

PRELIMINARY JURISDICTIONAL DETERMINATION

1. **APPLICANT:** Alaska Gold Company

2. **WATERWAY:** Little Hurrah Creek and Big Hurrah Creek

3. **LOCATION:**

A. Narrative: The Alaska Gold Company is proposing a new open pit mine approximately 45 miles east of Nome off the Nome-Council Highway (Figure 1). The proposed project area is bordered by Big Hurrah Creek on the north, Solomon River on the west, Huff Creek on the east, and the headwaters of Little Hurrah Creek to the south.

B. Legal Description:

Sections: 2, 3, 4, 5, 10, and 11 Township: 10S Range: 28W

Meridian: Kateel River

Latitude/Longitude: 64.64757/-164.23848 (WGS84)

4. **SOURCE(S):**

USGS Maps: Solomon C-5

NWI Maps: Solomon C-5

Soil Maps: None Exist

Corps Wetland Maps: None Exist

Aerial Photographs: Stereoscopic color aerial photographs taken 10-02-2004 at 1:12,000 scale and digital orthorectified aerial photograph (at 2 foot pixel resolution) provided by Alaska Gold Company.

Other: Routine Wetland Determination Data Forms and corresponding photos from HDR Alaska, Inc. dated June 10 and 11, 2005. Delineations followed the methods defined in the U.S. Army Corps of Engineers' (USACOE) 1987 Wetland Delineation Manual.

5. **DETERMINATION:**

Vegetation:

Vegetation communities observed in the field were characterized using the Alaska Vegetation Classification System¹ to a level IV category. Three community types occur in the project area; these types include open (canopy 25-75 percent) tall scrub-willow, open low scrub-mixed shrub-sedge tussock tundra, and ericaceous dwarf scrub-crowberry tundra. Wetland determination data forms completed at each community type describe plant species abundances are included in Appendix A. Plant name abbreviations used on wetland determination data forms are described in Appendix B.

¹ Viereck L.A., C.T. Dryness, A.R. Batten, and K.J. Wenzlick. 1992. The Alaska Vegetation Classification. U. S. Department of Agriculture.

Open tall scrub-willow

General characteristics of the open tall scrub-willow communities sampled in the field include a shrub canopy dominated by Barclay's willow (*Salix barclayi* - FAC), diamond leaf willow (*Salix pulchra* - FACW), felt-leaf willow (*Salix alaxensis* - FAC) with an understory dominated by dwarf scouring-rush (*Equisetum scirpoides* - FACU), marsh horsetail (*Equisetum palustre* - FACW), alpine sweet grass (*Hierochloa alpina* - NI), and bluejoint grass (*Calamagrostis canadensis* - FAC). This community type is common within and adjacent to the floodplains of Big Hurrah, Little Hurrah, Linda Vista, Trilbi, and several unnamed creeks. This community type is hydrophytic. Wetland determination data forms completed in this community type from sites 2, 9, 10, 27, and 31 are included in Appendix A.

Open low scrub-mixed shrub-sedge tussock tundra

General characteristics of this community type include a low-lying shrub layer dominated by crowberry (*Empetrum nigrum* - FAC), bog blueberry (*Vaccinium uliginosum* - FAC), and diamond leaf willow (FACW). Dominant herbaceous species include alpine sweet grass (NI) and fragile-seed sedge (*Carex membranacea* - FACW). This community type occurs along areas adjacent to the floodplains of smaller streams (including Little Hurrah, Linda Vista, Trilbi, and several unnamed creeks). This community type is hydrophytic. Wetland determination data forms completed in this community type from sites 1 and 5 are included in Appendix A.

Ericaceous dwarf scrub-crowberry tundra

General characteristics of this community type include a low-lying shrub layer dominated almost entirely of crowberry (FAC) and alpine azalea (*Loiseleuria procumbens* - NI). Dominant herbaceous species include bluejoint grass (FAC), alpine sweet grass (NI), and nodding trisetum (*Trisetum cernuum* - NI). This community type is the most abundant type in the project area, occurring over most of the mapped area on hill slopes, hilltops, drainages, and across broad flat areas. This community type is hydrophytic. Wetland determination data forms completed in this community type from sites 13, 17 and 36 are included in Appendix A.

Soils:

No detailed local soil surveys have been completed for the project area.

Both hydric and non-hydric soils were encountered during the field investigation. Sites that exhibit hydric soil indicators are generally located within or immediately adjacent to streams and their floodplains. Sites that were determined to have non-hydric soils generally occur on hill slopes, hilltops, and near disturbed sites. Table 1 summarizes the presence or absence of hydric soil conditions sampled at the different field data collection sites. Detailed soil information is included on wetland determination data forms included in Appendix A.

Soils investigated at sites 2, 5, 27, and 31 have sandy soils with high organic content mixed throughout the upper soil horizons. The upper mineral horizons observed were dark in color, ranging from very dark gray (7.5YR 3/1; 10YR 3/1), dark grayish brown (10YR 4/2), to very dark grayish brown (10YR 3/2). All of these sites were located within a floodplain and were determined to be hydric.

Soils investigated at sites 5, 9, 10, and 31 have dark upper mineral horizons with visible redoximorphic features. This soil type has a shallow (0 to 3 inches) fibric organic horizon at the ground surface followed by mineral horizon ranging in color from very dark gray (10YR 3/1), very dark grayish brown (10YR 3/2), to dark grayish brown (10YR 4/2). Within the upper mineral horizon at each of the investigated soil pits are redoximorphic features with a color ranging from dark reddish brown (2.5YR 3/4; 5YR 3/4) to dark brown (7.5YR 3/3). Below the upper mineral horizon is weathered parent material with small amounts of mineral soil mixed throughout. This soil type was determined to be hydric.

Soils investigated at sites 1, 13, 17, and 36 were determined to be non-hydric. All of these sites have a thin (0 to 5 inches thick) organic horizon at the ground surface followed by either a silty-loam mineral soil or rocky parent material. No hydric soil indicators were observed in this soil type.

Hydrology:

Within the mapped project area, the general landscape topography includes rolling hills with gradual slopes, incised ephemeral side-drainages, and wide, low-lying valley bottoms. Major perennial streams include Solomon River, Big Hurrah, Little Hurrah, Linda Vista, Trilbi, and several unnamed creeks. Several small man-made dredged ponds occur in historic mining areas located adjacent to Big Hurrah Creek.

Wetland hydrology indicators were seen at most sites within or adjacent to floodplains along the wide, low-lying valley bottoms. Common indicators observed include evidence of surface water, saturated soil, sediment deposits, water-stained leaves, seasonally ponded areas, and ephemeral drainage channels. Areas of snow pack were present in several isolated areas during the field investigation.

Hilltops, hill slopes, steep drainages, disturbed areas, and many well developed stream banks generally lacked any observable wetland hydrology indicators. Table 1 summarizes the presence or absence of wetland hydrology indicators observed at different field data collection sites. Site specific hydrology information is included on wetland determination data forms included in Appendix A.

6. CONCLUSION:

Wetlands and Uplands

Based on the findings above, it has been determined that areas displayed as wetlands on attached Figure 2 (and detailed on Figures 3 through 6) meet the criteria established by the Corps of Engineers' 1987 Wetland Delineation Manual for being classified as wetland. These areas are subject to jurisdiction under Section 404.

Most of the field verified areas (Figure 2) did not meet the required three parameters needed to classify an area as wetland. Developed areas such as road embankments, building foundations were judged to be upland. Several areas in the mapped project area, most notably the floodplains

of mapped perennial streams have indicators supporting their classification as wetland. Specific parameters observed at each field data collection location are summarized below in Table 1.

Waterbodies

Within the project area, the USACOE also has jurisdiction over the waters and seasonally flooded floodplain of all of the streams shown on the attached wetland and waterbody figures. These are identified as perennial streams on Figures 2 (and detailed on Figures 3 through 6). The streams are subject to both Section 404 and Section 10.

TABLE 1. SUMMARY OF FIELD INVESTIGATION SITES*

Site ID	Data Form	Plant Community Type	Hydrophytic Vegetation	Wetland Hydrology	Hydric Soils	Mapping Classification	Site ID	Data Form	Plant Community Type	Hydrophytic Vegetation	Wetland Hydrology	Hydric Soils	Mapping Classification
1	X	Open low scrub-mixed	X			U	21		Open low scrub-mixed	X			U
2	X	Open tall scrub	X	X	X	W	22		Open low scrub-mixed	X			U
3		Open tall scrub		X		Stream	23		Open tall scrub		X		Stream
4		Open tall scrub	X	X	X	W	24		Open low scrub-mixed				U
5	X	Open low scrub-mixed	X	X	X	W	25		Open tall scrub		X		Stream
6		Open tall scrub	X	X	X	W	26		Open low scrub-mixed	X	X	X	W
7		Open tall scrub	X	X	X	W	27	X	Open tall scrub	X	X	X	W
8		Open low scrub-mixed	X			U	28		N/A				U
9	X	Open tall scrub	X	X	X	W	29		N/A		X		U
10	X	Open tall scrub	X	X	X	W	30		N/A		X		U
11		Open low scrub-mixed	X	X	X	W	31	X	Open tall scrub	X	X	X	W
12		Open low scrub-mixed	X	X	X	W	32		N/A				U
13	X	Ericaceous dwarf scrub	X	X		U	33		Open tall scrub	X	X	X	W
14		Ericaceous dwarf scrub	X			U	34		Open tall scrub		X		Stream
15		Open tall scrub	X	X	X	W	35		Open tall scrub		X		W
16		Ericaceous dwarf scrub	X			U	36	X	Ericaceous dwarf scrub	X	X		U
17	X	Ericaceous dwarf scrub	X	X		U	37		N/A		X		Stream
18		Open tall scrub	X			U	38		N/A		X		Stream
19		Ericaceous dwarf scrub	X			U	39		N/A		X		Stream
20		Ericaceous dwarf scrub	X			U	40		N/A		X		Stream

*Wetland data form collection locations are highlighted in gray

Attached:

- Figure 1 – Vicinity Map
- Figure 2 – Wetland and Waterbodies (Overview Map)
- Figure 3 – Wetland and Waterbodies (Detail Scale 1 of 4)
- Figure 4 – Wetland and Waterbodies (Detail Scale 2 of 4)
- Figure 5 – Wetland and Waterbodies (Detail Scale 3 of 4)
- Figure 6 – Wetland and Waterbodies (Detail Scale 4 of 4)
- Appendix A: Routine Wetland Determination Data Forms and Site Photography
- Appendix B: Key to Plant Name Abbreviations Used on Wetland Data Forms

7. DETERMINATION MADE BY:

Jeff Schively
HDR Alaska, Inc.
Date: June 16, 2005

FIGURE 1

Alaska Gold Company

Big Hurrah Mine Site

VICINITY MAP



LOCATION OF DETAIL



N



Miles



Scale 1:350,000

UTM Zone 3 (units meters)
1983 North American Datum

1. Basemap from USGS.
2. Figure produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxd\FD-Figure 1-Vicinity Map.mxd

Author: JSS_HDR

Date: June 2005

FIGURE 2

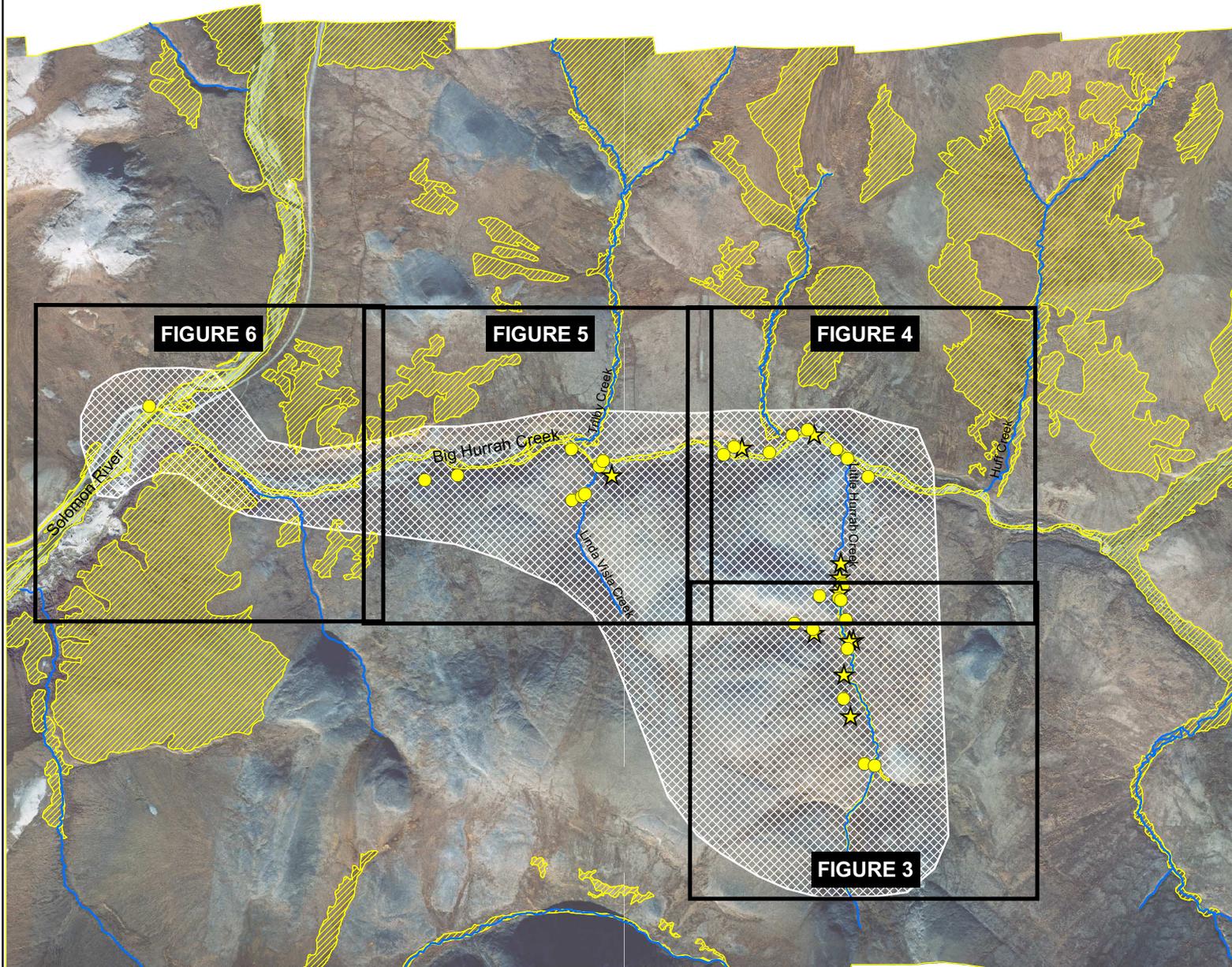
Alaska Gold Company

Big Hurrah Mine Site

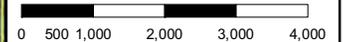
WETLANDS AND WATERBODIES

LEGEND

-  Wetland
-  Perennial Stream
-  Data Form Location
-  Observation/Photo Location
-  Field Verified Areas



Feet



Scale 1:32,000

UTM Zone 3 (units meters)
1983 North American Datum

1. Wetland mapping was completed spring 2005 using field investigation and aerial photograph interpretation.
2. Mapping produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxds\BH_field_verified_wetlands.mxd

Author: JSS_HDR

Date: June 2005

FIGURE 3

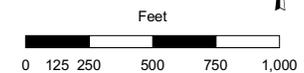
Alaska Gold Company

Big Hurrah Mine Site

**WETLANDS
AND
WATERBODIES**

LEGEND

-  Wetland
-  Perennial Stream
-  Data Form Location
-  Observation/Photo Location
-  Approximate Field Verified Boundary



Scale 1:9,000

**UTM Zone 3 (units meters)
1983 North American Datum**

1. Wetland mapping was completed spring 2005 using field investigation and aerial photograph interpretation.
2. Mapping produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxds\BH_field_verified_wetlands.mxd

Author: JSS_HDR

Date: June 2005

FIGURE 4

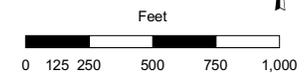
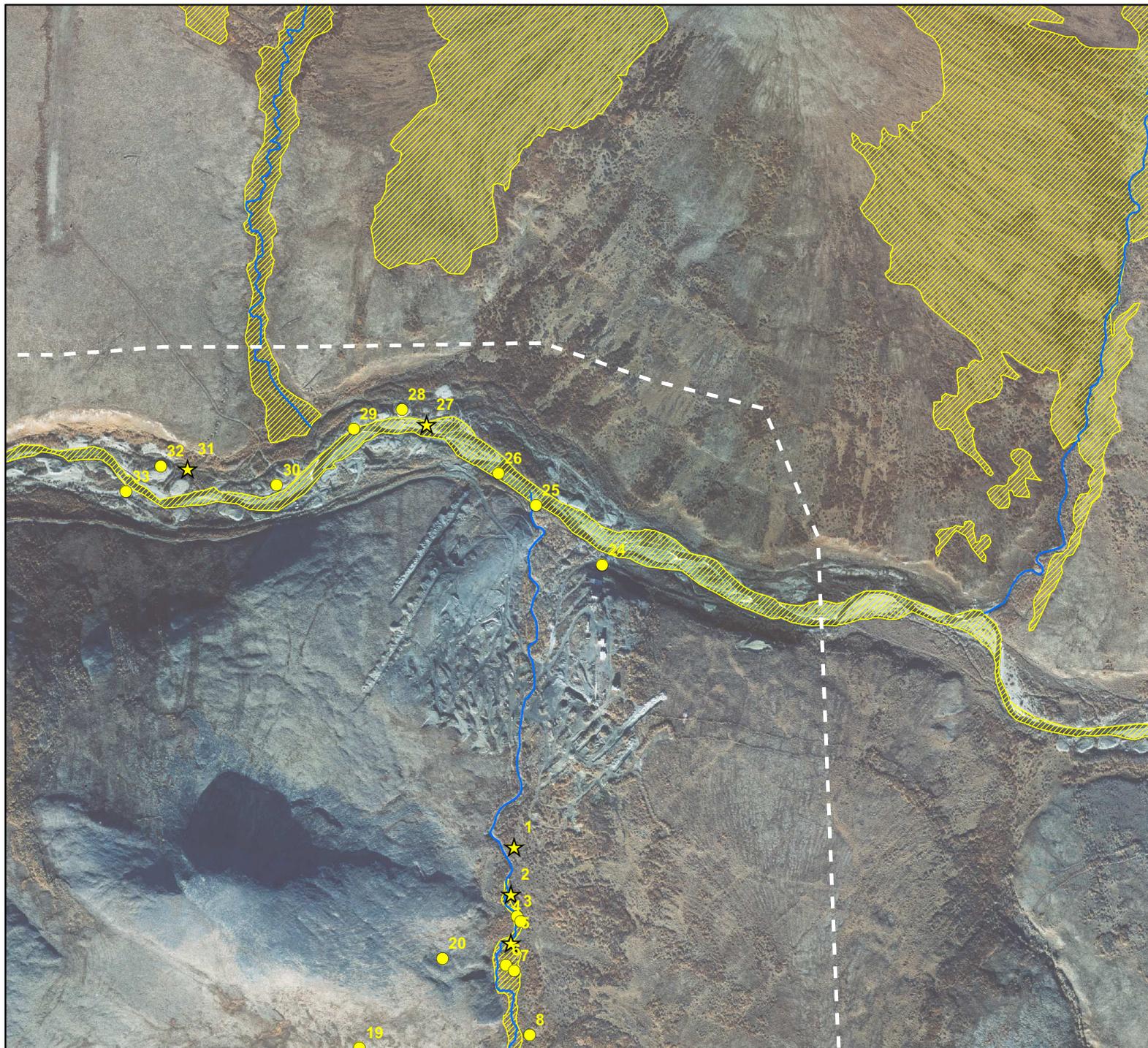
Alaska Gold Company

Big Hurrah Mine Site

**WETLANDS
AND
WATERBODIES**

LEGEND

-  Wetland
-  Perennial Stream
-  Data Form Location
-  Observation/Photo Location
-  Approximate Field Verified Boundary



Scale 1:9,000

**UTM Zone 3 (units meters)
1983 North American Datum**

1. Wetland mapping was completed spring 2005 using field investigation and aerial photograph interpretation.
2. Mapping produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxds\BH_field_verified_wetlands.mxd

Author: JSS_HDR

Date: June 2005

FIGURE 5

Alaska Gold Company

Big Hurrah Mine Site

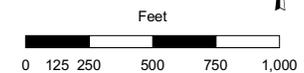
**WETLANDS
AND
WATERBODIES**

LEGEND

-  Wetland
-  Perennial Stream
-  Data Form Location
-  Observation/Photo Location
-  Approximate Field Verified Boundary



N



Scale 1:9,000

**UTM Zone 3 (units meters)
1983 North American Datum**

1. Wetland mapping was completed spring 2005 using field investigation and aerial photograph interpretation.
2. Mapping produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxds\BH_field_verified_wetlands.mxd

Author: JSS_HDR Date: June 2005

FIGURE 6

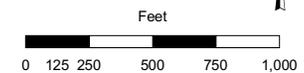
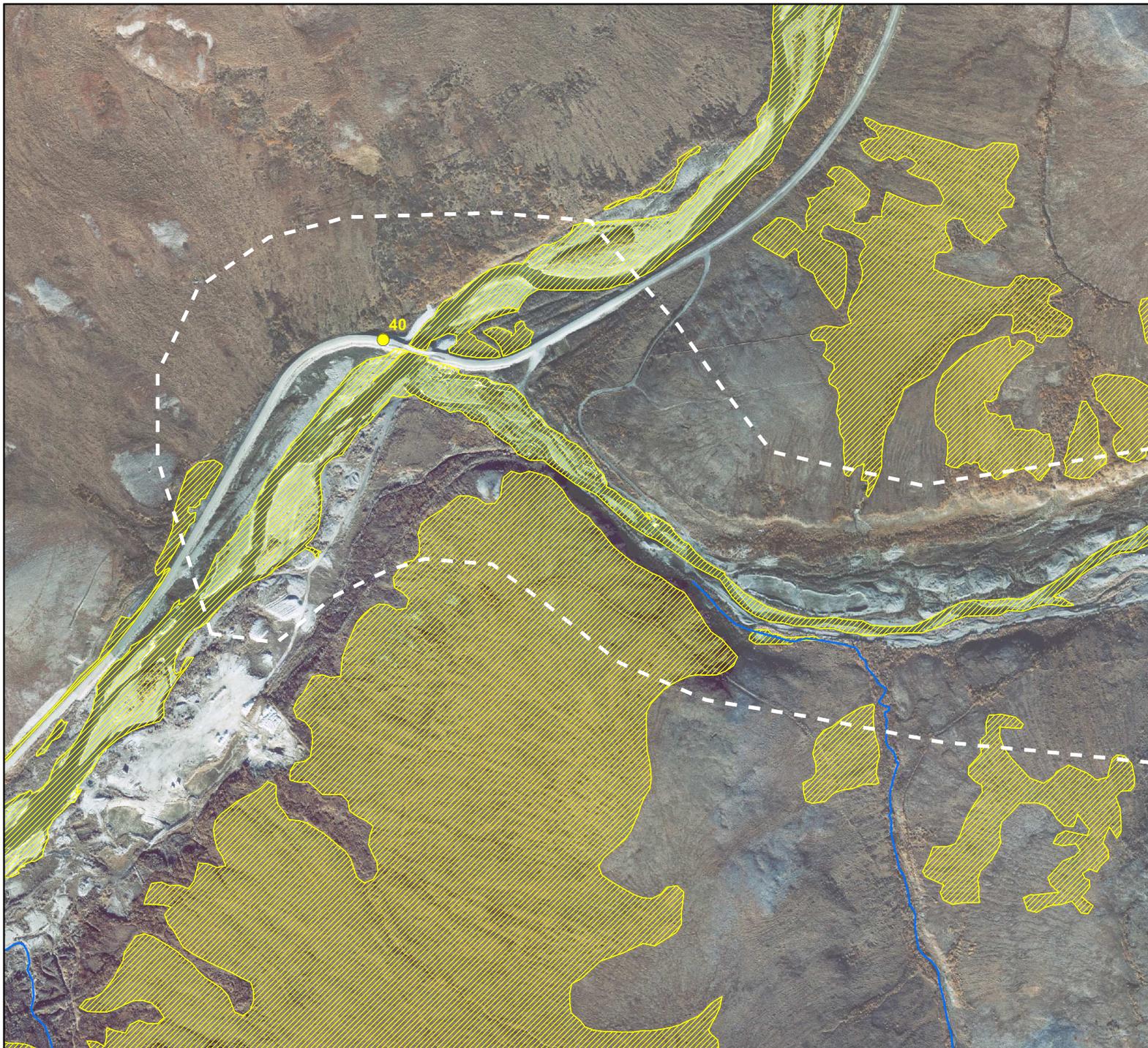
Alaska Gold Company

Big Hurrah Mine Site

**WETLANDS
AND
WATERBODIES**

LEGEND

-  Wetland
-  Perennial Stream
-  Data Form Location
-  Observation/Photo Location
-  Approximate Field Verified Boundary



Scale 1:9,000

**UTM Zone 3 (units meters)
1983 North American Datum**

1. Wetland mapping was completed spring 2005 using field investigation and aerial photograph interpretation.
2. Mapping produced by HDR Alaska, Inc. for Alaska Gold Company.

File: Z:\200490 Alaska Gold Company\7696\GIS\Big Hurrah Mine\mxds\BH_field_verified_wetlands.mxd

Author: JSS_HDR

Date: June 2005

Appendix A

WETLAND DETERMINATION FORMS AND SITE PHOTOGRAPHY

*Big Hurrah Mine Site, Nome, Alaska
Preliminary Jurisdictional Determination*

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>LITTLE HURRAH</u>	Date: <u>JUNE 10, 2005</u>
Applicant/Owner: <u>ALASKA GOLD COMPANY (AGC)</u>	Borough: <u>SEWARD PENN</u>
Investigators: <u>JEFF SCHIVELY / CHARLOTTE MACPAY</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>LOW SHRUB / TUNDRA</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>SITE 1</u>

General location:
Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
1. <u>EMP. NIG</u>	<u>S</u>	<u>35</u>	<u>FAC</u>	9. <u>Microchloa alpina</u>	<u>H</u>	<u>30</u>	<u>NI</u>
2. <u>SAL. RET</u>	<u>S</u>	<u>12</u>		10. <u>SAL SIT</u>	<u>S</u>	<u>T</u>	
3. <u>POT FRU</u>	<u>S</u>	<u>7</u>		11. _____			
4. <u>ANENAR</u>	<u>H</u>	<u>T</u>		12. _____			
5. <u>VAG. ULI</u>	<u>S</u>	<u>30</u>	<u>FAC</u>	13. _____			
6. <u>DRY. OCT</u>	<u>S</u>	<u>15</u>		14. _____			
7. <u>LOI PRO</u>	<u>S</u>	<u>5</u>		15. _____			
8. <u>Fisetum ceratium</u>	<u>H</u>	<u>T</u>	<u>NI</u>	16. <u>FRUTICOSE LICHEN</u>		<u>3</u>	

Circle Dominants Above
Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/2 = 100% Method of determining dominants: 50/20
T = trace = <5%; not used in calculations above

Remarks:
Describe veg. type (Vicreck Level IV):

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><u>N</u> Inundated</p> <p><u>N</u> Saturated in Upper 12 Inches</p> <p><u>N</u> Water Marks</p> <p><u>N</u> Drift Lines</p> <p><u>N</u> Sediment Deposits</p> <p><u>N</u> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><u>N</u> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><u>N</u> Water-Stained Leaves</p> <p><u>N</u> Local Soil Survey Data</p> <p>____ FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p>____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>N/A</u> (in.)</p> <p>Depth to Free Water in Pit: <u>N/A</u> (in.) (just running in at that depth? <u> </u>)</p> <p>Depth to Saturated Soil: <u>N/A</u> (in.)</p>	

Remarks:
SITE WITHIN WIDE VALLEY BOTTOM (LITTLE HURRAH CREEK)

SOILS

Soil Survey Map Unit Name (series, phase): _____	Field Drainage Class: <u>MUD</u>
Map Taxonomy (Subgroup): _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				g/cm	1/2/3/4/5	F/D/P		
<u>2-0</u>	<u>0i</u>							
<u>0-6</u>	<u>1B</u>	<u>7.5YR 3/2</u>						<u>SIL SAB L</u>
<u>6-14+</u>	<u>2B/R</u>	<u>10YR 3/2</u>						<u>SAL/GR</u>

Hydric Soil Indicators:

<u>NO</u> Histosol - 16+'' and saturated	<u>NO</u> Concretions
<u>NO</u> Histic Epipedon - 8-16'' and saturated	<u>N/A</u> High Organic Content in Surface Layer in Sandy Soils
<u>NO</u> Sulfidic Odor - in upper foot	<u>N/A</u> Organic Streaking in Sandy Soils
<u> </u> Aquic Moisture Regime, based on _____	<u> </u> Listed on Local Hydric Soils List
<u> </u> Reducing Conditions (use only for chemical test)	<u> </u> Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____	<u> </u> Other (Explain in Remarks): _____
parent material? _____	<u> </u> Any 1995 NTCHS Hydric Soil Indicators? _____
<u>NO</u> high content of organic material? _____	<u> </u> Any 2004 draft AK Hydric Soil Indicators? _____

Remarks

Major root zone: 4''

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Hydric Soils Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks:

T. R. S. ; _____ Meridian
 Location collected in GPS? Y N
 GPS point name? _____
 Latitude: _____
 Longitude: _____
 Datum: _____
 Photos: 4 (2 SOIL 2 VEG)

Slope (%): 2%
 Aspect (°): West
 Landform: VALLEY BOTTOM
 Topography: concave/convey planar

NWI subclass: U
 HGM type: _____
 Water source: PRECIP
 Water outflow: DOWNSLOPE DRAINAGE
 Functions: _____

MARK ON MAP

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>LITTLE HURRAH</u>	Date: <u>JUNE 10 / 2005</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>SEWARD PENN</u>
Investigators: <u>JEFF SCHINGLY / CHARLOTTE MASCINI</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>SHRUB THICKET</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>SITE 2</u>

General location:

Mark site on map, hang flag

VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
1. SAL ALA	S	10		9. SED ROS	H	T	
2. SAL BAR	S	40	FAC	10. VAC ULI	S	4	
3. SAL PUL	S	20	FACW	11. SPHAGNUM MOSS	B	3	
4. SAL RET	S	1		12. EQU SCI	H	7	FACU
5. POT FRU	S	2		13. CAREX SP	H	T	
6. VINLA LAN	H	T		14. RUB ARC	H	T	
7. EQU PAL	H	T		15. CAL CAN	H	T	
8. EMP ALGE	S	2		16.			

Circle Dominants Above

Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/3 = 67%

Method of determining dominants: 50/20

T = trace = <5%; not used in calculations above

Remarks:

Describe veg. type (Viereck Level IV):

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;">Stream, Lake, or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;">Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves (in low depressions)</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>N/A</u> (in.)</p> <p>Depth to Free Water in Pit: <u>N/A</u> (in.) (just running in at that depth? <input type="checkbox"/>)</p> <p>Depth to Saturated Soil: <u>N/A</u> (in.)</p>	<p>Remarks:</p>

SOILS

Soil Survey Map Unit Name (series, phase): _____	Field Drainage Class: <u>MWD</u>
Map Taxonomy (Subgroup): _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				g/cm	1/2/3/4/5	F/D/P		
<u>0-5</u>	<u>B1</u>	<u>7.5YR 3/1</u>	<u>20%</u>				<u>SIL</u>	<u>-SABL</u>
<u>5-16+</u>	<u>B2</u>	<u>7.5YR 3/1</u>					<u>SAL</u>	<u>-GR</u>
		<u>5YR 2.5/2</u>	<u>20%</u>					<u>near root channels</u>

Hydric Soil Indicators:

<u>N</u> Histosol - 16+'' and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16'' and saturated	<u>Y</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>NA</u> Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime, based on _____	_____ Listed on Local Hydric Soils List
_____ Reducing Conditions (use only for chemical test)	_____ Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____	_____ Other (Explain in Remarks): _____
parent material? _____	Any 1995 NTCHS Hydric Soil Indicators? _____
<u>N</u> high content of organic material? _____	Any 2004 draft AK Hydric Soil Indicators? _____

Remarks B1 - embedded organics throughout
Major root zone: B2 Horizon is weathered rock/sand

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this sampling point within a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks: _____

T. R. S. ; _____ Meridian	Slope (%): <u>2%</u>	NW1 subclass: <u>PSS1B</u>	
Location collected in GPS? <u>Y</u> <u>N</u>	Aspect (°): <u>E</u>	HGM type: _____	
GPS point name? <u>H2</u>	Landform: <u>Valley bottom</u>	Water source: <u>Prelop-up slope drainage</u>	
Latitude: _____	Topography: concave/convex/planar <u>(planar)</u>	Water outflow: <u>drainage to stream</u>	
Longitude: _____		Functions: _____	
Datum: <u>WGS 84</u>			
Photos: <u>4 (2 soil 2 veg)</u>			

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>LITTLE HURRAH</u>	Date: <u>JUNE 10 2005</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>SEWARD PENN</u>
Investigators: <u>JEFF SCHIVEY / CHARLOTTE MACCAY</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>LOW SHRUB</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>SITE 5</u>

General location:
Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
1. SAL RET	S	7		9. SAL PUL	S	25	FACW
2. CAREX MEM	H	25	OBL	10. SRY TRI	H	T	
3. SED ROS	H	1		11. SPHAGNUM MOS	B	12	
4. VAC VLI	S	4		12. _____			
5. EMP NIG	S	10	FAC	13. _____			
6. POT FRU	S	2		14. _____			
7. EQU PAL	H	2		15. _____			
8. EQU SCR	H	3		16. _____			

Circle Dominants Above	Method of determining dominants: 50/20
Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): $3/3 = 100\%$	T = trace = <5%; not used in calculations above
Remarks:	
Describe veg. type (Viereck Level IV):	

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;">Stream, Lake, or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;">Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>NA</u> (in.)</p> <p>Depth to Free Water in Pit: <u>10"</u> (in.) (just running in at that depth? <input type="checkbox"/>)</p> <p>Depth to Saturated Soil: <u>0"</u> (in.)</p>	
Remarks:	
<u>PONDING NEARBY STREAM</u>	

SOILS

Soil Survey Map Unit Name (series, phase): _____ Field Drainage Class: PD

Map Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance f/cm	size 1/2/3/4/5	contrast F/D/P		
<u>3-0</u>	<u>O₂</u>							
<u>0-8</u>	<u>B₁</u>	<u>10YR 4/2</u>	<u>2.5YR 3/4</u> ^{70%}	<u>CM</u>	<u>4</u>	<u>P</u>	<u>SAL</u>	<u>SABL</u>
<u>8-15+</u>	<u>B_{2/R}</u>	<u>7.5YR 3/1</u>					<u>SAL</u>	<u>GR/50% ROCK</u>
			<u>10YR 3/1</u> ^{30%}					

Hydric Soil Indicators:

<u>N</u> Histosol - 16+'' and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16'' and saturated	<u>Y</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>NA</u> Organic Streaking in Sandy Soils
<u>-</u> Aquic Moisture Regime, based on _____	_____ Listed on Local Hydric Soils List
<u>-</u> Reducing Conditions (use only for chemical test)	_____ Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? <u>X</u>	_____ Other (Explain in Remarks):
parent material? _____	_____ Any 1995 NTCHS Hydric Soil Indicators?
<u>N</u> high content of organic material? _____	_____ Any 2004 draft AK Hydric Soil Indicators?

Remarks

Major root zone: UPPER 6''

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No Is this sampling point within a wetland? Yes No

Remarks:

T. R. S. ; _____ Meridian
 Location collected in GPS? Y N
 GPS point name? LH-5
 Latitude: _____
 Longitude: _____
 Datum: _____
 Photos: 5 (3 soil 2 vpc)

Slope (%): 3^{sto}
 Aspect (°): N
 Landform: VALLEY BOTTOM
 Topography: concave/convex/planar (planar)

NWI subclass: PSS1B
 HGM type: _____
 Water source: stream/precip
 Water outflow: stream
 Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Heron</u> Applicant/Owner: <u>AGC</u> Investigators: <u>JS/CM</u>	Date: <u>June 10, 2005</u> Borough: <u>Seward Penin</u> State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Veg. community type: <u>Shrub thicket</u> Map number: _____ Plot ID: <u>LH 9</u>

General location:
 Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
1. <u>SAL PUL</u>	<u>S</u>	<u>60</u>	<u>FACW</u>	9. <u>SAX SP</u>	<u>H</u>	<u>T</u>	
2. <u>SAL ALE</u>	<u>S</u>	<u>5</u>		10. <u>FEATHER MOSS</u>	<u>B</u>	<u>8</u>	
3. <u>SAGNUM MOSS</u>	<u>B</u>	<u>2</u>		11. _____			
4. <u>POT FENL</u>	<u>S</u>	<u>T</u>	<u>FAC</u>	12. _____			
5. <u>CAL CAN</u>	<u>H</u>	<u>25</u>		13. _____			
6. <u>COU SCIR</u>	<u>H</u>	<u>2</u>		14. _____			
7. <u>SAL RET</u>	<u>S</u>	<u>T</u>		15. _____			
8. <u>SED ROS</u>	<u>H</u>	<u>T</u>		16. _____			

Circle Dominants Above
 Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/2 = 100%
 Method of determining dominants: 50/20
 T = trace = <5%; not used in calculations above

Remarks:
 Describe veg. type (Viereck Level IV): _____

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs Other _____ <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands (describe below) Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots) <input checked="" type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U) Other (Explain in Remarks) _____
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>0</u> (in.) (just running in at that depth? <input type="checkbox"/>) Depth to Saturated Soil: <u>0</u> (in.)	
Remarks: _____	

SOILS

Soil Survey Map Unit Name (series, phase): _____				Field Drainage Class: <u>VPD</u>				
Map Taxonomy (Subgroup): _____				Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Profile Description:								
Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				g/cm	1/2/3/4/5	F/D/P		
<u>2-0</u>	<u>O₂</u>							
<u>0-4</u>	<u>B₁</u>	<u>10 YR 3/2</u>	<u>5YR 3/4</u>	<u>m</u>	<u>2</u>	<u>D</u>	<u>SN</u>	<u>mottles along MASSIVE</u>
<u>4-15+</u>	<u>B₂/R</u>	<u>10 YR 3/2</u>					<u>SAL</u>	<u>G</u>
Hydric Soil Indicators:								
<u>N</u>	Histosol - 16+'' and saturated			<u>N</u>	Concretions			
<u>N</u>	Histic Epipedon - 8-16'' and saturated			<u>N</u>	High Organic Content in Surface Layer in Sandy Soils			
<u>N</u>	Sulfidic Odor - in upper foot			<u>NA</u>	Organic Streaking in Sandy Soils			
<u> </u>	Aquic Moisture Regime, based on _____			<u> </u>	Listed on Local Hydric Soils List			
<u> </u>	Reducing Conditions (use only for chemical test)			<u> </u>	Listed on National Hydric Soils List			
<u> </u>	Gleyed or Low-Chroma Colors: likely caused by reducing conditions? <u>X</u>			<u> </u>	Other (Explain in Remarks):			
<u> </u>	parent material? _____			<u> </u>	Any 1995 NTCHS Hydric Soil Indicators? _____			
<u>Y</u>	high content of organic material? _____			<u> </u>	Any 2004 draft AK Hydric Soil Indicators? _____			
Remarks								
Major root zone: _____								

root channels

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this sampling point within a wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks:	

T. R. S. ; _____ Meridian
 Location collected in GPS? N
 GPS point name? A-9
 Latitude: _____
 Longitude: _____
 Datum: _____
 Photos: 3 (1 soil 2 veg)

Slope (%): 1%
 Aspect (°): N
 Landform: valley bottom
 Topography: concave/convex/planar

NWI subclass: PSS1C
 HGM type: _____
 Water source: discharge from slope
 Water outflow: stream
 Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>W.H.I. Humah</u> Applicant/Owner: <u>ABC</u> Investigators: <u>JS / CM</u>	Date: <u>June 10, 2005</u> Borough: <u>SEWARD PENN</u> State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Veg. community type: <u>SHRUB THICKET</u> Map number: _____ Plot ID: <u>LA 10</u> <u>5' HIGHER ELEV THAN 9</u> <u>directly in line with 9</u>

General location:
Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
① SAL PU	S	50	FACW	9. SAL RET	S	T	
2. VAC ULI	S	3		⑩ CAL CAN	H	25	FAC
3. VAC VID	S	T		11. POT FRU	S	T	
4. RUB ARC	H	T		12. CAR SP	H	T	
5. SED ROS	H	1		13. _____			
⑥ Hic. alp.	H	25	NI	14. _____			
7. FEATHER MOSS	B	40		15. _____			
8. EMP MILC	S	3		16. _____			

Circle Dominants Above
 Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/2 = 100% Method of determining dominants: 50/20
 T = trace = <5%; not used in calculations above

Remarks:
Describe veg. type (Viereck Level IV):

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs Other _____ <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands (describe below) Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (<u>2nd mottle color</u> along living roots) <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U) Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>NA</u> (in.) Depth to Free Water in Pit: <u>12 (frost)</u> (in.) (just running in at that depth? <input type="checkbox"/> Depth to Saturated Soil: <u>5"</u> (in.)	Remarks:

SOILS

Soil Survey Map Unit Name (series, phase): _____ Field Drainage Class: SWPD

Map Taxonomy (Subgroup): _____ Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				t/c/m	1/2/3/4/5	F/D/P		
1-0	O ₂							
0-11	B ₁	10YR 3/1	7.5YR 3/3	m	5	F	L	SABL
11+	B ₁ (E)	10 YR 3/1	Same as B ₁				L	platey
			5YR 3/4	C	5	P		

Hydric Soil Indicators:

<u>N</u> Histosol - 16+'' and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16'' and saturated	<u>NA</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>NA</u> Organic Streaking in Sandy Soils
<u>—</u> Aquic Moisture Regime, based on _____	<u>—</u> Listed on Local Hydric Soils List
<u>—</u> Reducing Conditions (use only for chemical test)	<u>—</u> Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? <u>X</u>	Other (Explain in Remarks): _____
parent material? _____	Any 1995 NTCHS Hydric Soil Indicators? _____
<u>Y</u> high content of organic material? _____	Any 2004 draft AK Hydric Soil Indicators? _____

Remarks

Major root zone: UPPER 7

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No

Wetland Hydrology Present? Yes No

Hydric Soils Present? Yes No

Is this sampling point within a wetland? Yes No

Remarks:

T. R. S. ; _____ Meridian

Location collected in GPS? (Y) N

GPS point name? H-10

Latitude: _____

Longitude: _____

Datum: _____

Photos: 4 (2 soil & veg)

Slope (%): 1

Aspect (°): N

Landform: valley bottom

Topography: concave/convex/planar

NWI subclass: PSS1B

HGM type: _____

Water source: precip, snowmelt, frost

Water outflow: stream

Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Hurlah</u>	Date: <u>6-10-2005</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>Seward Penn</u>
Investigators: <u>JS/CM</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>Tundra</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>H13</u>

General location:
Mark site on map, hang flag
VEGETATION

#	Plant Species	Stratum	%Cover	Indicator	#	Plant Species	Stratum	%Cover	Indicator
1	<u>Emp. nig.</u>	<u>S</u>	<u>50</u>	<u>FAC</u>	9	<u>Sal. (sp. hump)</u>	<u>S</u>	<u>T</u>	
2	<u>Bet. nana</u>	<u>S</u>	<u>10</u>	<u>FAC</u>	10	<u>Sal. ret.</u>	<u>S</u>	<u>4</u>	
3	<u>Vacc. ulig.</u>	<u>S</u>	<u>10</u>		11				
4	<u>led. dec.</u>	<u>S</u>	<u>T</u>		12				
5	<u>Vacc. vid.</u>	<u>S</u>	<u>2</u>		13				
6	<u>Lor. pro.</u>	<u>S</u>	<u>20</u>	<u>NI</u>	14				
7	<u>Ped. (wooly)</u>	<u>H</u>	<u>T</u>		15				
8	<u>Thi. can.</u>	<u>H</u>	<u>2</u>		16				

Circle Dominants Above
Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 1/1 = 100% Method of determining dominants: 50/20
T = trace = <5%; not used in calculations above

Remarks: No dominant herbaceous with indicator status
Describe veg. type (Viereck Level IV): _____

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots) <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U) Other (Explain in Remarks) _____</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>N/A</u> (in.)</p> <p>Depth to Free Water in Pit: <u>16"</u> (in.) (just running in at that depth? <input type="checkbox"/>)</p> <p>Depth to Saturated Soil: <u>0"</u> (in.)</p>	
<p>Remarks: _____</p>	

SOILS

Soil Survey Map Unit Name (series, phase): _____
 Field Drainage Class: SWP
 Map Taxonomy (Subgroup): _____
 Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				0/cm	1/2/3/4/5	F/D/P		
1-0	O _i							
0-6	B ₁	SYR 3/3					SIL	ISA BIL
6-15+	C						S	WEATHERED BEDROCK

Hydric Soil Indicators:

<u>N</u> Histosol - 16+'' and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16'' and saturated	<u>N/A</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>N/A</u> Organic Streaking in Sandy Soils
<u>-</u> Aquic Moisture Regime, based on _____	_____ Listed on Local Hydric Soils List
<u>-</u> Reducing Conditions (use only for chemical test)	_____ Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____	_____ Other (Explain in Remarks): _____
parent material? _____	Any 1995 NTCHS Hydric Soil Indicators? _____
<u>N</u> high content of organic material? _____	Any 2004 draft AK Hydric Soil Indicators? _____

Remarks

Major root zone: UPPER 5''

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No
 Wetland Hydrology Present? Yes No
 Hydric Soils Present? Yes No Is this sampling point within a wetland? Yes No

Remarks:

T. R. S. ; _____ Meridian
 Location collected in GPS? (Y) N
 GPS point name? _____
 Latitude: _____
 Longitude: _____
 Datum: WGS 84
 Photos: 4 (2 soil, 2 veg)

Slope (%): 20°
 Aspect (°): E
 Landform: Slope
 Topography: concave/convex/planar

NWI subclass: J
 HGM type: _____
 Water source: Precip
 Water outflow: down slope runoff
 Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Hurray</u>	Date: <u>6-10-2005</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>Seward Pen.</u>
Investigators: <u>JS/CM</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>Low shrub</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>H 17</u>

General location:
Mark site on map, hang flag
VEGETATION

#	Plant Species	Stratum	%Cover	Indicator	#	Plant Species	Stratum	%Cover	Indicator
1.	<u>Vacc. ulg.</u>	<u>S</u>	<u>15</u>		9.	<u>Cal. can.</u>	<u>H</u>	<u>12</u>	<u>FAC</u>
2.	<u>Emp. nig.</u>	<u>S</u>	<u>50</u>	<u>FAC</u>	10.	<u>Sal. ulmif. ret.</u>	<u>S</u>	<u>T</u>	
3.	<u>Bet. nana.</u>	<u>S</u>	<u>15</u>		11.	<u>VAC VID</u>	<u>S</u>	<u>T</u>	
4.	<u>Carex sp.</u>	<u>H</u>	<u>3</u>		12.				
5.	<u>Emp. pal.</u>	<u>H</u>	<u>T</u>		13.				
6.	<u>Lois pro.</u>	<u>S</u>	<u>8</u>		14.				
7.	<u>Led. dec.</u>	<u>S</u>	<u>2</u>		15.				
8.	<u>Sal. bacc.</u>	<u>S</u>	<u>2</u>		16.				

Circle Dominants Above
Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/2 = 100% Method of determining dominants: 50/20
T = trace = <5%; not used in calculations above

Remarks:
Describe veg. type (Viereck Level IV):

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;"><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p style="padding-left: 20px;"><input checked="" type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other</p> <p style="padding-left: 20px;"><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>N/A</u> (in.)</p> <p>Depth to Free Water in Pit: <u>N/A</u> (in.) (just running in at that depth? <input type="checkbox"/>)</p> <p>Depth to Saturated Soil: <u>3/1</u> (in.)</p>	<p>Remarks: <u>*Nearby drainage channel (ephemeral)</u></p>

SOILS

Soil Survey Map Unit Name (series, phase):					Field Drainage Class: <u>MWD</u>				
Map Taxonomy (Subgroup):					Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Profile Description:									
Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)	
				abundance	size	contrast			
				f/cm	1/2/3/4/5	F/D/P			
<u>5-0</u>	<u>OR</u>								
<u>0-1</u>	<u>A</u>	<u>7.5YR 2.5/1</u>					<u>SIL</u>	<u>SABL</u>	
<u>1-9+</u>	<u>B/R</u>	<u>10YR 3/2</u>					<u>SIL</u>	<u>70% Rock</u> <u>30% soil</u> <u>SABL</u>	
Hydric Soil Indicators:									
<u>N</u>	Histosol - 16" and saturated			<u>N</u>	Concretions				
<u>N</u>	Histic Epipedon - 8-16" and saturated			<u>N/A</u>	High Organic Content in Surface Layer in Sandy Soils				
<u>N</u>	Sulfidic Odor - in upper foot			<u>N/A</u>	Organic Streaking in Sandy Soils				
<u> </u>	Aquic Moisture Regime, based on _____			<u> </u>	Listed on Local Hydric Soils List				
<u> </u>	Reducing Conditions (use only for chemical test)			<u> </u>	Listed on National Hydric Soils List				
<u> </u>	Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____			<u> </u>	Other (Explain in Remarks): _____				
<u> </u>	parent material? _____			<u> </u>	Any 1995 NTCHS Hydric Soil Indicators? _____				
<u>N</u>	high content of organic material? _____			<u> </u>	Any 2004 draft AK Hydric Soil Indicators? _____				
Remarks									
Major root zone: <u>UPPER 8"</u>									

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is this sampling point within a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:	

T. R. S. ; _____ Meridian
 Location collected in GPS? (Y) N
 GPS point name? H17
 Latitude: _____
 Longitude: _____
 Datum: _____
 Photos: 4 (2 soil - 2 veg)

Slope (%): 17%
 Aspect (°): E
 Landform: Slope
 Topography: concave/convex/planar

NWI subclass: U
 HGM type: _____
 Water source: Precip, upstream runoff
 Water outflow: downstream to drainage channel
 Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Humah</u>	Date: <u>6/11/05</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>Seward Peninsula</u>
Investigators: <u>JS/CM</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: <u>Low shrub floodplain</u>
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>H 27</u> <u>Floodplain w/ some mixed tundra</u>

General location:

Mark site on map, hang flag

VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
① <u>Sal Alg</u>	<u>S</u>	<u>30</u>	<u>FAC</u>	9. _____	_____	_____	_____
② <u>Egu Pal</u>	<u>H</u>	<u>3</u>	<u>OBL</u>	10. _____	_____	_____	_____
③ <u>Egu Sed</u>	<u>H</u>	<u>4</u>	<u>FACU</u>	11. _____	_____	_____	_____
4. <u>Pal Car</u>	<u>H</u>	<u>T</u>	_____	12. _____	_____	_____	_____
5. <u>Lat mat?</u>	<u>H</u>	<u>T</u>	_____	13. _____	_____	_____	_____
6. <u>unknown vegetation</u>	<u>H</u>	<u>T</u>	_____	14. _____	_____	_____	_____
7. _____	_____	_____	_____	15. _____	_____	_____	_____
8. _____	_____	_____	_____	16. _____	_____	_____	_____

Circle Dominants Above

Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/3 = 67%

Method of determining dominants: 50/20

T = trace = <5%; not used in calculations above

Remarks:

Describe veg. type (Viereck Level IV):

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="padding-left: 20px;"><input type="checkbox"/> Stream, Lake, or Tide Gauge</p> <p style="padding-left: 20px;"><input checked="" type="checkbox"/> Aerial Photographs</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other</p> <p style="padding-left: 20px;"><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><u>11</u> Inundated</p> <p><u>Y</u> Saturated in Upper 12 Inches</p> <p><u>Y</u> Water Marks</p> <p><u>Y</u> Drift Lines</p> <p><u>Y</u> Sediment Deposits</p> <p><u>Y</u> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><u>Y</u> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>NA</u> (in.)</p> <p>Depth to Free Water in Pit: <u>NA</u> (in.) (just running in at that depth? <input type="checkbox"/>)</p> <p>Depth to Saturated Soil: <u>12"</u> (in.)</p>	<p>Remarks:</p>

Hydric Soil Indicators:

N Histosol - 16+'' and saturated

N Concretions

N Histic Epipedon - 8-16'' and saturated

Y High Organic Content in Surface Layer in Sandy Soils

N Sulfidic Odor - in upper foot

N Organic Streaking in Sandy Soils

- Aquic Moisture Regime, based on _____

_____ Listed on Local Hydric Soils List

- Reducing Conditions (use only for chemical test)

_____ Listed on National Hydric Soils List

Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____

_____ Other (Explain in Remarks):

parent material? _____

Any 1995 NTCHS Hydric Soil Indicators? _____

N high content of organic material? _____

_____ Any 2004 draft AK Hydric Soil Indicators? _____

Remarks

Major root zone: UPPER 8''

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No

Wetland Hydrology Present?

Yes No

Hydric Soils Present?

Yes No

Is this sampling point within a wetland?

Yes No

Remarks:

SITE Below Ordinary High Water (BOHW)

T. R. S. ; _____ Meridian

Location collected in GPS? (Y) N

GPS point name? _____

Latitude: _____

Longitude: _____

Datum: H.27

Photos: 4 (2 soil 2 veg)

Slope (%): 1

Aspect (°): West

Landform: Flond plan

Topography: concave/convex/planar (planar)

NWI subclass: PSS1/FLA

HGM type: _____

Water source: stream

Water outflow: stream

Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Nunatak</u>	Date: <u>6/11/05</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>Seward Penn</u>
Investigators: <u>JS/CM</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: _____
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? (If needed, explain below.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Plot ID: <u>H 31</u> <u>edge of flood plain</u>

General location:
Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
1. <u>Pot Fru</u>	<u>S</u>	<u>1</u>		9. <u>Sax sp</u>	<u>H</u>	<u>T</u>	
2. <u>Sal Ala</u>	<u>S</u>	<u>85</u>	<u>FAC</u>	10. <u>unknown</u>	<u>H</u>	<u>T</u>	
3. <u>Egn Spir</u>	<u>H</u>	<u>10</u>	<u>FACU</u>	11. _____	_____	_____	_____
4. <u>Sal Rel</u>	<u>S</u>	<u>T</u>		12. _____	_____	_____	_____
5. <u>Vac W.</u>	<u>S</u>	<u>T</u>		13. _____	_____	_____	_____
6. <u>Feather Moss</u>	<u>B</u>	<u>65</u>		14. _____	_____	_____	_____
7. <u>Cal Can</u>	<u>H</u>	<u>10</u>	<u>FAC</u>	15. _____	_____	_____	_____
8. <u>juncos sp</u>	<u>H</u>	<u>T</u>		16. _____	_____	_____	_____

Circle Dominants Above

Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 2/3 = 67%

Method of determining dominants: 50/20

T = trace = <5%; not used in calculations above

Remarks:

Describe veg. type (Viereck Level IV):

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge</p> <p><input checked="" type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><u>N</u> Inundated</p> <p><u>Y</u> Saturated in Upper 12 Inches</p> <p><u>Y</u> Water Marks</p> <p><u>Y</u> Drift Lines</p> <p><u>Y</u> Sediment Deposits</p> <p><u>Y</u> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><u>N</u> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><u>Y</u> Water-Stained Leaves</p> <p>_____ Local Soil Survey Data</p> <p>_____ FAC-Neutral Test (more dominants FACW + OBL than FACU+ U)</p> <p>_____ Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>N/A</u> (in.)</p> <p>Depth to Free Water in Pit: <u>10"</u> (in.) (just running in at that depth? <u> </u>)</p> <p>Depth to Saturated Soil: <u>0</u> (in.)</p>	
Remarks:	

SOILS

Soil Survey Map Unit Name (series, phase): _____	Field Drainage Class: <u>PD</u>
Map Taxonomy (Subgroup): _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				5/cm	1/2/3/4/5	F/D/P		
<u>0-2</u>	<u>B</u>	<u>10YR 3/2</u>	<u>2.5YR 3/4^{50%}</u>	<u>C</u>	<u>2</u>	<u>P</u>	<u>SAL</u>	<u>SABL</u>
<u>2-16"</u>	<u>C</u>		<u>8.5YB 3/6^{50%}</u>	<u>C</u>	<u>2</u>	<u>P</u>		<u>along root chan</u>

Hydric Soil Indicators:

<u>N</u> Histosol - 16" and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16" and saturated	<u>Y</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>N</u> Organic Streaking in Sandy Soils
<u> </u> Aquic Moisture Regime, based on _____	<u> </u> Listed on Local Hydric Soils List
<u> </u> Reducing Conditions (use only for chemical test)	<u> </u> Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? <u>X</u>	<u> </u> Other (Explain in Remarks): _____
parent material? _____	Any 1995 NTCHS Hydric Soil Indicators? _____
<u>Y</u> high content of organic material? _____	Any 2004 draft AK Hydric Soil Indicators? _____

Remarks

Major root zone: UPPER 8"

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this sampling point within a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:

Periodic flooding

T. R. S. ; _____ Meridian
 Location collected in GPS? (Y) N
 GPS point name? _____
 Latitude: _____
 Longitude: _____
 Datum: H31
 Photos: 4 (2 soil 2 veg)

Slope (%): 4
 Aspect (°): West
 Landform: Flood plain
 Topography: concave/concave/planar (planar)

NWI subclass: PSS1B
 HGM type: _____
 Water source: Stream
 Water outflow: Stream
 Functions: _____

**DATA FORM (modified from Corps form)
ROUTINE WETLAND DETERMINATION**

Project Site: <u>Little Horrah</u>	Date: <u>6/11/05</u>
Applicant/Owner: <u>AGC</u>	Borough: <u>SEWARD PENINSULA</u>
Investigators: <u>JS/CM</u>	State: <u>Alaska</u>
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Veg. community type: _____
Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Map number: _____
Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If needed, explain below.)	Plot ID: <u>SJL #36</u> <u>South bank of Little Horrah</u>

General location: LARGE ROCKS w/ THIN OVERLYING LAYER OF ORGANIC

Mark site on map, hang flag
VEGETATION

Plant Species	Stratum	%Cover	Indicator	Plant Species	Stratum	%Cover	Indicator
① EMP NIG	S	165 ⁹¹	FAC	9. SAL BAR	S	T	
② LOI PRO	A S	20 ⁹¹	NE	10. AND BAR Pol.	H	T	
3. VAC ULI	S	15		11. EQU VAL	H	T	
4. SAL RET	S	2		12. ANE NAP	H	T	
5. EQU PU	H	T		13. SAL MYR	S	2	
6. EQU LICHEN	B	5		14. PET NANA	S	T	
⑦ GRASS #1 (Tri Cer)	H	3		15. EPI ANG	H	T	
8. GRASS #2 (Hic. alp)	H	1		16. CAL CAN	H	T	

Circle Dominants Above NE Method of determining dominants: 50/20
Percent of Dominants that are OBL, FACW or FAC (excluding FAC-): 1/1 = 100% T = trace = <5%; not used in calculations above

Remarks: No dominant herbaceous plant with indicator.
Describe veg. type (Viereck Level IV): _____

HYDROLOGY

<p><input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge _____ <input checked="" type="checkbox"/> Aerial Photographs _____ Other _____ No Recorded Data Available _____</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in Upper 12 Inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands (describe below)</p> <p>Secondary Indicators (2 or more required):</p> <p><input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12 Inches (along living roots)</p> <p><input checked="" type="checkbox"/> Water-Stained Leaves</p> <p>Local Soil Survey Data _____</p> <p>FAC-Neutral Test (more dominants FACW + OBL than FACU+ U) _____</p> <p>Other (Explain in Remarks) _____</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>NA</u> (in.)</p> <p>Depth to Free Water in Pit: <u>NA</u> (in.) (just running in at that depth? _____)</p> <p>Depth to Saturated Soil: <u>NA</u> (in.)</p>	<p>Remarks: _____</p>

SOILS

Soil Survey Map Unit Name (series, phase): _____	Field Drainage Class: <u>MWD</u>
Map Taxonomy (Subgroup): _____	Field Observations Confirm Mapped Type? <input type="checkbox"/> Yes <input type="checkbox"/> No

Profile Description:

Depth (inches)	Horizon	Matrix Color	Mottle or Redox Feature Colors	Redox or Mottles			Texture	Comments (moisture, coarse frags)
				abundance	size	contrast		
				fl/cm	1/2/3/4/5	F/D/P		
<u>0-1"</u>	<u>O_i</u>							
<u>1-5" THICK</u>	<u>O_e</u>							
<u>5+"</u>	<u>C</u>							

Hydric Soil Indicators:

<u>N</u> Histosol - 16+" and saturated	<u>N</u> Concretions
<u>N</u> Histic Epipedon - 8-16" and saturated	<u>N</u> High Organic Content in Surface Layer in Sandy Soils
<u>N</u> Sulfidic Odor - in upper foot	<u>N</u> Organic Streaking in Sandy Soils
___ Aquic Moisture Regime, based on _____	___ Listed on Local Hydric Soils List
___ Reducing Conditions (use only for chemical test)	___ Listed on National Hydric Soils List
Gleyed or Low-Chroma Colors: likely caused by reducing conditions? _____	___ Other (Explain in Remarks): _____
parent material? _____	Any 1995 NTCHS Hydric Soil Indicators? _____
<u>N</u> high content of organic material? _____	Any 2004 draft AK Hydric Soil Indicators? _____

Remarks
Major root zone: UPPER 5"
TALLIS-LIKE OVERLAIN W/ FEN/MINERAL HORIZON

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hydric Soils Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this sampling point within a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: RUNOFF OR DISCHARGE FROM ROAD EMBANKMENT IDENTIFIED QUESTIONABLE AREA FROM AERIAL PHOTO - DUG HOLE IN POTENTIALLY WETTEST AREA (DRAINAGE), APPEARS ENTIRE SITE IS NOT WETLAND

T. R. S. ; _____ Meridian	Slope (%): <u>5</u>	NW1 subclass: <u>U</u>
Location collected in GPS? <u>Y</u> <u>N</u>	Aspect (°): <u>North</u>	HGM type: _____
GPS point name? _____	Landform: <u>Slope</u>	Water source: <u>DISCHARGE/RUNOFF? PRECIP</u>
Latitude: _____	Topography: <u>concave</u> / convex / planar	Water outflow: <u>DOWNSTREAM</u>
Longitude: _____		Functions: _____
Datum: <u>H-36</u>		
Photos: <u>4 (2 soil 1 veg 1 hydro)</u>		



Photograph 1- Site 1 – soil pit



Photograph 2- Site 1 – excavated soil profile



Photograph 3- Site 1 – vegetation



Photograph 4- Site 1 – vegetation



Photograph 5- Site 2 – soil pit



Photograph 6- Site 2 – excavated soil profile



Photograph 7- Site 2 – vegetation



Photograph 8- Site 2 – vegetation



Photograph 9- Site 3 – Little Hurrah Creek (upstream)



Photograph 10- Site 3 – Little Hurrah Creek (downstream)



Photograph 11- Site 4 – hydrology/vegetation



Photograph 12- Site 4 – hydrology/vegetation



Photograph 13- Site 5 – soil pit



Photograph 14- Site 5 – excavated soil profile



Photograph 15- Site 5 – hydrology/vegetation



Photograph 16- Site 5 – vegetation



Photograph 17- Site 6 – vegetation



Photograph 18- Site 6 – vegetation



Photograph 19- Site 7 – hydrology



Photograph 20- Site 7 – hydrology



Photograph 21- Site 8 – vegetation



Photograph 22- Site 8 – vegetation



Photograph 23- Site 9 – soil



Photograph 24- Site 9 – vegetation



Photograph 25- Site 10 – soil pit



Photograph 26- Site 10 – excavated soil profile



Photograph 27- Site 10 – vegetation



Photograph 28- Site 10 – vegetation



Photograph 29- Site 11 – hydrology/vegetation



Photograph 30- Site 11 – hydrology/vegetation



Photograph 31- Site 12 – hydrology/vegetation



Photograph 32- Site 12 – vegetation



Photograph 33- Site 13 – soil pit



Photograph 34- Site 13 – excavated soil pit



Photograph 35- Site 13 – vegetation



Photograph 36- Site 13 – vegetation



Photograph 37- Site 14 – vegetation



Photograph 38- Site 14 – vegetation



Photograph 39- Site 15 – hydrology/vegetation



Photograph 40- Site 15 – hydrology/vegetation



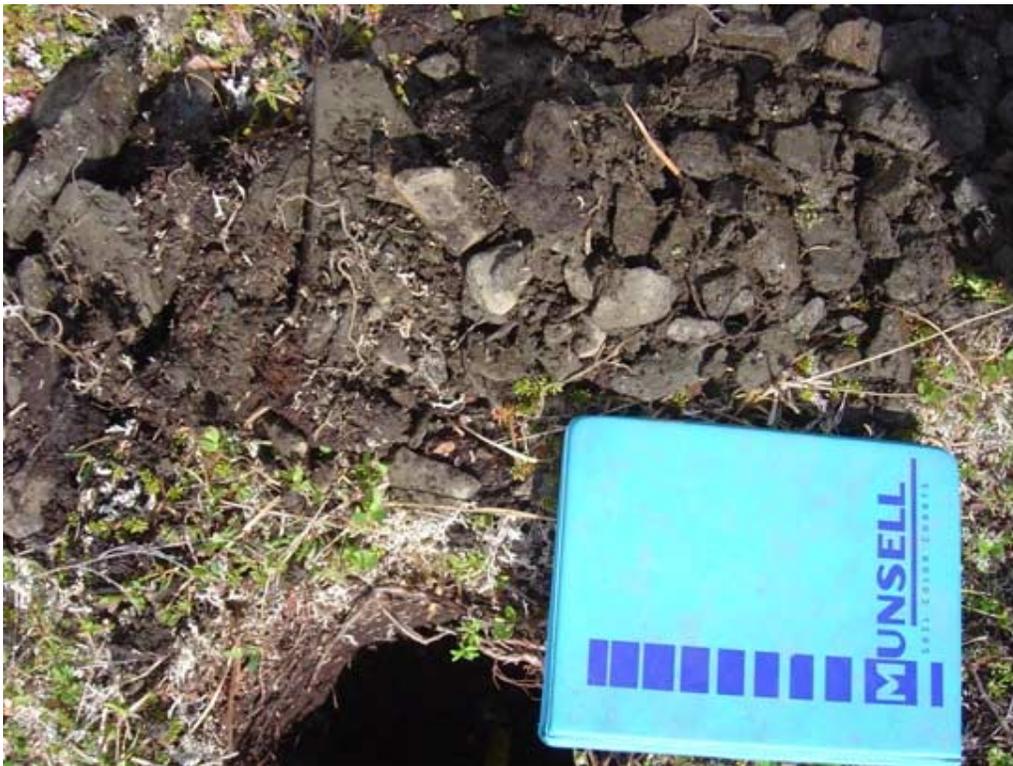
Photograph 41- Site 16 – Little Hurrah Creek Valley (looking downstream)



Photograph 42- Site 16 – Little Hurrah Creek Valley (looking upstream)



Photograph 43- Site 17 – soil pit



Photograph 44- Site 17 – excavated soil profile



Photograph 45- Site 17 – vegetation



Photograph 46- Site 17 – vegetation



Photograph 47- Site 18 – ephemeral drainage



Photograph 48- Site 19 – vegetation



Photograph 49- Site 20 – rocky slope



Photograph 50- Site 20 – Little Hurrah Creek Valley (looking downstream)



Photograph 51- Site 21 – soil (rock at 5 inches)



Photograph 52- Site 21 – vegetation (looking east toward Lind Vista Creek)



Photograph 53- Site 22 – vegetation



Photograph 54- Site 22 – vegetation



Photograph 55- Site 23 – Linda Vista Creek



Photograph 56- Site 23 – Linda Vista Creek



Photograph 57- Site 24 – Big Hurrah Creek from stamp mill



Photograph 58- Site 24 – vegetation at base of stamp mill



Photograph 59- Site 25 – Little Hurrah Creek/Big Hurrah Creek confluence



Photograph 60- Site 25 – Little Hurrah Creek



Photograph 61- Site 26 – Big Hurrah Creek downstream



Photograph 62- Site 26 – Big Hurrah Creek upstream



Photograph 63- Site 27 – soil pit



Photograph 64- Site 27 – excavated soil profile



Photograph 65- Site 27 – vegetation



Photograph 66- Site 27 – vegetation



Photograph 67- Site 28 – top of tailings pile



Photograph 68- Site 28 – man-made pond



Photograph 69- Site 29 – Big Hurrah Creek stream bank



Photograph 70- Site 30 – Big Hurrah Creek gravel bar



Photograph 71- Site 31 – soil pit



Photograph 72- Site 31 – soil pit and excavated gravel



Photograph 73- Site 31 – hydrology/vegetation



Photograph 74- Site 31 – vegetation



Photograph 75- Site 32 – Big Hurrah Creek (downstream) from tailings pile



Photograph 76- Site 32 – top of tailings pile



Photograph 77- Site 33 – Big Hurrah Creek floodplain



Photograph 78- Site 33 – Big Hurrah Creek floodplain



Photograph 79- Site 34 – Linda Vista Creek



Photograph 80- Site 34 – Linda Vista Creek/Big Hurrah Creek confluence



Photograph 81- Site 35 – Big Hurrah Creek floodplain



Photograph 82- Site 35 – Big Hurrah Creek stream bank



Photograph 83- Site 36 – soil pit



Photograph 84- Site 36 – excavated soil



Photograph 85- Site 36 – vegetation



Photograph 86- Site 36 – hydrology (sediment deposits, drainage)



Photograph 87- Site 37 – Big Hurrah Creek and Trilby Creek



Photograph 88- Site 37 – Big Hurrah Creek and Trilby Creek



Photograph 89- Site 38 – Big Hurrah Creek from existing road (upstream)



Photograph 90- Site 38 – Big Hurrah Creek from existing road (downstream)



Photograph 91- Site 39 – Big Hurrah Creek/Tailings piles from existing road (downstream)



Photograph 92- Site 39 – Big Hurrah Creek/Tailings piles from existing road (downstream)



Photograph 93- Site 40 – Solomon River from road (downstream)



Photograph 94- Site 40 – Solomon River/Big Hurrah Creek confluence from road (upstream)

Appendix B

KEY TO PLANT NAME ABBREVIATIONS USED ON WETLAND DATA FORMS

*Big Hurrah Mine Site, Nome, Alaska
Preliminary Jurisdictional Determination*

Key to Plant Name Abbreviations Used on Wetland Data Forms

Data From Abbreviation	Scientific Name	Common Name	Regional Indicator Status	Stratum
Bet. nana.	<i>Betula nana</i>	Swamp birch	FAC	Shrub
Cal. can.	<i>Calamagrostis canadensis</i>	Bluejoint reedgrass	FAC	Herbaceous
Car. sp.	<i>Carex sp.</i>	Unidentifiable sedge	N/A	Herbaceous
Emp. nig.	<i>Empetrum nigrum</i>	Crowberry	FAC	Shrub
Epi. ang.	<i>Epilobium angustifolium</i>	Tall fireweed	FACU	Herbaceous
Equ. scirp.	<i>Equisetum scirpoides</i>	Dwarf scouring-rush	FACU	Herbaceous
Led. dec.	<i>Ledum decumbens</i>	Narrow-leaf Labrador tea	FACW	Shrub
Pot. frut.	<i>Potentilla fruticosa</i>	Shrubby cinquefoil	FAC	Shrub
Sal. alax.	<i>Salix alaxensis</i>	Felt-leaf willow	FAC	Shrub
Vacc. ulig.	<i>Vaccinium uliginosum</i>	Bog blueberry	FAC	Shrub
Vac. vid.	<i>Vaccinium vitis-idaea</i>	Low-bush cranberry	FAC	Shrub
Sal. pul.	<i>Salix pulchra</i>	Diamond-leaf willow	FACW	Shrub
Sal. ret.	<i>Salix reticulata</i>	Netleaf willow	FAC	Shrub
Sed. ros.	<i>Sedum roseum</i>	Roseroot	FAC	Herbaceous
Ane. nar.	<i>Anemone narcissiflora</i>	Narcissus-flowered Anemone	NI	Herbaceous
Dry. oct.	<i>Dryas octopetala</i>	White Mountain-avens	NI	Herbaceous
Loi. pro.	<i>Loiseleuria procumbens</i>	Alpine azalea	NI	Herbaceous
Tri. cer.	<i>Trisetum cernuum</i>	Nodding Trisetum	NI	Herbaceous
Hie. alp.	<i>Hierochloe alpina</i>	Alpine sweet grass	NI	Herbaceous
Sal. sit.	<i>Salix sitchensis</i>	Sitka willow	FAC	Shrub
Equ. pal.	<i>Equisetum palustre</i>	Swamp horsetail	OBL	Herbaceous
Car. mem.	<i>Carex membranacea</i>	Fragile-seed sedge	FACW	Herbaceous
Rub. arc.	<i>Rubus arcticus</i>	Arctic raspberry	FAC	Herbaceous
Vio. lan.	<i>Viola langsдорffii</i>	Alaska violet	FACW	Herbaceous
And. pol.	<i>Andromeda polifolia</i>	Bog rosemary	OBL	Shrub
Sal. myr.	<i>Salix mytilifolia</i>	Blue-berry willow	FACW	Shrub