught by seine

Notes:

Tadpole shrimp v. abundant. Clouds of cladocerans

Attachment 4

Lake K214 Channel Depth Soundings



Attachment 5

Amendment Request Calculation Worksheet

PERMIT REQUEST CALCULATION WORKSHEET

WATER SOURCE LOCATIONS:

Water Source ID	Latitude*	Longitude*	Meridian	Township	Range	Section
K214	70.29087	-149.91501	Umiat	11N	9E	17, 19, 20, 29

*Datum: NAD83

PERMITS / AUTHORIZATIONS:

Water Source ID	TWUA/Water Right No.	TWUA/Water Right Request	FHP No.	FHP Status
K214	A2023-62/LAS 2762	Amend	FH11-III-0299-A3	Issued

VOLUME CALCULATIONS:

					WATER VOLUME				ICE VOLUME		PERMIT REQUEST					
Water Source ID	Surface Area (acres)	Max. Depth (feet)	Sensitive Fish Present	Resistant Fish Present	Total Water Source Volume (MM gallons)	Basis Used to Calculate Maximum Allotment (Water Only)*	Volume Used to Calculate Maximum Allotment (Water Only)* (MM gallons)	Percentage of Total or Water Under Ice allowed *	MAX WATER ALLOWED BY REG (calculated, MM gallons)*	MAX ICE AGGREGATE Available from top 1 foot of ice in areas 4 feet or shallower (MM gallons)	YEAR-ROUND WATER (MM gallons)	SUMMER WATER (MM gallons)	WINTER WATER (MM gallons)	WINTER ICE (MM gallons)	WINTER COMBO WATER/ICE (MM gallons)	COMBINED TOTAL (MM gallons)
K214	539.0	5.3	No	Yes	456.488	Water volume under 5 ft. of ice	0.030	30%	0.010	93.192	0.010	--	--	37.790	--	37.800
TOTALS:											0.010	0.000	0.000	37.790	0.000	37.800

*Calculations are based upon the following assumptions:

- If sensitive fish are present, max available water is 15% of the water below 7 ft. of ice.
- If no fish are present or water source is too shallow or summer only, max available water and or ice aggregate is 20% of the Total Water Source Volume for water and/or ice aggregate combined.
- If only resistant fish are present, max available water is 30% of water below 5 ft. of ice.

RATE CALCULATIONS:

Water Source ID	WATER RATE			
	~ Pump Rate (gal/min)	Max No. of hrs.	Max Daily Use (gal)**	~ No. of days
K214	1200	0.1	10,000	1

**Maximum withdrawal amounts will not be met daily, because they vary depending on a variety of factors such as weather conditions, proximity to source, and construction needs.

NOTES:

K214: CPAI requests permanent water use of 0.010 MM gallons liquid water year-round and 37.790 MM gallons ice aggregate during winter. The total 37.800 MM gallons is 8.3% of the total water source volume (corrected to exclude the top 1' of the CPF2 Pump House Reservoir) and the same volume currently authorized in LAS 2762.
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